Dennis J. Paustenbach, Ph.D., C.I.H., D.A.B.T.
President of Paustenbach and Associates

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Academic and Professional Profile

Dr. Dennis Paustenbach is a board-certified toxicologist and industrial hygienist with nearly 35 years of experience in risk assessment, environmental engineering, toxicology, and occupational health. Since April of 2019 he has been the President and senior consultant of Paustenbach and Associates.

In 1985, he founded ChemRisk, which ultimately became the largest human and ecological risk assessment consulting group in the U.S. They specialized in the risk analysis of chemicals and radionuclides in air, water, soil, sediments, consumer products, pharmaceuticals, and medical devices from 1985- 2019 (except for the years at Exponent).

Initially, in 1987, ChemRisk was a joint venture with McLaren-Hart Environmental, Engineering. In 1995, Dennis became President and Chief Executive Officer (CEO) of McLaren-Hart, a nationwide consulting firm of 600 persons (number 100 in the US at the time). He was the youngest professional (age 43) in the U.S. to head a national environmental firm, which at that time earned $700M (revenue).

In 1997, Dennis joined Exponent and was a Group President responsible for leading the Health Sciences division (approximately 140 professionals). In 2003, he left Exponent and he restarted ChemRisk as a separate enterprise. In 2015, the management team sold the firm to Cardno, an Australian based environmental services firm. He was President of Cardno-ChemRisk from 2015 until he left the firm in April 2019. He is currently the President of Paustenbach and Associates, a firm devoted to Dennis's historical interests in toxicology, occupational hygiene, engineering, and risk assessment.

Dr. Paustenbach has provided expert witness testimonies in public meetings and as many as 500 depositions and four dozen trials concerning the health effects of chemicals in sediments, air, soil, consumer products, foods, groundwater, and the workplace. He has been an adjunct professor at six universities.

He has been an invited peer reviewer for prominent journals and for proposed regulations. Dennis has published approximately 300 peer-reviewed articles and has written more than 50 book chapters in the fields of industrial hygiene, human and aquatic toxicology, engineering, and risk assessment. His two textbooks on risk assessment are among the most popular textbooks that have ever been published in this field, and they have been adopted by a number of universities in various countries.

Education and Degrees Earned

- Dr. Eng., (Honorary), Rose-Hulman Institute of Technology, 2007
- Sc.D., (Honorary), Purdue University, 2006
- Ph.D., Environmental Toxicology, Purdue University, 1982
- M.S., Counseling Psychology, Indiana State University, 1978
- M.S., Industrial Hygiene (minor in toxicology), University of Michigan, 1977
- B.S.Ch.E., Chemical Engineering, Rose-Hulman Institute of Technology, 1974
    - Post-Doctoral Research (in absentia), Pharmacokinetics, Wright-Patterson Air Force Base, Dayton, OH; 1985-1987 (part-time) (collaborated with Dr. Melvin Andersen).
    - Visiting Scientist at the Harvard School of Public Health; Center for Risk Analysis; Boston, MA (1996-1997). A one-year appointment that included 10 weeks in residence at the college. Worked with Dr. John Graham.

Certifications

- Certified Industrial Hygienist, #1815 (re-certified 1987, 1993, 1998, 2003, 2008 and 2013, 2018). Recertification occurred in 2023.
- Certified Safety Professional, #5954 (re-certified 1987, 1996 and 2005 and 2012)
- Registered Professional Engineer-in-Training (1974)
- Diplomate of the American Board of Toxicology, 1984, #253 (re-certified 1992, 1996, 2000, 2005, 2010,2016 and2022)
- Certified Environmental Assessor, California, 1991, REA #01264 (re-certified 1995, 2000 and 2008; allowed certificate to lapse)
- Fellow of the Academy of Toxicological Sciences (1993; re-certified in 1998, 2003,2008, 2013, 2018, and 2020)

Professional Honors/Awards

- In 2021, he was ranked in the top 2% of the most productive scientists in America by Stanford University
- Was recognized as one of the top five consulting professionals within Cardno (a firm of 5,000 employees) (2018)
- Gave the Dr. John Doull Annual Lectureship at the Medical School at the University of Kansas for "How risk assessment can help inform decision making: Four case studies," Kansas City, MO, September 2017
- Awarded in 2016 the Best Published Paper for "A preliminary evaluation of immune stimulation following exposure to metal particles and ions using the mouse popliteal lymph node assay," (Tox Appl Pharm. 308:77-90). Medical Device and Combination Product Specialty Section – Society of Toxicology Annual Meeting, Baltimore, MD, March 2017.
- Awarded in 2014 the Best Published Paper Regarding Medical Devices for "Toxicology - based cancer causation analysis of CoCr-containing hip implants: a quantitative assessment of genotoxicity and tumorigenicity studies" (J Appl Tox. 34(9): 939-967. Medical Device and Combination Product Specialty Section – Society of Toxicology Annual Meeting, San Diego, CA, March 2015.
- Honored by Purdue School of Health Sciences as one of the most accomplished graduates in the history of the program (2015)
- Elected a "Fellow" in the Society for Risk Analysis (2012)
- Awarded the Henry Smythe Award for contributions in toxicology to the field of occupational health, American Conference of Governmental Industrial Hygienists (ACGIH) (2010)
- Awarded the Ed Baier Award for significant contributions to the field of Industrial Hygiene, American Industrial Hygiene Association (AIHA) (2009)
- Invited to lecture at the International Conference on Risk Assessment, Lugano, Switzerland (2009)
- Awarded the title of "Fellow" by the American Industrial Hygiene Assoc (2009)
- Honorary Doctor of Engineering (2007)
- Honorary Doctor of Science (2006)
- Society of Toxicology, awarded the Best Published Paper Award in Risk Assessment (2002)
- Society of Toxicology, awarded the Arnold J. Lehman Award for Contributions to the Practice of Risk Assessment and Toxicology (2002)
- Awarded the Purdue University Distinguished Alumnus Award, School of Health Sciences (2000)
- Society of Toxicology, awarded the Best Platform Presentation in Risk Assessment Award at the 39th Annual Meeting (2000)
- Society for Risk Analysis Outstanding Risk Practitioner Award (1997)
- Society of Toxicology, Best Published Paper Award in the Field of Risk Assessment (1995)
- Rose-Hulman Institute of Technology, Distinguished Alumni Award (1994)
- AIHA Kusnetz Award for "distinguished contributions to the field by a person under 40 years of age" (1992)
- American Men and Women in Science (1993–present)
- Who's Who in America (1993–present)

- Who's Who in the Health Sciences (1994–present)
- Health Sciences Honorary (Alpha Chi Omega) (1980)
- Chemical Engineering Honorary (Omega Chi Epsilon) (1974)

Security Clearance

- Q-level Security Clearance issued by the U.S. Department of Energy for 1991-1993 [Rocky Flats Nuclear Weapons Facility and for 2005-2010 (Los Alamos)].
- Re-issued in 2011 under the new and more rigorous program.
- Current status is unknown.

Membership and Service to Professional Societies

- Society for Risk Analysis (SRA)
  - Council Member for National Organization (1998-2000)
  - Council Member of Northern California chapter (1995-1996)
- American Industrial Hygiene Association (AIHA)
  - Member of the Risk Assessment Committee (1995–1997)
  - Liaison representative between AIHA and the SRA (1991–1994)
  - Member of the Toxicology Committee (1982–1984)
  - Member of the Workplace Exposure Limits Committee (1982–1984)
  - Co-Chair of Committee on Unusual Work Shifts (1981–1984)
  - President of Indiana Section (1981)
  - Member of Hygienic Guides Committee (1976)
- American Conference of Governmental Industrial Hygienists (ACGIH)
- Society of Toxicology (SOT)
  - President, Risk Assessment Specialty Section (2000)
  - Vice President elect, Risk Assessment Specialty Section (1998–2000)
  - Member of FAST 50th Anniversary Committee of SOT (2008-2011) [responsible for preparing documents, films, the book on SOT history and the party which was to celebrate the profession].
  - Assistant editor of the SOT 50th anniversary book describing the history of the Society of Toxicology (2010)
- Society of Environmental Toxicology and Chemistry (SETAC)
  - Associate Chairman of Organization Committee (2000)
- International Society of Exposure Analysis (ISEA)
  - Member of Awards Committee (1999-2002)
  - Member of Executive Council (2002-2005)
- International Society of Regulatory Toxicology and Pharmacology (ISRTP)
  - Vice-president of the Society (2018-2024)
  - Chair of the Publications and Organizations of conferences committee (2016-2021)
- Air and Waste Management Association (AWMA)
- New York Academy of Science (NYAS) (Member, 1989)
- Sigma Xi (Stanford Chapter)

Adjunct Professorships

- Adjunct Professor of Toxicology, Kansas University Medical Center (KUMC) (2017-2024)
- Adjunct Professor of Toxicology, University of Michigan (2004-2012).
- Adjunct Clinical Professor of Medicine, University of California at Irvine (1996-2005)
- Visiting Scholar at Harvard School of Public Health (1996-1997)
- Adjunct Professor in Toxicology, University of Massachusetts (1993-2006)
- Adjunct Professor, University of Texas, School of Public Health in Houston (1985-1989)
- Adjunct Professor, Purdue University, Department of Toxicology/Pharmacology (1983-1984)
- Visiting Professor, University of Bridgeport, Department of Mechanical Engineering (1983)
- Graduate Instructor and Adjunct Professor of Industrial Hygiene and Industrial Toxicology, Purdue University (1978-1982). Taught all undergraduate and graduate courses in industrial hygiene and industrial toxicology. Had the largest undergraduate program in industrial hygiene in the United States in 1982.

Science Advisory Panels

2022: Served on an advisory panel to the Sand and Gravel Manufacturing Association with 45 other asbestos scholars. This was a 3-day meeting in Virginia which was termed the Second Monticello Conference. It was convened to attempt to reach consensus on the hazards of different forms of asbestos and particles that had "fiber like" characteristics.

2020: As a member of the EPA SAB, I submitted comments on the April draft of proposed EPA Updated Cancer Guidelines or what EPA calls the Human Toxicity Assessment Guidelines. Then wrote comments on May's draft of New Approach Methods and Reducing the Use of Laboratory Animals for Chronic and Carcinogenicity Testing (NAM). Then participated in a 2-day SAB meeting in June.

2020: Invited reviewer of EPA's new proposed Risk Assessment Guidelines for Chrysotile. About 139 pages of comments were submitted on May 26, 2020, to the SAB and EPA. Gave an oral presentation to SAB at the beginning of the meeting which was held in early June. Was not a panel member.

2019: Appointed to the US EPA Science Advisory Board (SAB). All members of SAB were released in February 2021. The first assignment involved reviewing the proposed EPA Updated Cancer Guidelines of 2019.

2019: Organized a conference on the scientific aspects of the talc litigation in conjunction with the DRI and the Inter Soc of Regulatory Tox and Pharm (ISRTP). Nearly 200 persons participated. September. Washington, DC.

2017: Served on an advisory panel to the Sand and Gravel Manufacturing Association with 45 other asbestos scholars. This was a 3-day meeting in Virginia which was termed the Monticello Conference. It was convened to attempt to reach consensus on the hazards of different forms of asbestos and particles that had "fiber like" characteristics.

2017: Served on an advisory panel to the City Council of Sydney, Australia regarding the recommended approach for remediating contaminated soils in downtown, which was to be the site of a new park and skyscraper.

2012: Served on the Danish SAB to evaluate the hazards of asbestos. [Represented by Dr. Christy Barlow]

2008-2014: Served on the United States Environmental Protection Agency (USEPA) Board of Scientific Counselors (BOSC) Executive committee, which has oversight for the research programs at the USEPA (ORD).

2007: Served as an outside peer-reviewer for the European Union (EU) and Health and Safety Executive (HSE) position document on how to assess the human health hazard posed by chemical mixtures in the occupational environment.

2007: Served on National Academy of Science (NAS) panel, which evaluated research involving "Soldier Protective Clothing and Equipment Feasibility of Chemical Testing Using a Fully Articulated Robotic Mannequin" (Mid-April; Washington, DC).

2007: Served as a member of the National Institute for Occupational Safety and Health (NIOSH) scientific advisory panel on Epidemiology, Exposure Assessment and Lab Medicine Methods in Occupational Health (April 10-11; Washington, DC).

2006: Served as an invited speaker for NAS Institute of Medicine (IOM) panel on Risk Assessment for the pharmaceutical industry (May 30-31; Washington, DC).

2004-2007: Member of USEPA BOSC to review the quality of the USEPA cancer research programs at their National Center for Research (Research Triangle Park, NC).

2003: Member of the Science Advisory Board to the National Soap and Detergent Association which reviewed the International Guidelines for Conducting Risk Assessments of Consumer Products (Washington, DC).

2003: Member of the National Academy of Sciences Panel on Quality of Information (Washington, DC).

2002-2006: Appointed by the Secretary, Tommy Thompson (Human Health Services), to serve as a Member of Advisory Committee to the Director, National Center for Environmental Health, Centers for Disease Control and Prevention (CDC).

2002-2004: Member of the University of North Carolina School of Toxicology and Veterinary Sciences Science Advisory Board (Research Triangle Park, NC).

2002: Member of the Vietnam United States Scientific Delegation on Human Health and Environmental Effects of Agent Orange/Dioxin (March 3-6; Hanoi, Vietnam).

2002: Member of the USEPA-sponsored Science Advisory Panel to address the risks of dusts in buildings near the World Trade Center (Oct 21-22; New York, NY).

2001: Member of the USEPA Advisory Board on Exposure Assessment for Guidelines for Complying with the Voluntary Children's Chemical Evaluation Program (VCCEP) for Children's Health (December 8-10; Washington, DC).

2001: Member of the Governor's Science Panel to evaluate human health hazard posed by ingestion of chromium (VI) in drinking water (May-August; Sacramento, CA). Resigned prior to public meeting.

2000-2001: Member of the Society of Toxicology National Panel to develop guidelines for assessing the health hazards posed by mixtures (Washington, DC).

2000-2001: Member of the USEPA Science Advisory Board that evaluated the "EPA Reassessment" of dioxin and dioxin-like compounds (Washington, DC). Chaired by Dr. Mort Lippmann.

2000: Chairman of the Expert Panel to set occupational exposure limits (OEL) for select glycol ethers [2-methoxyethanol (2-ME), 2-ethoxyethanol (2-EE), and 2-ethoxyethanol acetate (2-EEA)] for Union Carbide Corporation.

2000: Member of the Department of Energy Science Panel charged with evaluating the radiological and chemical hazards posed by the storage of the nuclear submarines in the former USSR (Chicago, IL). Chaired by Dr. Paul Ziemer; Former Assistant Secretary of Energy. No meetings were held due to the lack of funding.

2000: Member of the USEPA Science Advisory Board that evaluated benefits of reductions in exposure to hazardous air pollutants (June 22-23; Washington, DC). Chaired by Dr. Roy Albert.

2000: Served on the Harvard Science Advisory Panel charged with assessing the possible human health hazards posed by styrene (February and May; Boston, MA). Chaired by Dan Krewski.

1998-2006: Member of the Science Advisory Board of the Mickey LeLand National Urban Air Toxics Research Center, a center established by Congress to study the health hazard of airborne particles. (Houston, TX). In this role, I was responsible for innovative research grants. One of the grants, which I wrote, was for the Center to fund the development of a 24 hr, low volume, sampling pump which would allow for in-home exposure assessment. This was successfully accomplished in conjunction with SKC. It has been used since 2007 as the standard for assessing students and elderlies in the in-home environment.

1998-2001: Member of the Environmental Board of Directors for the Savannah River Site.

1997-1998: Member of the Advisory Board for the Harvard Center for Risk Analysis.

1997: Ad hoc member of the USEPA BOSC (that was charged to give guidance to the USEPA Office of Research and Development). Reviewed both the Cincinnati Engineering program and National Center for Environmental Assessment program (August and September; Washington, DC).

1997: Member of the Oversight Board for the Environmental Engineering and Sciences Program at the University of California at Los Angeles (UCLA) (March 20 and 21; Los Angeles, CA).

1996-1998: Served on the German Commission for setting national soil clean-up standards and risk assessment guidelines (Represented by Mr. Tom Long at two meetings in Munich, Germany).

1996: Member of the expert panel to set OELs for select glycol ethers (2-ME, 2-EE, and 2-EEA) established by Union Carbide Corporation.

1996: Member of the International Life Sciences Institute (ILSI) expert panel to review the new USEPA cancer risk assessment guidelines (May 8; Washington, DC).

1995-1997: Served on the United Nations' International Atomic Energy Commission to identify an international approach for classifying hazardous wastes (December 10-15, 1995; Vienna, Austria).

1995: Chairman of Risk Assessment program (with Dr. Roger McClellan) of the International Symposium on Butadiene and Isoprene (June 27-29, Blaine; WA).

1994-1995: Served on the USEPA Science Advisory Board that reviewed *USEPA's Reassessment of Dioxin – 1994-95* (the second dioxin reassessment) (May 15-16, 1995; Washington, DC). Chaired by Dr. Morton Lippmann.

1994-1995: Member of the Commission for Incorporating Epidemiology into Health Risk Assessment, sponsored by Federal Focus (November 2; Washington, DC; March 9, New York; and October 7-9; London).

1993-2001: Charter member of the Scientific Committee 87-2 (Risk-Based Waste Classification) of the National Council on Radiation Protection (NCRP). Quarterly meetings.

1991: Chairman of the Industrial Health Foundation's Expert Panel, charged with recommending an OEL for formaldehyde (June-December).

1990: Served on the Scientific Review Board of the Chemical Industry Institute of Toxicology (CIIT) on Ethylene Oxide (November 8; Chapel Hill, NC).

1988-1989: Served on USEPA *ad hoc* Science Advisory Board Dioxin Subcommittee (first dioxin reassessment) (December 6-8; Washington, DC). Chaired by Dr. Bernard Goldstein.

1987-2002: Consulting Member of the EPA USEPA Science Advisory Board-Environmental Health Committee (Washington, DC).

1985-1987: Appointed to the California Hazard Evaluation System and Information Services Advisory Committee. Chaired by Dr. Bob Spear, University of California at Berkeley.

1985: Appointed to one of California Governor George Deukmejian's Technical Advisory Committees of the task force on toxics, waste, and technology. The group assessed the effectiveness of California-sponsored programs for remediating hazardous waste sites (October-December). The task force was reconvened in November 1987.

1985: Chaired expert panel to assess developmental and reproductive hazards posed by glycol ethers as they were used in the semiconductor industry.

1984-1990: Member of the Council for the Health and Environmental Safety of Soils, a group established to set consensus United States cleanup goals for soils. Sponsored by the University of Massachusetts at Amherst.

1984: Served as a member of the National Nutrition Foundation Expert Panel which evaluated the 1984 proposed Congressional Office of Science and Technology Policy, "Risk Assessment Guidelines for Carcinogens."

Professional-Related Activities

- Textbook reviewer for Wiley Interscience (1985-2012)
- Textbook reviewer for MacMillan Publishing Company (1986-1992)

Peer-Reviewer of Proposed Government Regulatory Positions/Documents

2020: Wrote comments on the April draft of the proposed EPA Updated Cancer Guidelines or what EPA calls the Human Toxicity Assessment Guidelines. Then wrote comments on the May draft of New Approach Methods and Reducing the Use of Laboratory Animals for Chronic and Carcinogenicity Testing (NAM). Then participated in a 2-day SAB meeting in June.

2020: Invited reviewer of the EPA's new proposed Risk Assessment Guidelines for Chrysotile. About 139 pages of comments were submitted on May 26, 2020, to the SAB and EPA. Gave an oral presentation to SAB at the beginning of the meeting which was held in early June.

2019: Submitted, by invitation, as a member of the EPA Science Advisory Board (SAB), as a member of the Chemical Assessment Advisory Committee, comments on the Proposed EPA Guidelines for Carcinogen and Non-Cancer Risk Assessment. Full report was submitted to the Honorable Andrew Wheeler (Administrator) on July 15, 2019.

2017: Was the invited outside peer-reviewer by the EPA of New South Wales for the plan to remediate and then modernize the Bangoloro site in downtown Syndey (Australia). This was a controversial remediation because it was near many residences, and it was a former gas manufacturing plant site. The work extended over 3 months.

2015: Invited peer reviewer of the new Australian guidelines for assessing risks posed by ambient air concentrations of industrial and mobile emitters.

2012: Peer-reviewer for the proposed Pharmaceutical and Personal Care Products (PCPP) regulations for water which were to be promulgated in Australia and New Zealand.

2010: Invited peer-reviewer of the British HSE document on asbestos fiber potency called the "Watch" document. (London, U.K).

2007: Invited peer-reviewer of the proposed United Kingdom guidelines on mixtures which was developed by the Royal Commission assigned to this task. (London, U.K.).

2007: Peer-reviewer of the proposed Centers of Disease Control/Agency for Toxic Substances and Disease Registry (CDC/ATSDR) guideline for dioxin/furans in contaminated soils (Atlanta, GA).

2006: Invited peer-reviewer of USEPA's Building Preliminary Remediation Goals (BPRG) calculator for radionuclides and the associated documentation and users' guide.

2005: Invited peer-reviewer of the European Union proposal to Develop a Harmonized Approach to Setting Occupational Exposure Limits (London, England).

2005: Invited peer-reviewer of the USEPA's proposed Exposure Assessment guidelines for Children (Washington, DC).

2004: Invited peer-reviewer of the NIOSH Guidelines on Assessing Risk of *Dermal Uptake of Workplace Chemicals* (Cincinnati, OH).

2002: Invited peer-reviewer of the NIOSH guidelines document entitled *Dermal Exposure Assessment* (Cincinnati, OH).

2001: Invited peer-reviewer of the *Study of Benzene and Other Chemicals in the Australian Refinery Industry* (Health Watch Study) for Exxon-Mobil (Australia).

2001: Invited peer-reviewer of the United Kingdom's *National Guidelines for Assessing the Health Hazards Posed by Contaminated Soils* (London, England).

1998: Invited peer-reviewer for the USEPA of the draft *Methodology for Assessing Health Risks Associated with Multiple Pathway Exposure to Combustor Emissions* (Cincinnati, OH).

1997: Invited peer-reviewer of the Draft ATSDR policy on *Acceptable Concentrations of Dioxin in Soil* (January: Atlanta, GA).

1996: ATSDR peer-reviewer of the draft *Toxicological Profile for 2,3,7,8- Tetrachlorodibenzo-p-dioxin (dioxin)* (December).

1996: Invited to be on NIOSH advisory panel on *Dermal Uptake of Workplace Chemicals* (represented by Dr. Brent Kerger) (September 25-26, Washington, DC).

1995: Member of the five-person CDC/ATSDR expert panel that evaluated the *Bioavailability of Mercury in Soils* (August 28-29; Atlanta, GA).

1994: Member of the CDC/ATSDR review panel for *Toxicological Profile for Dioxin* (August 10; Atlanta, GA).

1992: Member of USEPA expert panel to review the draft document *Exposure Assessment of Dioxin-like Compounds* (September 14: Washington, DC).

1991: Served on the Congressional Office of Technology Assessment advisory panel to evaluate *Dioxin Treatment Technologies* (May 29, Washington, DC). Proceedings were published as OTA-BP-0-93 and ISBN 0-16-036007-2.

1987: Reviewed the first USEPA risk-specific dose for dioxin-like compounds.

Peer Reviewer for the Following Journals

- American Industrial Hygiene Association Journal
- Annals of Occupational Hygiene
- Applied Environmental and Occupational Hygiene
- Archives of Environmental Health
- British Journal of Ind Medicine
- British Medical Journal
- Canadian Journal of Dermatology
- Chemical Engineering Education
- Chemical and Biological Interactions
- Clinical Toxicology
- Critical Reviews in Toxicology
- Dose-Response
- Drug Metabolism and Disposition
- Environmental Health Perspectives
- Environmental Science and Technology
- Food and Chemical Toxicology
- Forensic Toxicology
- Human and Ecological Risk Assessment (HERA)
- Industrial Engineering
- International Journal of Work and Environmental Health
- Journal of the Amer Medical Assn (JAMA)
- Journal of Chemical/Biological Interactions
- Journal of Air and Waste Management
- Journal of Dose-Response
- Journal of Toxicology and Env Health
- Journal of Toxicology and Env Health Part II (reviews)
- Journal of Society for Exposure Assessment
- Journal of the American Medical Association (JAMA)
- Journal of Toxicological Sciences
- Lancet
- Mechanical Engineering
- Nature
- Occupational and Environmental Medicine (British)
- Professional Issues in Engineering
- Regulatory Toxicology and Pharmacology
- Risk Analysis
- Scandinavian Journal of Work, Environment & Health
- Science
- Toxicology
- Toxicology Letters
- Toxicology and Applied Pharmacology
- Toxicology and Industrial Health

Government Grants Awarded

1982: NIOSH grant to study low volume/high velocity ventilation systems. Award: $60K (Purdue University).

1981: Grant to write an industrial hygiene engineering course for NIOSH. Award: $60K (Purdue University). Was used by NIOSH for almost 20 years.

1980: NIOSH grant to develop teaching modules for use in undergraduate engineering classes. Award: $80K (Purdue University).

Experience Summary (Professional Career)

Dennis Paustenbach and Associates
President and Chief Toxicologist
April 2019 – Present

- Consultant in toxicology, industrial hygiene, risk assessment, state of the art, safety, and some aspects of chemical engineering.
- Our team can address epidemiology, toxicology, occupational health, ecotoxicology, environmental toxicology (over a very wide range of issues) and carcinogen risk assessment challenges facing the private sector or government entities.
- Experts in asbestos, talc, benzene, chromium, airborne particulates, statistics, epidemiology, diacetyl, dioxins/furans, dioxins, lead and various other metals, formaldehyde, e-cigarettes (vaping), side-stream exposure to cigarettes, the chlorinated solvents, carbon monoxide, radionuclides, and a host of other chemicals.
- Skilled at assessing the risks of exposure to nearly any chemical in air (direct and bystander exposure in the workplace), water, groundwater, soil, sediments, and consumer products)
- Remain active in the range of topics which he has studied for nearly 40 years.
- We now have 3 offices, 17 full-time professionals and several "at will" professionals.

President Emeritus and Founder
Cardno-ChemRisk
December 2015 – April 2019

- Former President and Founder for a 125-person consulting firm. Description of the historical firm is shown below.
- Served as a Global Senior Principal consultant.

President
ChemRisk
June 2003 – December 2015

- Chief scientist and manager for a 110-person consulting firm which provided state-of-the-art toxicology, industrial hygiene, exposure assessment, health sciences (e.g., pharmaceutical) and risk assessment services to clients who addressed a variety of public health and environmental health concerns. Offices were located in San Francisco, Pittsburgh, Boulder, Brooklyn, Cincinnati, Chicago, Los Angeles, Washington (DC), Houston, Portland (Oregon), and Jackson Hole.
- Continued to conduct research in exposure assessment, industrial hygiene, toxicology, epidemiology, simulation studies, epidemiology, dose reconstruction and risk assessment.
- Over the past 30 years, has been involved in directing (or co-directing) more than $60M in original research, which has been published, or will be published, in peer-reviewed literature.
- Provided expert witness testimony in public meetings and court hearings concerning the health effects of chemicals in sediments, air, soil, and groundwater.
- Nearly 35 years of experience in the fields of chemical/environmental engineering, risk assessment, toxicology, and industrial hygiene.
- Published nearly 300 peer-reviewed publications, more than 50 book chapters and about 350 conference abstracts in the fields of exposure and risk assessment, toxicology, engineering, industrial hygiene, and safety.
- Served as an adjunct professor in toxicology and risk assessment at the University of Michigan from 2005-2012 and continues to give lectures annually at various colleges.
- Has participated on more than 40 science advisory panels.

Vice President
Exponent, Inc.; Menlo Park, CA
October 1998 - June 2003

- Member of the Corporate Management Committee.
- Most senior scientist and consultant within the Environmental Group.
- Responsible for the operations and management of Environmental and Epidemiology groups from October 1998 to January 2000. The groups had about 140 employees and generated $19M a year in revenue.
- Editor of a college textbook and reference text entitled Human and Ecological Risk Assessment: Theory and Practice (2002).
- Author of a college textbook and reference text, The Risk Assessment of Environmental Hazards: A Textbook of Case Studies (1989), which is among the most frequently used textbook in undergraduate and graduate health risk assessment courses (5,000 copies sold).
- Specialized in the areas of industrial and environmental toxicology, pharmacokinetics, air pollution, historical state-of-knowledge regarding environmental issues, and ecological and human risk assessments.
- Provided expert witness testimony in public meetings and court hearings concerning the health effects of waste discharges and chemicals in sediments, air, soil, and groundwater.

Senior Consulting Toxicologist (of counsel)
McLaren/Hart Environmental Engineering Corporation; Alameda, CA
September 1997 - October 1998

- Assisted the company in moving through the process of merging and selling the firm.
- Senior scientist in the firm.
- Maintained relationships with various clients and served as Principal-in-Charge on selected projects.

President and Chief Executive Officer
McLaren/Hart Environmental Engineering Corporation; Alameda, CA
June 1996 - September 1997

- Responsible for the profit/loss, growth, and vision for the firm.
- Gave strategic direction to McLaren/Hart Environmental Inc., a 525-person nationwide firm that provided comprehensive environmental consulting services. Responsible for oversight of many of the technical/consulting aspects of the firm. Annual revenues of $100M.
- Directed the Consulting Operations Managers for 16 offices nationwide.
- Served on the Board of Directors.
- Maintained an active consulting and applied research practice in the areas of risk assessment, environmental engineering, toxicology, and occupational health.

Vice President, McLaren/Hart Environmental Engineering Corporation
Chief Technical Officer, McLaren/Hart/ChemRisk®; Alameda, CA
January 1994 - June 1996

- Second ranking officer in the company.
- Responsible for revenue production for U.S. consulting operations (600 persons).
- Responsible for directing the technical/scientific efforts of this major (top 100) environmental consulting company.
- Responsible for directing the technical/scientific efforts of the company and for providing leadership to the four professional disciplines within 15 offices.
- Jointly responsible with the CEO/President for developing an international business presence. Focused on the development of business in Australia and China, as well as coordinating joint work efforts in England, Spain, Switzerland, and Germany. Became premier human and ecological risk assessment contractor in Australia and Switzerland.
- Responsible for starting, developing, and managing new offices in Sydney and Melbourne, Australia (March 1994 - March 1995). Presented a series of six lectures (two to four hours each) for the New South Wales and Victoria Environmental Protection Agency.
- Directed/conducted more than two hundred relatively important risk assessments of contaminated soils, sediments, and air emissions between 1985-1996 and was the project manager on numerous major contracts.

Vice President, McLaren/Hart Environmental Engineering Corp.
Chief Technical Officer, McLaren/Hart/ChemRisk®; Alameda, CA
October 1991 - December 1993

- Responsible for providing direction to the technical/scientific portions of the company and for providing leadership to the five professional disciplines within all 15 offices.
- Responsible for coordinating corporate efforts when bidding on and executing major projects.
- Responsible for managing the National Business Programs in Remediation, Regulatory Compliance Management, Risk Assessment, Government Programs, Environmental Chemistry, Sales/Business Development, and Marketing. Responsible for the budget associated with these efforts.
- Responsible for day-to-day management of the ChemRisk® Division. In various polls by trade associations, it was ranked the most respected risk assessment group in the U.S. in 1993, it performed about $14M in risk assessment consulting.
- Provided guidance on operations in Alameda, CA; Burbank, CA; Irvine, CA; Rancho Cordova, CA; Chicago, IL; Portland, ME; Southfield, MI; Springfield, MO; St. Louis, MO; Warren, NJ; Albany, NY; Cleveland, OH; Philadelphia, PA; Pittsburgh, PA; and Houston, TX.
- Coordinated scientific and business aspects of international activities (primarily in Europe). In particular, gave scientific advice regarding work performed in former East Germany (Jena); Basel, Switzerland; and Budapest, Hungary.

Vice President, McLaren/Hart Environmental Engineering Corp.
Founder and National Director, ChemRisk Division; Alameda, CA
November 1987 - October 1991

- Founder of the ChemRisk Division of McLaren/Hart Environmental Engineering. Managed and directed the joint venture involving the risk assessment component of the firm. The ChemRisk group grew from one person to nearly 100 professionals within four to five years. Annual revenues for 1991 were about $10M. The group had five offices nationwide (Alameda, CA; Irvine, CA; Cleveland, OH; Warren, NJ; and Portland, ME), which provided ecological and human health risk assessment services. ChemRisk was ranked as one of the 10 most successful environmental consulting groups in the industry for three consecutive years.
- Directed consulting activities in the areas of risk assessment, environmental and occupational toxicology, and the scientific aspects of toxic tort cases. Provided advice on air toxics and industrial hygiene issues, as well as remedial investigation/feasibility studies.
- Provided expertise in the areas of industrial and environmental toxicology, pharmacokinetics, environmental fate and transport, air pollution, odor abatement, and ventilation engineering.
- Routinely involved in the evaluation of health hazards posed by hazardous waste sites, landfills, contaminated soil, gaseous emissions, water, the workplace, and incinerators, as well as the control of in-plant gaseous releases, local exhaust ventilation, treatment of point-source gaseous emissions, contaminated soil and run-off, pesticides, and manufacturing processes.
- Managed projects involving the assessment of the health risks and significance of chemical contaminants present in water, sediment, ambient air, food, soil, the occupational environment, and in consumer products.
- Frequently interacted with local, regional, state, and federal regulatory agencies. Participated in negotiations to resolve issues involving clean-up standards for air, water, soil, and reusable items (e.g., contaminated vehicles and equipment).
- Risk communication experience included coordination of the scientific and medical aspects of complex toxic tort cases, representation of clients at public hearings, presentation of scientific data in professional and public forums, and development of opinion letters for use in litigation.
- Participated in the scientific debate regarding acceptable levels of emissions of tetrachlorodibenzo-*p*-dioxin (TCDD) in water from pulp and paper mills (GA, NC, and WA; 1990). Also identified acceptable levels of TCDD, benzene, formaldehyde, and chromium in air and soil.

Manager, Industrial and Environmental Toxicology
Syntex Corporation; Palo Alto, CA
August 1984 - November 1987

- Managed a group of PhD toxicologists responsible for evaluating the corporation's occupational and environmental health hazards. The group also served as a scientific resource for the industrial hygiene and environmental engineering departments at both the corporate headquarters and remote manufacturing facilities.
- My group was responsible for setting all occupational exposure limits for many highly potent pharmaceuticals and for writing the "safe work practice" guidelines.
- Conducted complex risk assessments of three Superfund waste sites including Times Beach, MO. Other significant sites include the Lyons Landfill (Denver, CO) and a site in the Bahamas.
- Other activities included the assessment of health risks of hazardous waste sites, the coordination of toxicity testing of all manufactured intermediates, the establishment of guidelines for laboratory use and manufacture of super-potent pharmaceuticals, setting of corporate occupational exposure limits, and directing of applied toxicology research programs.
- Participated in face-to-face negotiations with federal and state regulatory agencies regarding the evaluation, remediation, and closure of hazardous waste sites; reaching agreements on joint research efforts (e.g., USEPA's mobile incinerator); and defining compliance with air and water pollution regulations. Many discussions involved dioxins and various metals.
- Developed and directed the scientific and medical aspects of the litigation associated with the remediation of Times Beach, MO, and, peripherally, 43 other dioxin-contaminated sites.
- Wrote six 200-page evaluations of proposed federal environmental standards, which were then submitted to the USEPA. Was influential in the development of USEPA and CDC positions on the health hazards posed by dioxin in soil, air, fly ash, water, sediment, dust, and other media.

Major Contributions

- Participated in USEPA's scientific re-evaluation of the health hazards posed by low-level exposure to dioxin (Region VII and at headquarters).
- Conducted a risk assessment of an USEPA Superfund site listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) outside Boulder, CO, and the Lowry Landfill in Denver, CO.

Risk Assessment Scientist
Stauffer Chemical Company; Westport, CT
February 1982 - August 1984

- Toxicologist responsible for the risk assessment aspects of environmental regulatory affairs. Primary responsibility was to evaluate the safety of company products through the design of toxicology studies and the conduct of health risk assessments.
- Responsible for risk assessment aspects of obtaining and maintaining the registration of agricultural and specialty chemicals. Conducted scientific assessment of company products alleged to present environmental or human health hazards. Responsible for developing and awarding contract research involving radionuclides, as well as the environmental fate and toxicology of pesticides and non-target wildlife.
- Responsible for assessing the potential hazards posed by municipal waste sites, groundwater contamination, water pollutants, new product uses, indoor and ambient air pollutants, and the manufacture and use of new products.
- Jointly responsible with the Industrial Health and Occupational Medicine groups for the development of the firm's OELs. Provided toxicology support for establishing Preliminary Manufacturing Notifications.
- Interacted with environmental groups such as the Sierra Club, Environmental Defense Fund, Audubon Society, etc. Interacted with both state and federal regulatory agencies including Occupational Safety and Health Administration (OSHA), USEPA and the Consumer Product Safety Commission (CPSC) as well as the California Department of Health Services, Louisiana Department of Health, and Texas Department of Agriculture. Worked as many as two days per week in Washington, DC, interacting with the above-mentioned groups, as well as USEPA and OSHA.
- Represented the regulated community, which consisted of the American Industrial Health Council (AIHC), Chemical Manufacturers Association (CMA), and Chemical Industry Council of California (CICC) at three public hearings regarding the proposed California Cancer Policy (1983).

Major Contributions

- Responsible for developing many of the environmental research programs and the risk assessment needed to obtain a USEPA registration for the first "biorational" pesticide to be approved by the USEPA. Pro-Drone, a pesticide for fire ants, was an insect juvenile hormone mimic. Designed and supervised field studies to demonstrate the efficacy of the chemical.
- Prepared risk assessments that were instrumental in registering three major agricultural chemicals. Facilitated and streamlined the registration and approval of major pesticides that had complex toxicology profiles by using risk assessment methodologies.
- Participated in the USEPA Science Advisory Board hearings on radionuclide emissions from phosphorous processing facilities (Section 112 of Clean Air Act). Participated in the development of the risk assessment used in developing the proposed rule (worked with Mr. Don Scroggins, Attorney at Law).

Adjunct Professor/Graduate Instructor
Purdue University; West Lafayette, IN
September 1978 - February 1982

- Prior to and during the pursuit of a doctoral degree, held an appointment in the School of Health Sciences and in the Department of Industrial Engineering.
- Developed and directed the entire undergraduate and graduate program and curriculum in industrial hygiene in the School of Health Sciences. Over four years, the Purdue undergraduate industrial hygiene program became the largest in the nation with nearly 60 students graduating per year.
- Developed and taught graduate level courses in environmental and occupational health, which included Industrial Hygiene and Toxicology, Industrial Hygiene Engineering, Occupational Health Law, and Occupational Safety and Health Engineering.
- Under a research grant from NIOSH, wrote a comprehensive (500-page) detailed outline for a textbook(s) and graduate course in *Occupational Health Engineering*. This textbook was used by many engineering schools to incorporate an awareness of safety and health principles into their design courses.

Industrial Hygiene Engineer
Eli Lilly and Company, Lafayette, IN
July 1977 - February 1980

- Participated in a wide variety of corporate projects involving environmental and occupational health at the firm's three major production facilities in Lafayette, Clinton, and Indianapolis, IN.
- Established the company's industrial hygiene program, including employee training and a trace analytical chemistry lab at these plants.
- Worked on numerous corporate projects in occupational health in the U.S., Canada, and internationally.
- Responsible for establishing programs to ensure the safe laboratory use and manufacture of toxic chemicals and sensitizing agents.

Major Contributions

- Involved in the design of new production facilities ($200M program) with the goal of ensuring that good environmental and occupational health engineering practices were implemented.
- Participated in developing the original USEPA protocol to assess the potential human hazards associated with the field application of herbicides and pesticides.

- Played a significant role in obtaining a favorable closure of a USEPA refutable presumption against registration of this firm's major product (Treflan®) that had been found to contain nitrosamines.
- Primary contact with NIOSH on health hazard evaluation studies of workplaces that handled or manufactured diethylstilbestrol (DES), pesticides, nitroglycerin, and products containing nitrosamines.

Process Engineer/Chemist
Eli Lilly and Company, Clinton, IN
May 1974 - September 1976

- Served as a chemical engineer, chemist, and industrial hygienist. Duties included improvement of production yields and installing process equipment in the facilities that manufactured antibiotics (including Keflex® and Cechlor®) and fermentation products (including monensin and cyclovine). Designed and installed several million dollars in process equipment.
- Played a significant role in several research and development projects that brought about major improvements in profitability.
- Was a member of primary engineering team responsible for the "start-up" of new automated broth processing unit for world's largest fermentation operation. Also, a member of technical service group responsible for the daily operation of two large solvent recovery units.
- Involved in establishing procedures for complying with Food and Drug Administration (FDA), OSHA, and USEPA regulations. Established this facility's industrial hygiene program. Wrote nearly all the relevant MSDS and warnings statements for internal products, intermediates, and some purchased chemicals.
- His experience as a Kemper scholar for Kemper Insurance Company prepared Dr. Paustenbach to enter the fields of occupational and environmental health, as well as, become a fire protection engineer-in-training (1972). During those internships in 1971-1973, he worked in the Boston, NJ, New York, and Chicago offices.

Key Projects (Partial List)

1. **Health risks of ingesting Kratom**. In recent years, thousands of persons have chosen to purchase Kratom (a plant product) and use it as an aid for reducing systemic pain. Some have used it as a hallucinogenic agent. Was retained to work on several claims that were brought to the courts about alleged deaths due to overdosing on tea derived from the leaves. (Sept. 2023)

2. **Contaminated spice product**. Was retained by a firm to characterize the possible health risks (or lack thereof) associated with oregano that had been contaminated with mouse droppings. The risk analysis was informed by classic toxicology principles and historical FDA guidance. (Sept. 2023)

3. **East Palestine Fire (OHIO)**. Evaluated the health risks to the community associated with the combustion products from a railcar involved in East Palestine fire, as well as, the risk to groundwater (Aug., 2023)

4. **Nitrosamines in a new pharmaceutical drug**. Was retained to do a quantitative assessment of a novel nitrosamine in a drug that hopes to come to market. (Spring, 2023)

5. **Derive an occupational exposure limit for a new and novel pharmaceutical agent**. A manufacturer wanted to identify an OEL before attempting to bring it into large production so that engineering or administrative controls could be identified and implemented. (Spring, 2023)

6. **Evaluated the health hazards of potentially contaminated beverages**. Was asked to evaluate the impact of nine railcars being involved, to some degree, in the train wreck in East Palestine, Ohio. The evaluation involved whether nearly 1,000,000 bottles of beer needed to be destroyed due to proximity to the fire. (Spring, 2023)

7. **Evaluate the possible hazards of NO, NOx and PM2.5 from gas stoves**. Was retained to conduct a sampling plan and then conduct a health risk assessment of the emissions from a gas stove. This came into national prominence in 2022 and 2023 (Summer of 2023)

8. **Evaluate the risks posed by asbestos in the steel industry**. Questions continue to be raised about this topic. We gathered much of the data collected across the industry for the past couple decades and analyzed it. The data were originally collected by the steel industry trade assoc.

9. **Evaluated the health risks of vermiculite packing**. A claim was made that there was an asbestos hazard due to the historical use of vermiculite as a packing material for shipping tritium and other radionuclides. (2023)

10. **Conducted a radiological risk assessment of changing out a "pig" used to descale gas pipes**. A claim was made that persons who remove the descaling device that travels through gas pipelines (called a pig) are potentially exposed to excessive amounts of radionuclides when they change out the filter which contains scale. We evaluated all existing literature and case-specific information, then issued an opinion letter. It was a class action in Massachusetts. (2023). It was resolved in the spring or summer of 2023.

11. **Conducted an assessment of the potential cancer hazard to users of ENDs products (e.g., vaping)**. There were concerns raised about this hazard. We collected all the relevant data, assessed the risk and submitted it for publication.

12. **Conducted a risk assessment of exposure to airborne benzene at a truck filling station (due to gasoline and diesel).** Several employees were concerned that they had developed NHL as a result of working at a facility that either pumped gasoline or diesel fuel into various trucks. We evaluated the published data and, fortunately, they had industrial hygiene data for this facility. (2022-2023)

13. **Evaluated the hazard of a unique nitrosamine in various products.** Between 2018-2022, a number of products were identified by FDA as being contaminated with various forms of nitrosamines. We conducted health risk assessments on several of them. We expect the work to be ongoing until the FDA establishes a guideline for how to characterize the risk of nitrosamines in products, which often represent less than 1/100th to 1/10,000 the dose of nitrosamines formed endogenously.

14. **Evaluated the effectiveness of a particular respirator for protecting against exposure to asbestos**. A major manufacturer had been drawn into litigation where claims were made that their device failed to adequately protect workers during the era in which it was sold. Our engagement started in 2022, and it is still ongoing.

15. **Evaluated 20 years of industrial hygiene data collected by a Steel Manufacturer.** Claims have been made over the years that asbestos exposures in Steel Mills during the 1960-1990 era might have been appreciable. That firm asked us to evaluate all their industrial hygiene data and to interpret it.

16. **Conducted a comprehensive risk assessment of a former Navy Shipyard used to restore vessels after WW II.** There had been a remediation of a fairly large navy shipyard that occurred over the past 15 years. After the remediation was completed, the city planned to put offices and homes on the former site. The community was not convinced that it had been properly cleaned so they filed various legal actions. We conducted a health risk assessment and published the analysis in a peer reviewed journal. Critical Reviews in Toxicology (2019-2022).

17. **Presence of methylglyoxal (MGO) in the gases from e-cigarettes**. It was reported that MGO was being emitted from some brands of electronic nicotine delivery (ENDs) devices and inhaled by users. The chemical was alleged to be a possible strong irritant to the lungs of users. The work began in 2022 and is ongoing.

18. **Assess the likelihood of kidney disease due to working in a diluted sewage pumping station**. A claim was made that an employee who worked in a pumping station developed acute kidney failure due to breathing gases in the building. Began in 2022 and was settled in early 2023.

19. **Evaluation of a fire associated with ash from a wood to energy plant**. A pit where wood ash had been stored went exothermic and burned down the storage facility also moved into a nearby forest. We were asked to make suggestions regarding how to prevent such an incident in the future and to conduct a companywide safety assessment. Began in 2022 and still ongoing.

20. **Asbestos hazard associated due to its presence in laboratory equipment**. A firm who sold muffle furnaces, gauze pads for Bunsen burners, and asbestos blankets asked us to conduct a risk assessment of the possible hazard to high school and college students who used these products from about 1940-1990. Work began in 2021 and still ongoing.

21. **Contaminated bottled water incident**. It was alleged that a firm that sold processed water had distributed a product which was alleged to cause liver damage in select consumers. We were part of an investigative team retained by the client to evaluate the validity of the claims and to try to identify the contaminant (if the claims were valid). (2022 and still ongoing)

22. **Contaminated foods incident.** It was found that more than on hundred pounds of liquid ammonia were released in a warehouse full of vegetables (millions of pounds). We were asked to conduct a safety assessment using classic risk assessment techniques, as well as review FDA guidelines, to determine whether the some or all of the products were safe to eat. (2022)

23. **Asbestos disease potential posed by Vermiculite fireproofing**. Due to continued asbestos litigation, we were asked to assess a particular type of fireproofing to determine if the vermiculite was from the Libby mines. We were then asked to evaluate thousands of pieces of air sampling and bulk sampling data to determine if there was a health risk associated with reoccupying the building. Gave testimony in a higher court in Calgary in Dec. 2022. It has been alleged that the claims about adverse health effects were dismissed.

24. **Nitrosamines (NDMA) in several consumer products**: We were asked to evaluate the likelihood that nitrosamines were being formed in a pharmaceutical agent due to storage at warehouses or drug stores. We were also asked to determine if the nitrosamines that were present posed a health risk to consumers. The key product was a blood pressure medicine. Case was dismissed after declaration was submitted to the courts in Canada. (2022).

25. **Airborne toxicants from a petroleum fire**. Was retained to evaluate the validity of claims that BTEX vapors which were released from a fire near a ship that was in a waterway in Texas has caused various lung ailments in those on the ship. (2022).

26. **Recall of consumer products due to trace benzene in propellant**. In 2020-2021, there were a number of products recalled due to the presence of trace amounts of benzene in the propellant. We evaluated the theoretical increased risk associated with the concentrations of airborne benzene with each use. In all cases, the concentrations were too low to warrant the concern of the public or regulatory agencies.

27. **Contaminated grain**. Was retained by a major processor of grains to evaluate an unusual scenario. The firm had transported 20 truckloads of wheat to a barge. The transport company failed to wash out the truck which has previously hauled farm fertilizer. Parts per billion concentrations of fertilizer were in the grain. A risk assessment was required to decide what should be done with the grain. (Fall of 2021).

28. **Contaminated hair dye**. A firm was alleged to have sold a hair dye containing a carcinogen (4-amini biphenyl, 4-ABP) that was sometimes measured in hair dyes in the 1950s-1970s (but it was 2021). The plaintiff claimed that their cancer was due to this trace contaminant which could well be present in most dyes at the ppb level today. We conducted a risk assessment which estimated the absorbed dose. (Fall of 2021).

29. **Covid**. There were a number of claims that persons developed Covid and died due to workplace exposure. We were retained by several employers to conduct an analysis of the most likely cause of the workers disease (usually airway disease) and the likelihood that Covid was responsible. (2021-2022)

30. **Toxicity of herbal supplements**: A claim was made that use of an over-the-counter vitamin supplement had caused acute liver failure. We conducted an evaluation of the toxicology of each of the components, the doses taken each day, and the various other factors that can cause liver failure. We concluded that the plaintiff ingestion of nearly one-half bottle of whiskey per day was the more likely cause of the liver injury. (2021)

31. **Contaminated beverage recall**. Performed a fault tree analysis and field study to evaluate whether a beverage manufacturer, as alleged, performed a number of production runs which were contaminated with an agent that caused acute viral hepatitis in some consumers. This evaluation began with virtually no data, and we carefully examined the process, as well as the products, from two separate facilities. A report and risk assessment were issued. (Winter of 2021 through 2022; litigation continues).

32. **Nitrosamines in pharmaceuticals**. Provided advice to a large pharmaceutical company regarding trace contamination by nitrosodimethyamine (NDMA) and nitrosdiethylamine (NDEA) in their products. In around 2017, it was found that some over-the-counter and prescription drugs contained this chemical which was found to be a rodent carcinogen many years ago. We were asked to conduct a health risk assessment on those persons who ingested these drugs for up to three years during which the contamination was present in Canada. Initial work was performed in the Fall and Winter of 2021.

33. **Accidental death of two chemical workers**. We were retained to evaluate an incident where two employees were exposed to some airborne agent for a relatively short period of time and, sadly, eventually died of pulmonary edema. We were part of a team to try to identify the likely chemicals that were responsible for the incident which occurred in the production of PTEE (perfluoro tetra-fluorinated ethylene). It appears that we identified a new occupational hazard that is unique to some portions of the chemical manufacturing industry. Fall of 2021.

34. **State of the art defense regarding crocidolite in transmissions**. A firm which once manufactured automatic transmissions in the 1945-1970 era was sued when workers developed mesothelioma. We were asked to conduct a state-of-the-art analysis to determine whether the firm had acted responsibly given the information available in publicly accessible information of the time. (Winter of 2021 through 2022).

35. **Retained by a large manufacturer to evaluate an insurance claim regarding COVID.** A major manufacturer in the United States believed that they have had suffered a loss of $4B due to inability to produce goods due to COVID. Like many other firms, they believed their business interruption insurance should cover some of those claims. We were retained to evaluate whether their protective measures were state of the art and that they had done all that they could to control the spread of the virus. (Jan 2021-Jan. 2023).

36. **Provided expert testimony on exposures during railroad work.** A plaintiff believed that they had developed several diseases due to exposure to diesel exhaust, creosote, mineral spirits, carbon monoxide and airborne particulates while being an engineer on a railway. (Spring of 2021).

37. **Retained to offer opinions about the likely magnitude of exposure to asbestos in the steel industry.** Contrary to what is commonly believed in the field of industrial hygiene, there was never significant exposure to asbestos for the vast majority of jobs in this industry from 1950 to the current era. A comprehensive analysis of 40 years of industrial hygiene data was conducted and the data supported that view. (Spring of 2021).

38. **Retained to study exposures due to asbestos gloves in the steel, glassmaking and laboratory industry.** A comprehensive analysis of published and unpublished data was conducted. Expert testimony on the topic was offered in Spring of 2021.

39. **Retained to evaluate the various ways that persons who looked in labs in the 1940s-1990s were exposed to asbestos.** A major supplier retained Dr. Paustenbach to evaluate this matter and offer expert testimony in Winter of 2020.

40. **Allegations of exposure to trace benzene in calibration fluids.** Claims were made that trace concentrations of benzene were present in naptha fluids used in an industry related to mining and gas. Even though there are 20-30 years of knowledge that virtually ND concentrations of benzene are in these fluids, claims that some persons developed AML were made in Winter of 2020.

41. **Retained to evaluate exposures to beryllium in golf club manufacturing**. It was claimed that an employee who used a grinder in a golf club factory developed CBD. We were retained to evaluate the exposures and the probability that his disease, if accurately diagnosed, was due to these exposures. (Winter of 2020).

42. **Asbestos in laboratory products (1950-2010**). Was retained by lawyers representing a laboratory equipment manufacturer. Claims had been made about unacceptable levels of exposure associated with using a tongs with asbestos sleeves, gauze pads containing chrysotile asbestos, asbestos containing gloves, and other equipment. (Winter of 2020).

43. **NDMA in pharmaceuticals**: Was contacted by a manufacturer who was receiving claims that their product contained trace concentrations of nitrosamines. This is an issue that has been raised in the 1970s and 1980s, when our team gave advice to FDA on how to set acceptable contaminant levels for over the counter and prescription drugs. (Fall of 2020).

44. **Evaluated the risk of an asbestos related disease due to fiber drift at a shipyard**. Lawyers for the plaintiffs claimed that persons who worked very far away from a work area were overexposed. In this case, the sailor was allegedly exposed outside a ship within 200 yards of an exhaust duct. Summer of 2020.

45. **Retained as a toxicology/pharmacology expert regarding nicotine**. Due to litigation associated with e-cigarettes, there was a need for someone who had studied nicotine pharmacology to get involved in claims regarding adverse health effects in persons of varying ages. Was retained by a major manufacturer. (Summer of 2020-Fall of 2022).

46. **Evaluated the likelihood of permanent brain damage due to chronic low-level exposure to carbon monoxide**. It was alleged that ten men worked in an area where the airborne concentrations in the winter were in the vicinity of 10-50 ppm for several hours per day. The question to be addressed was the likelihood that these doses would produce short term or permanent memory loss and learning impairment. It was also alleged that the exposures caused white dots in certain portions of the brain. (Fall of 2020).

47. **Served as a PMK witness for a firm that went out of business around 1991**. Our firm attempted to learn as much as possible about the history of our client and the totality of the coverage and testify as a 30b6 witness. (2020-2022)

48. **Respirators and their limitations for protecting workers**. Was retained by a major manufacturer who sold disposable (sometimes single use) respirators intended to protect workers from various dusts. The claim was that they often did not provide a protection factor of 5 or 10 and, as a result, did not always adequately protect persons who worked with asbestos in the 1970s and 1980s. (Summer of 2020).

49. **Evaluated the plausible health hazard of asbestos emissions to a community 2-3 miles from the point source**: Was retained to estimate the ambient concentrations of crocidolite and chrysotile far from the plant which had inadequate air cleaning devices, and which manufactured transite pipe, transite wallboard, and cements. This required the use of original research conducted by our firm on fiber transport which was then incorporated into classic air dispersion models. (Summer/Fall of 2020)

50. **Evaluated claims regarding talc**. Due to allegations regarding the hazards of using cosmetic talc in two settings, we evaluated the maximum plausible airborne concentrations that might have occurred and the duration. At this time, we have not been retained as experts. (Summer-Winter of 2020).

51. **Conducted exposure assessment of Pressmen who worked with benzene in the 1950-1970.** It was not unusual for workers in press shops to remove ink from printing machines using a cleaning fluid which might contain 0.5-10% benzene. The allegations involved a worker who developed multiple myeloma. (Summer of 2020).

52. **Evaluated the likely mechanisms of initiation of certain cancers, including the leukemias.** The question brought to us was "when can one say that a person has experienced the onset of a disease" based not on the date of first exposure, which is not initiation of disease, but rather when the disease process was initiated. Retained as a consulting expert. This was a novel scientific and legal question. (Summer of 2020).

53. **Retained to evaluate the risks to mechanics of working with asbestos-containing gaskets on motorcycles**. The number of claims against motorcycle manufacturers has increased in recent years. We were retained to give opinions about the magnitude of exposure and the likelihood of developing an asbestos related disease. (Lasted all of 2020).

54. **Evaluated the possible health risks of aluminum in potable water for an RV manufacturer.** Reviewed available literature on aluminum leaching and possible toxicity to consumers due to certain concentrations being present in hot water heaters from potable water tanks. Found that for the concentrations measured there was a no health risk to consumers. Both EPA and NHTSA adopted our risk assessment. (Fall 2019).

55. **Was retained to evaluate the possibility of developing a hypersensitivity pneumonitis as a result of exposure to food flavorings while working in a Chinese or Vietnamese restaurant**. Due to the interest in alleged hazards due to exposure to diacetyl in consumer products (like popcorn), there were a number of cases filed in the restaurant industry regarding exposure to many different types of flavoring. (Fall of 2019-Spring of 2020).

56. **Retained to evaluate the potential adverse effects of vaping of liquids containing nicotine and various flavorings**. In light of the national concerns about whether E-cigarettes are a public health problem or a benefit to those who are trying to quit smoking (or both), this presents a classic opportunity for conducting a health risk assessment. (Winter of 2019-Winter of 2020).

57. **Assessment of soil samples at a former Naval site.** Reviewed all the available information and assembled a scope of work to conduct a sensitivity analysis and risk assessment. (Summer of 2019-Winter of 2020).

58. **Evaluation of claims that pigeon droppings caused chemical hypersensitivity pneumonitis (HP)**. It was alleged that an employee of a railroad developed, a potentially fatal fibrotic lung disease, due to occasional, outdoor, workplace exposure to dried airborne pigeon droppings. An analysis of all published and case specific materials indicated that inhalation of fungi, if it occurred, was not causal. (Fall of 2019).

59. **Assessment of the hazards of asbestos containing duct sealer**. Was retained by a firm to evaluate the possible hazards to workers applying, and later attempting to remove, a polymer-based duct sealer. The 1950s product was remanufactured and used in a simulation study (fall 2018). The results were published in an internal report. We expect a published paper to follow. Consulted on some cases in 2018 and 2019.

60. **Evaluated the reasonableness of claims regarding the carcinogenicity of glyphosate**: Was asked by an investment group to assess the evidence that Glyphosate was a likely human carcinogen and the probability that the courts would make such a conclusion (as related to the numerous personal injury cases that the been filed. (Spring of 2019).

61. **Asbestos Exposure to Millwright at Oil Platform Construction Facility** Evaluated claims that there was excessive exposure to asbestos fibers while working with gaskets at a site in Louisiana. (Spring of 2019).

62. **Evaluated the alleged health risk of the presence of trace quantities of nitrosamines in a pharmaceutical**: Was asked to evaluate the magnitude of the health risk to patients who took normal quantities of a drug that was in the news, as well as others. (Summer of 2019).

63. **Attempted to Determine for Categorization of Cobalt as a Systemic Toxicant in EU**: Investigated the basis for the categorization of cobalt under the new labeling scheme and submitted comments about the scientific merit of that pending decision. (Spring of 2019).

64. **Asbestos Fiber Transport from Facilities into the Community**: We conducted at least one field simulation study where we evaluated the aerial transport and distribution of chrysotile, crocidolite, and cement particles from a point source. The purpose of the effort was to determine if fibers were "more likely than not" (on an aerodynamic mean diameter basis) to travel a shorter distance than spherical particles. It was anticipated that this would give insight on how to adjust the various air dispersion models. The work was presented at several conferences and is under peer review. (2018-2020).

65. **State of Art Expert in an Asbestos case**: Was retained by a firm who had had employees allegedly involved in installing insulation in homes in the 1950s and 1960s. Claims were made that this union worker was never informed of an asbestos hazard.

66. **Health hazards posed by human exposure to cosmetic talc**: Was retained by a law firm to evaluate a person injury claim that exposure to cosmetic talc was responsible for causing a mesothelioma in a relatively young woman. Exposures were alleged to be due to using it as an anti-perspirant and while powdering her infants while changing diapers. (Mid-2018).

67. **Addressed question regarding vitamin A concentrations in food supplements**: A small supplier of specialized foods accidentally added more than prescribed amounts of Vit A to one of their foods. After conducting a risk assessment, we recommended that the batches of this product that were in transit be returned to the manufacturer. (Late 2018).

68. **Claims regarding the adequacy of MSDS overtime.** A large multi-national firm had been sued for allegedly not providing adequate toxicology and industrial hygiene information in their MSDS on Perfluoro chemicals from 1980-2010. The case involved allegations regarding more than 1,000 chemicals sold by the firm. We conducted a "case by case" analysis of the state-of-the-art regarding whether the MSDS reflected what was known at the time the MSDS was issued. (2018-2019).

69. **Claims regarding exposure to industrial talc.** Was retained by a tire maker who had experienced allegations regarding exposure to industrial talc and mesothelioma. (Late 2018).

70. **Claims of hair loss due to use of shampoo.** A large private sector client was alleged to have sold a shampoo which caused air loss. A risk analysis of the various components was conducted, and an opinion letter was issued (mid to late 2018). Several published papers came out of this work.

71. **Alleged vapor intrusion by PCE and TCE in basement.** An engineering firm who performed remediation of local groundwaters was alleged to have failed to prevent intrusion of the vapors into the basement of a garage. An analysis of the state of the art regarding expectations in 1990 was conducted and an opinion letter was presented to the court. (Mid to late 2018).

72. **Claims of asbestos related disease in tire workers.** It was claimed that a contractor who worked at a Goodyear facility had developed meso as a result of working part time at that site. An exposure analysis and causation analysis were conducted and presented in an opinion letter. (Mid-2018).

73. **Brake dust from a trolley car.** A claim was made against many firms, including the City of San Francisco, that mechanics of the trolleys were placed at increased risk of asbestos related disease due to their occupation. (Mid-2018).

74. **By-stander and take-home exposure of a refinery spouse.** It was alleged that a spouse of a worker at a Chevron refinery developed mesothelioma due to her alleged exposure associated with visiting her husband at lunch and due to take home exposure. An exposure assessment and causation analysis were conducted in mid-2018.

75. **Alleged disease due to cutting crocidolite containing pipe.** An oil development firm was alleged to have allowed a contractor to cut transite pipe without respiratory equipment which was said to be the cause of his disease. An "employer responsibility" analysis was conducted, and an opinion letter was offered. (Early 2018).

76. **Numerous cases associated with gaskets.** Throughout 2018, various claims were made against pump manufacturers that the asbestos that might have been released during the change of gaskets was the cause of disease. Many opinion letters were offered, and the courts often concluded that the scientific basis of the claims was unfounded. (All of 2018).

77. **TCE in groundwater**. A client who was a government contractor was alleged to have released TCD into a swamp between 1960-1972. The State believed that these actions were a serious infraction of the laws of the time. A state of art analyses of common and widely held "work" practices was conducted (early 2018). An opinion letter was provided to the courts and a deposition followed.

78. **Two deaths due to carbon monoxide**. Was retained to figure out why two persons who lived in an apartment died of carbon monoxide poisoning. Theories included a poorly designed parking area, holes in the floor of the apartment, a defective heating system, a defective auto which was alleged to start on its own, and others were offered (early through mid 2018).

79. **Work practices at an organic foods factory**. Was retained to do a site walk and examine all the quality control practices at an organic food factory. It has been common for these facilities to be the source of salmonella and other bacterial outbreaks. There are common characteristics which we have come to identify which are often the cause (2017-2018).

80. **Contaminated "organic" foods.** A small processer of kale had distributed some contaminated foods and needed an assessment regarding the need for a recall. After analyzing all of analytical data, it was concluded that the recall was necessary, and it was executed (2017).

81. **Occupational exposure to fly ash**. A client who was responsible for cleaning up the fly ash following the great landslide in Tennessee (power plant) was sued regarding allegations of an inadequate industrial hygiene program. We evaluated thousands of pieces of IH data and wrote up an analysis (2017).

82. **The need to shower after daily work at a Foundry**. A very complicated case was filed in the mid -2000s which alleged that workers in a foundry should have clean clothes issued each day and that the employees should shower before going home. This case involved understanding the scientific basis for asking workers to shower and whether it was appropriate to pay them to do so (vs them choosing to do it on their own time for reasons of personal hygiene or comfort) (2017-2019)

83. **Performed national study of exposures to hydrogen peroxide as a sanitizer**. We were awarded a contract by manufacturers to assess the magnitude of exposure during typical use of hydrogen peroxice as a sanitizer in the poultry processing, greenhouse, food processing and hospital facilities in the United States. This was part of the requirements of the "data call-in" responsibilities of the new TSCA (2017-2020).

84. **Evaluated the possible hazard of gamma radiation from cleaning oil field pipes of scale**. This is a classic risk assessment involving naturally occurring radiological materials (NORM). We are in the process of the evaluation, but it seems clear that the doses to these employees are not much greater than background (2017)

85. **Assessed the hazards posed by trace contamination of vegan foods by dairy products**. Currently, FDA has no definition for vegan foods. Although rare, some persons are allergic to dairy products even at low concentrations. We attempted to identify the concentration of concern so that quality control measures could be implemented by the food supplier (2017)

86. **Mold release from auto air conditioners**. Beginning in about 2007, a number of lawsuits were filed against many manufacturers that the drivers of cars were being adversely affected by microbes, odors, bacteria, or some agent that blew out of the vents when the car was started (often in the summer in humid climates). This litigation was hugely complicated and required that millions of dollars of air sampling be performed. The work continues to be pursued by 6 or more different consulting firms. We got involved in 2017.

87. **Evaluated potential for residential exposure to asbestos from site emissions**. There is a rapidly evolving mass tort associated with claims that citizens living withing 2-3 miles of a facility which may have emitted or handled asbestos could at risk of asbestos related disease. We have been aggressively evaluating this hazard with consideration given to the aerodynamic mean diameter of fibers vs. regular particulate emissions. We have been retained by several firms who are involved in this litigation (2016-2018).

88. **Assessed the hazards posed by trace contamination of soy in "soy free" products**. Currently, FDA has no definition for what defines soy free. A client found that they had accidently contaminated a batch of foods and wanted to know if the foods were safe to deliver. Using FDA documents on the subject, and other published papers, we identified the concentration of concern and found that foods at this concentration could be safely ingested (2017).

89. **Assessed the hazard to local citizens of dioxin contaminated sediments in San Jacinto Bay**. We were retained to evaluate a fairly controversial site in the Houston ship channel to determine whether fish and other aquatic life contained a sufficient concentration of dioxins, furans and PCBs to pose a significant health hazard to local residents who ate these foods. (2017-2020).

90. **Performed mechanistic research on normal and unusually large debris from hip implants to evaluate its role in a hip revision**. We were engaged to attempt to figure out the biological cause, if any, for the apparent upswing in the number of revisions of metal-on-metal hip implants over the past 7 years. We collected a large portion of particles from hip simulators run at typical angles and particles from those at articulated angles (far outside the specifications). We concluded that the large wear debris was much more biologically active than normal debris in cell culture tests and we hypothesized that similar results would likely be observed in mammals in tox studies and in humans who had had implants which were at extreme angles. (Kovochich, M., E.S. Fung, E. Donovan, K.M. Unice, D.J. Paustenbach, and B.L. Finley. 2017. Characterization of wear debris from metal-on-metal hip implants during normal wear versus edge-loading conditions. J Biomed Mat Res B. Advanced online publication, May 8, 2017. doi. 10.1002/jbm.b.33902). Other papers followed in 2018-2019.

91. **Libby amphiboles released from a lumber processing facility**. We were asked to evaluate the magnitude of release of asbestos fibers (so-called Libby amphiboles) from a wood processing facility which operated in Libby for several decades. A number of claims had been made that the emissions caused disease in the community. (2017 and 2018).

92. **Retained to evaluate the cause of odors in autos during air conditioning start up.** There have been a number of claims leveled at many auto manufacturers regarding odors that are allegedly released when an air conditioner or heater “starts up”. To understand the validity of the claims, a comprehensive national program was developed which involved sampling the air in a wide range of autos. (Summer of 2017).

93. **Assisting firms who need to meet expectations of TSCA reform.** In 2016, Congress approved of a major reform of TSCA. As a result, many firms have contacted us and asked for advice about what is necessary to meet the new expectations. (Throughout 2017).

94. **Evaluated de minimus contributors to Passaic and other bodies of water**. In 2015-2017, numerous firms were named as contributors to the pollution of the Passaic River. We have been retained by a couple firms who have been drawn into litigation due to claims that they emitted metals and persistent organic pollutants (POPs) to this body of water.

95. **Attempted to determine the cause of a fire in an enclosed vessel at a refinery**. A fire occurred in a refinery, and it was alleged that as many as 20 persons were adversely affected by the products of combustion. We were part of a team of professionals tasked to determine the cause of the fire and why it propagated so rapidly. We also assessed whether various persons who were involved experience temporary or permanent adverse health effects. (Circa 2016-2017).

96. **Evaluate the hazard posed by release of methyl bromide gas after fumigation of fruit.** There are only a few remaining acceptable uses of MB gas for killing certain pesky insects. We were asked to assess the risks to the community associated with the quantity of MB released to the ambient air. Site was near a river in New Jersey. (Summer of 2016 through Summer of 2018).

97. **Assessment of contaminated groundwater and associated soil gases in a community in San Diego.** We were contacted by one of the PRPs for a rocket parts manufacturing firm about a plume which had been known to exist for the past 40 years. Recently, claims were made by citizens that some homes and a school had much higher than background concentrations of volatile organics. The fingerprint pointed to the plume. A health risk assessment was conducted which mirrored one conducted by the State of California (known as the Ametek site). (2016 – 2019).

98. **Set an occupational exposure limit for diacetyl**. For several decades, we have been involved in setting "internal" occupational exposure limits for corporations. Recently, several firms have asked us to identify an OEL for diacetyl in light of claims about exposure of manufacturing workers, those in the coffee manufacture and distribution industry, and those in the flavorings industry (most of 2016 and 2017).

99. **Characterized the hazard posed by PFOA to water bodies**. Since the late 1990s and early 2000s, we have been studying the fluorinated chemicals with respect to the toxicological hazard and the fate/transport in the environment. In 2015, we were asked to investigate the possible hazard associated with the contribution of textile factories to the contamination of sludges in wastewater treatment plants. This is a highly complex issue which captured the attention of the media and trial lawyers in about 2014 and this continues through 2018.

100. **Potential dermal hazard posed by a popular hair shampoo**. We were retained by a firm who was being investigated by FDA regarding claims by clients that hair loss was occurring with routine use (Spring of 2016 through Fall of 2019). We have been conducting research to evaluate this hazard for about 18 months.

101. **Exposure of persons who cut cement pipe containing asbestos**. We evaluated the possible inhalation hazard associated with cutting pre-1970 cement pipe that contained about 15% chrysotile and 10% crocidolite. We also evaluated the take-home hazard of contaminated clothing (summer of 2016 through spring of 2017). A manuscript describing the exposures was published in late 2017.

102. **Evaluating the take home exposure of persons who cut cement pipe containing crocidolite and chrysotile**. At the request of a client, we conducted a simulation study to evaluate the possible exposure to family members (e.g., take home study) associated with laundering the clothing of person who occasionally cut this type of pipe. A manuscript describing the exposures was published in 2017.

103. **Assessing the dermal irritation of MCHM in water at concentrations relevant to the Charlestown, WV incident**. We were asked to evaluate this hazard and, as a result, conducted a study involving volunteers through a well-respected contract lab. Work was conducted in 2016. The results were published in a peer reviewed paper in early 2017. (Monnot, A.D., R.M. Novick, and D.J. Paustenbach. 2017. Crude 4-methylcyclohexanemethanol (MCHM) did not cause skin irritation in humans in 48-h patch test. Cutan Ocul Tox. Advance online publication, March 13, 2017. doi: 10.1080/15569527.2017.1296854.).

104. **Conducted research to identify the cause of failures (usually loosening) of patients who had received metal-on-metal (MoM) implants**. We were asked to attempt to identify the most likely mechanism by which MoM (or MoP) implants might fail between 1 to 10 years following the surgery. Between 2012 and 2017, we conducted several studies in an attempt to answer that question. At least two or three papers have been published or are in progress which address this issue. I have testified in one court case associated with hip implants (2014-2017).

105. **Assessing the developmental toxicology hazard posed by short term exposure to MCHM in water at concentrations relevant to the Charlestown, WV incident.** We were asked to evaluate this hazard and, as a result, conducted of the birth outcomes of all relevant hospitals before and after the incident. Work was conducted in 2016. The results were published in a peer reviewed paper in 2017. (Benson, S.M., P. Ruestow, K.A. Keeton, R.M. Novick, G.M. Marsh, and D.J. Paustenbach. 2017. The 2014 crude 4-methylcyclohexanemethanol chemical release and birth outcomes in West Virginia. Arch Env Occup Health. Advance online publication, July 10, 2017. doi: 10.1080/19338244.2017.1350132)

106. **Evaluated what was learned in the Shanghai Health Study (SHS) of occupational exposure to benzene conducted in the 1990s era.** Without any outside funding, we decided to review all the published and unpublished work related to the SHS study and conduct a comprehensive assessment of what was learned. The paper was published in Critical Reviews in Toxicology in late 2017.

107. **Evaluated the alleged risks associated with exposure to talc or talcum powders.** In about 2014, a new generation of claims about the hazards posed by talc with respect to causing ovarian cancer and mesothelioma were made. We began to evaluate the scientific legitimacy of these claims at that time. Several papers are in progress which describe our current views (spring of 2016).

108. **Assessed a former site of a manufactured gas site in Sydney, Australia**. We were contacted to determine the necessary level of clean-up at this site which was in downtown Sydney; as well as give advice on remediation techniques. Dennis also served on an advisory board to the mayor as to how to move forward (called the Barangaroo site) (summer of 2016).

109. **Evaluated the claims that the number of head injuries in the NFL were increasing and that the incidence of concussions was causing pre-mature death.** Around 2016, we were retained to evaluate the claim that head injuries seen with NFL and other football players was causing pre-mature dementia and/or death. A preliminary epidemiology study was performed.

110. **Evaluated the historical asbestos hazard to radio and TV repairmen of the 1950s and 1960s**. We were asked to evaluate the magnitude of health risk, if any, associated with repairing radios and TVs during the era when asbestos may have been used in the Bakelite base holding the vacuum tubes, the heat shield and dust guards.

111. **Benzene in paints**. A new series of cases were filed which alleged that there was substantial exposure and risk associated with certain paints and stains manufactured in the post-1976 era. A complete review of the literature and mathematical modeling were performed, and several cases went to deposition on this matter.

112. **Assessed a concern that endotoxins were present in a workplace that manufactured shrink wrap**. We conducted a process review and site walk of the facility. We concluded that there was an excessive concentration of airborne endotoxins, and we identified the source. Immediate and long-term corrective actions were recommended and implemented. These were successful (Winter of 2015).

113. **Assessed which party was responsible for salt dome failure**. We were retained to evaluate why several major salt domes failed in Louisiana. This required the use of chemical fingerprint. (Mid-2015).

114. **Assessed hazards associated with organic cosmetics.** We were retained by a firm who had concerns about the possible level of bacterial growth that might be associated with selling purely organic face creams and other cosmetics since no preservatives were present. We conducted an evaluation of several different products and several different carriers of the main ingredients. Indeed, one needs to be careful when manufacturing these products since reuse by the consumer can produce contamination and subsequent dermal effects. (Spring and Summer of 2016).

115. **Lead and arsenic in vitamin supplements**. We were asked to evaluate whether relatively trace concentrations of both arsenic and lead, which were naturally occurring in some zeolites, in a vitamin supplement, posed an unacceptable risk to those taking these nutraceuticals. FDA and California Government were uncertain whether to request withdrawing them from the market (Summer of 2015).

116. **Take-home hazard due to 1950s exposure to crocidolite in paper**. One client asked us to evaluate whether a person who made paper, in the 1950s, might have the potential of causing a take home hazard to his children (Summer of 2015).

117. **Risks of boiler fly ash to local streams**. Was asked by a major utility company to assess their liabilities under the new (2015) EPA coal ash disposal regulations. They had concerns about the amount of ash that had entered streams due to historical piling on or near their site (Summer of 2015).

118. **Evaluated the possible hazards to athletes posed by use of recycled rubber products in artificial running track**. In about 2016, we were retained to evaluate the loss of volatile organics from turf that was made from shredded tires. The claim was that athletes were getting ill because the tires had not been adequately dried.

119. **Evaluated the possible health hazards to athletes posed by the use of recycled rubber products in artificial grass**. In about 2015, we were retained to evaluate the possible hazards associated with lead in artificial turf. The claim was that the lead was not sufficiently bound to the polymers in the grass and that dermal absorption of lead was a hazard not sufficiently evaluated by the manufacturers.

120. **Evaluated the possibility of skin irritation and damage due to use of an anti-inflammatory cream used by athletes to relieve muscle aches**. There were allegations in around 2015 that use of a new cream was causing irritation and some skin burns in athletes. We were retained to evaluate the validity of the claims and to study the dermal toxicity of some components of the cream.

121. **Erionite hazard associated with Western U.S. soils.** A number of clients were seeking advice regarding the possible mesothelioma hazard associated with the presence of erionite (of which there are nearly 20 forms) in several hundred locations in the Western States (Spring of 2015).

122. **Asbestos in various laboratory products**. A client approached us to determine the magnitude of health risks (if any) associated with working with historical chrysotile containing laboratory products. These included Bunsen burner heat distributors, asbestos gloves, asbestos blankets and the covering of thongs used to handle very hot test tubes (Summer of 2015).

123. **Arsenic in various wines.** It was reported in a number of national news stories that excessive amounts of arsenic were present in virtually all wines. Several major lawsuits were filed. We were asked to look into this matter. At our expense, we conducted the most comprehensive research ever conducted on this topic which included speciation of the type of arsenic and the presence in a range of wine and red wines. The results were published in two papers in 2016 (work conducted in 2015). (Monnot, A., B.E. Tvermoes, R. Gerads, H. Gurleyuk, and D.J. Paustenbach. 2016. Risks associated with arsenic exposure resulting from consumption of California wines sold in the United States. Food Chem. 211.107-113.; Paustenbach, D.J., A.L. Insley, J.R. Maskrey, J.L. Bare, K.M. Unice, V.B. Conrad, L. Iordanidis, D.W. Reynolds, K.D. DiNatale, and A.D. Monnot. 2016. Analysis of total arsenic content in California wines and comparison to various health risk criteria. Am J Enol Viticult. 67(2).179-187.) (2015 and 2016).

124. **Evaluated the health risks of plasticizers on auto coverings**. At the request of at least one client, we measured the amount of plasticizer on the surface of a variety of autos and then estimate the potential dermal intake. A health risk assessment was also performed. The results were published in a journal in 2017 (work conducted in 2015). (Perez, A., M. Liong, K. Plotkin, K.P. Rickabaugh, and D.J. Paustenbach. 2017. Health risk assessment of exposures to a high molecular weight plasticizer present in automobile interiors. Chemosphere. 167(1).541-550.)

125. **Diacetyl and other gases from processing coffee**. Quite a number of possible clients contacted us to determine if all the discussion in the press of a possible diacetyl hazard due to being a barista was valid. Over the course of months, we assessed this matter. Manuscripts on our work were published (summer of 2015) (Pierce, J.S., A. Abelmann, J.T. Lotter, C. Comerford, K. Keeton, and B.L. Finley. 2015. Characterization of naturally occurring airborne diacetyl concentrations associated with the preparation and consumption of unflavored coffee. Tox Reports. 2:1200-1208).

126. **Arsenic in inexpensive California wines**. In about Feb/March, 2015, Dennis was contacted by the Wine Institute to consider evaluating the presence of arsenic (and lead) in wine grown in historical crops. The legal claims surrounded the fact that in many wines, the concentration of arsenic exceeds the drinking water guideline. A couple research papers were generated surrounding this risk-based question (Spring of 2015).

127. **Diesel exhaust and railroad workers**. We were retained by a large railroad to investigate claims that diesel exhaust from historical engines had increased the risk of lung cancer. This has been a hotly debated topic for dozens of years and the recent "re-analysis" of epidemiology literature is the central theme with respect to understanding current views about this possible hazard (Spring of 2015).

128. **Tremolite in vermiculite**. Was requested by a client to evaluate the plausible health risks of asbestosform and non-asbestoform tremolite in various products that contained vermiculites in the 1980s (Spring of 2015).

129. **Phthalates in vinyl auto seat covering**. Due to an unusual set of circumstances on the East Coast, a manufacturer of a very high-end auto was alleged to have upholstery which released a white powder or liquid when the seat warmer was initiated. A risk assessment of the phathlate in the vinyl was performed. (Winter of 2014) (Perez, A.L., Liong, M., Plotkin, K., Kickabaugh, K.P., Paustenbach, D.J. Health risk assessment of exposures to a high molecular weight plasticizer present in automobile interiors. 2017. Chemosphere. 167.541-550.)

130. **Crocidolite asbestos in pipe coverings**. A number of cases were filed where the claim involved exposure to crocidolite which was present in the tar of some pipe coverings in the 1960s to 1980s. The evidence that this was true was lacking but we performed a health risk assessment nonetheless (Winter of 2014).

131. **Accidental exposure to pharmaceuticals due to shipping hazard**. A single person apparently dropped a vial of some research drug and claimed that they received a dose which was problematic (Winter of 2014). We performed a quantitative evaluation of the airborne and dermal exposures.

132. **Investigated whether diacetyl was present in appreciable amounts during coffee roasting.** We conducted a study to determine the airborne concentrations of diacetyl associated with coffee roasting. We were surprised that the concentrations were much greater than what NIOSH considered likely to be hazardous (Winter of 2014). (Gaffney, S.H., A. Abelmann, J.S. Pierce, M.E. Glynn, J.L. Henshaw, L.A. McCarthy, J.T. Lotter, M. Liong, and B. Finley. 2015. Naturally occurring diacetyl and 2,3-pentanedione concentrations associated with roasting and grinding unflavored coffee beans in a commercial setting. Tox Reports. 2.1171-1181.; Pierce, J.S., A. Abelmann, J.T. Lotter, C. Comerford, K. Keeton, and B.L. Finley. 2015. Characterization of naturally occurring airborne diacetyl concentrations associated with the preparation and consumption of unflavored coffee. Tox Reports. 2:1200-1208).

133. **Risk of disease posed by take home exposure of either chrysotile or amosite**. A number of cases involving this issue came to our attention in 2012-2015. To address this matter, we conducted a series of "simulation studies" which were published in the peer reviewed literature in 2013-2015. This was the first quantitative assessment of this matter. (Sahmel, J., C.A. Barlow, S. Gaffney, H.J. Avens, A.K. Madl, J. Henshaw, K. Unice, D. Galbraith, G. DeRose, R.J. Lee, D. Van Orden, M. Sanchez, M. Zock, and D.J. Paustenbach. 2016. Airborne asbestos take-home exposures during handling of chrysotile-contaminated clothing following simulated full shift workplace exposures. J Exp Sci Environ Epidemiol 26.48-62.; Sahmel, J., C.A. Barlow, B. Simmons, S.H. Gaffney, H.J. Avens, A.K. Madl, J. Henshaw, R.J. Lee, D. Van Orden, M. Sanchez, M. Zock, and D.J. Paustenbach. 2014. Evaluation of take-home exposure and risk associated with the handling of clothing contaminated with chrysotile asbestos. Risk Anal. 34(8).1448-68.).

134. **Assessment of the airborne hazards from a fire involving a refinery**. We were asked to share our views about the potential short term and chronic hazards posed by the direct and indirect exposure to emissions from a refinery fire in Northern California. We have participated in ten or more similar assessments over the years (Summer of 2014).

135. **Assessing the occupational risk of benzene and butadiene in a non-refinery setting**. We evaluated 10,000 industrial hygiene samples collected in a chemical plant over the course of 30 years, and then conducted a health risk assessment of the workers (Spring of 2015).

136. **The sensitization hazard posed by cobalt, chromium and nickel released by hip implants**. Was retained by a manufacturer to determine the likelihood that these metals, when released through normal wear, were likely to induce or elicit a sensitization response in patients. (spring of 2015). (Kovochich, M., E.S. Fung, E. Donovan, K.M. Unice, D.J. Paustenbach, and B.L. Finley. 2017. Characterization of wear debris from metal-on-metal hip implants during normal wear versus edge-loading conditions. J Biomed Mat Res B. Advanced online publication, May 8, 2017. doi. 10.1002/jbm.b.33902; Unice, K.M., A.D. Monnot, S.H. Gaffney, B.E. Tvermoes, K.A. Thuett, D.J. Paustenbach, and B.L. Finley. (2012). Inorganic cobalt supplementation. Prediction of cobalt levels in whole blood and urine using a biokinetic model. Food Chem. Toxicol. 50.2456-2461.; Tvermoes, B.E., B.L. Finley, K.M. Unice, J.M. Otani, D.J. Paustenbach, and D.A. Galbraith. 2013. Cobalt whole blood concentrations in healthy adult male volunteers following two-weeks of ingesting acobalt supplement. Food Chem Tox. 53.432-439.).

137. **MCHM release into the Elk River**. Was retained by a client to assess the possible health risks associated with ingestion of a coal dust chemical by citizens in West Virginia. This incident occurred in January of 2014 and retention was shortly thereafter. (Paustenbach, D.J., B. Winans, R.M. Novick, and S.M. Green. 2015. Toxicity of crude 4-methylcyclohexanemethanon (MCHM). Review of experimental data and results of predictive models for its constituents and a putative metabolite. Crit Rev Tox. 45(S2).1-55.

138. **Assessing the hazards posed by talc with respect to ovarian cancer**. Was retained by a pharmaceutical firm to assess the plausible hazard associated with the use of baby powder containing talc and the risk of ovarian cancer (fall 2014; -spring 2018).

139. **Advisors to Australian Dept of Agriculture**. Were retained to conduct and/or peer-review a series of health risk assessments associated with the use of various pesticides (Summer 2014).

140. **Conducted follow-up epidemiology study of diacetyl workers**. We conducted a follow-up study of the health status of workers at an Indiana food flavorings facility who had been employed for as many as 30 years in this industry (begun in early 2013, analysis should be published in late 2015). This study was the largest one ever conducted in that 10 or more years of PFT data were evaluated.

141. **Asbestos exposure associated with repairing motorcycles**. In the summer of 2014, we evaluated the plausible historical exposure to asbestos associated with repairing the brakes on motorcycles sold and repaired from 1950 to 1990.

142. **Asbestos exposure while cutting metal sheeting (1950-1980)**. We conducted a simulation study involving traditional and non-traditional approaches to cutting certain forms of metal wall board which contained chrysotile asbestos (Summer 2014).

143. **Asbestos hazard in those who worked in power plants**. We conducted an exposure assessment of maintenance workers and craftsmen who worked in the electric power generating industry from 1950-1990 (Summer 2014).

144. **Mini-epi study of large office building**. For a confidential client, we were asked to assess whether there was any validity to claims of a "cancer cluster" associated with working in a particular building (Summer 2014).

145. **Asbestos in electrical components (1950-1980)**. We were asked by a former manufacturer of electrical components made of both plastic and Bakelite, which contained chrysotile, whether it was plausible to be exposed to biologically relevant airborne concentrations of asbestos while manipulating these products (Summer 2014).

146. **Evaluated the take-home hazard associated with silica.** In the summer of 2014, we were asked to qualitatively and quantitatively evaluate the plausible workplace take home hazard associated with crystalline silica. This turned out to be a five-year long project.

147. **Nanoparticles and hip implants.** During 2012-2014, we conducted an evaluation of alleged health risks associated with the release of nanoparticles (and other wear debris) from cobalt-chromium containing metal on metal hip implants. Several papers were published describing our work. (Madl, A.K., M. Liong, M. Kovochich, B.L. Finley, D.J. Paustenbach, and G. Oberdorster. 2015. Toxicology of wear particles of cobalt-chromium alloy metal-on-metal hip implants Part I: Physiochemical properties in patient and simulator studies. Nanomed: Nanotech Biol Med. 11(5):1201-1215; Madl, A.K., M. Kovochich, M. Liong, B.L. Finley, D.J. Paustenbach, and G. Oberdorster. 2015. Toxicology of wear particles of cobalt-chromium alloy metal-on-metal hip implants Part II: Importance of physiochemical properties and dose in animal and in vitro studies as a basis for risk assessment. Nanomed: Nanotech Biol Med. 11(5):1285-1298.).

148. **State-of-the-art employee responsibilities.** During 2013 and 2014, we evaluated a couple dozen cases which involved an understanding of the state-of-the-art duties of employers to warn employees about the hazards of asbestos (1955-1985). (Barlow, C.A., J. Sahmel, D.J. Paustenbach, and J.L. Henshaw. 2017. History of knowledge and evolution of occupational and health and regulatory aspects of asbestos exposure science. 1900-1975. Crit Rev Tox. 47(4).286-316.).

149. **Conducted a review of the literature regarding the evidence that diacetyl was the cause of lung disease in food flavorings workers.** Between 2007-2015, ChemRisk evaluated various studies and the evidence that suggested that exposure to diacetyl, or in combination with other chemicals, was the likely cause of one or more different occupational lung diseases. We worked for several clients and developed a comprehensive evaluation of these claims which we considered, in the main, to be lacking sufficient scientific evidence that diacetyl was the causative agent. Our analyses were presented in several published papers or letters-to-the-editor. (Pierce, J.S., A. Abelmann, and B.L. Finley. 2014. Response to Muge Akpinar-Elci Letter to the Editor re. Pierce et al., Diacetyl and 2,3-pentanedione exposures associated with cigarette smoking: implications for risk assessment of food and flavoring workers, Crit Rev Toxicol. 44(5):420-435. Crit Rev Tox. 44(7):640-641.; Finley B. and Scott P. 2014. Diacetyl and "popcorn lung" litigation. Assessing the evidence for general causation. ABA Environ Litig Toxic Torts Newsletter. 15(2).7-10).

150. **Assess the hazard posed by Agent Orange**. We evaluated the hazard to maritime workers who handled drums of Agent Orange during the Vietnam War (exposure was alleged to be associated with cleaning up leaking drums) (Spring 2014).

151. **Assessed claims that exposure to dioxin, at nearly any concentration, increased the risk of diabetes**. We were retained to examine a group of patients who claimed exposure to dioxin and an increased incidence of diabetes. This claim had been evaluated by the NAS and found to be without merit, but some did not find this convincing. We conducted a different analysis and found that reverse causation explained the results. (Kerger, B.D., P.K. Scott, M. Pavuk, M. Gough, and D.J. Paustenbach. 2012. Re-analysis of RanchHand study supports reverse causation hypothesis between dioxin and diabetes. Crit Rev Tox. 42(8):669-87.)

152. **Assessed exposure to diacetyl associated with roasting coffee beans**. We evaluated the possible exposure to diacetyl due to roasting and blending coffee beans (diacetyl was naturally occurring). We found exposures above the current TLV (Spring 2014).

153. **BPA in food containers.** A large manufacturer of containers used in food storage asked us to conduct a quantitative risk assessment, as well as a regulatory analysis, regarding the presence of BPA in foods due to be stored in the containers (Spring 2014).

154. **Conducted an assessment of the health hazards of trace microbial contamination in a Kale snack product.** In the spring of 2014, we evaluated whether *Listeria innocua* at low concentrations posed a health hazard to consumers, and we recommended approaches for eliminating future contamination. We also insisted that foods in process and transit be recalled.

155. **Evaluated diesel exhaust emissions from power generators near fracking fields**. We evaluated the quantity of various emissions, as well as the airborne concentrations with distance from these generators, which are often relatively close to neighborhoods in various parts of the nation (Spring 2014).

156. **Evaluation of brominated flame retardants in paints.** In the spring of 2014, a major producer requested a quantitative risk assessment of this class of flame retardants which had been added to paints for a number of years.

157. **Food additive in lollipops**. A candy manufacturer had concluded that an additive which was not approved in the EU, but approved by US FDA, had been used in some products sold in Europe. We evaluated whether this chemical posed a hazard to consumers and whether the relevant agencies agreed with our assessment (Spring 2014).

158. **Lead paint in Baltimore homes**. We were asked to evaluate recent claims that the remediation of lead from homes in Baltimore had actually increased the blood lead concentrations in children living in those homes (Spring 2014).

159. **Retained to evaluate the "state-of-art" expectations regarding toxicity testing of the chemicals released as a result of Freedom Chemical incident in West Virginia.** A possible defendant in this case asked us to evaluate the toxicology and warning label history associated with the chemicals that leaked from tanks at this facility. (Spring 2014). (Paustenbach, D.J., B. Winans, R.M. Novick, and S.M. Green. 2015. Toxicity of crude 4-methylcyclohexanemethanon (MCHM): Review of experimental data and results of predictive models for its constituents and a putative metabolite. Crit Rev Tox. 45(S2):1-55.).

160. **Conducted epidemiology study of diacetyl workers**. We evaluated the health status of workers at an Indiana food flavorings facility who had been employed for as many as 20 years in this industry (Begun in early 2013; analysis was published in early 2014). (Ronk, C.J., D.M. Hollins, M.J. Jacobsen, D.A. Galbraith, and D.J. Paustenbach. 2013. Evaluation of pulmonary function within a cohort of flavorings workers. Inhal Tox. 25(2).107-117.).

161. **Epidemiology study of persons having hip implant**. In late 2013, we were asked to design and possibly implement an epidemiology study involving persons who had received total hip replacements over the past 15 years. Study was conducted in conjunction with a major university. Completed in 2016. The data sets that we examined were not sufficiently robust to reach a conclusion.

162. **Conducted an evaluation of diacetyl emissions from cigarettes**. In the fall of 2013, we assessed the amount of diacetyl released from cigarettes and compared it to what food workers were receiving. Results were published in a peer-reviewed journal in early 2014. (Pierce, J.S., A. Abelmann, L.J. Spicer, R.E. Adams, and B.L. Finley. 2014. Diacetyl and 2,3-pentanedione exposures associated with cigarette smoking. Implications for risk assessment of food and flavoring workers. Crit Rev Tox. 44(5).420-435.).

163. **Quantitatively assess the possible financial liabilities of a firm who contributed to a global asbestos settlement in 1988**. We were asked to assess the state of knowledge in the late 1980s regarding what the plausible financial exposure of a company might be given information on court cases at the time (and incidence of disease). Claims were that insufficient funds had been reserved (Fall of 2013).

164. **Funded to continue evaluation of tire related environmental hazards.** In the Fall of 2013, our contract with the European Tire and Rubber Association (ETRMA) was renewed, so that we could continue to assess whether there are any human and ecological hazards associated with tire wear particles. This project is considered by many to be the best example of a product sustainability effort by nearly any major industry. More than ten papers have been published that discuss this work.

165. **Retained to evaluate the hazard of PCBs in caulking in schools. It was determined around 2005 that PCBs had been used in silicone and other caulking materials for many years in the United States.** This issue was addressed in the EU in the 1990s and early 2000s. New claims about the hazard surfaced in the fall of 2013, and we got involved in conducting a state-of-the-art risk assessment.

166. **Involvement in Garlock case involving reasonableness of claims**. We were retained to evaluate whether a major manufacturer of gaskets had properly assessed the health hazards associated with their products which contained chrysotile. A fairly comprehensive exposure assessment of many crafts was conducted. This was rated by Law360 as one of the most important cases of 2013 (Summer/Fall 2013).

167. **Contaminants in apple juice.** During the summer of 2013, we were asked to evaluatethe plausible health hazards associated with various chemical contaminants in apple juice sold primarily to the children's market. Our work was published in a peer-reviewed journal in mid-2014. (Tvermoes, B.E., A.M. Banducci, K.D. Devlin, B.D. Kerger, M.M. Abramson, I.G. Bebenek, and A.D. Monnot. 2014. Screening level health risk assessment of selected metals in apple juice sold in the United States. Food Chem Tox. 71(9).42-50.)

168. **Evaluated hazards associated with disposing photovoltaic cells (PVC)**. We evaluated the possible health and environmental hazards of disposing of damaged or exhausted PVC cells into municipal landfills (Summer 2013).

169. **Evaluation of contaminated clothing manufactured in China**. We evaluated the hazards associated with the presence of various "unapproved" dyes in clothing manufactured in China In other related cases, we evaluated the presence of lead in handbags and other leather items (Summer 2013).

170. **Preservative and fragrance added to soap**. For a confidential client, we evaluated whether a health hazard was posed by the addition of an unapproved fragrance to a large number of bars of soap (Summer 2013).

171. **Evaluated airborne hazard associated with fracking**. On a pro-bono basis, in the Spring of 2013, we evaluated the airborne concentrations of various volatile chemicals in a school near to a fracking operation in Western Pennsylvania. No significant exposures were found.

172. **Evaluated the hazards associated with the presence of unapproved preservative [1,2 benzisothiazolin-3-one (BIT)] in marking pens**. In the spring of 2013, we were retained by a firm who, in their China facility, had accidently used an unapproved dye in their marking pens. A toxicology and exposure assessment were conducted. Results were published in a peer-reviewed journal. (Novick, R.M., M.L. Nelson, K.M Unice, J.J. Keenan, and D.J. Paustenbach. 2013. Estimation of the safe use concentrations of the preservative 1,2-benzisothiazolin-3-one (BIT) in consumer cleaning products and sunscreens. Food Chem Tox. 56.60-66.).

173. **Evaluated claims of inadequate funding of future product defect claims**. In the spring of 2013, we were retained to do a state-of-the-art analysis of what was known in 1986 (and at various times after that) about the anticipated number of asbestos related health claims that might plague an industry over the next 30 years (through 2016). The claims involved suggestions that not enough money had been held in reserve prior to sale of the firm, considered a major "bellwether case."

174. **Reviewed corporate sustainability plan**. We were asked to peer-review and suggest improvement in a large tech firm's sustainability program (from supply chain to disposition in a landfill) (Spring 2013).

175. **Evaluated asbestos hazard to railroad workers**. In the spring of 2013, we performed an assessment of workers who had been long term employees of the railroads. We evaluated alleged exposure to asbestos while performing a number of tasks throughout their career.

176. **Assessed the health risks associated with cell phone battery off-gases associated with catastrophic failure**. In 2013, we were retained to study the airborne chemicals released during the destruction of cell phone batteries and the associated short-term risks to health.

177. **Hazards associated with surface spills associated with hydraulic fracking**. On a pro bono basis, we evaluated the possible risks to the environment associated with unanticipated spills around operating platforms associated with fracking units. Our work focused on Colorado. This work was published in J Air and Waste Management (Gross, S.A., H.J. Avens, A.M. Banducci, J. Sahmel, J.M. Panko, and B.E. Tvermoes. 2013. Analysis of BTEX groundwater concentrations from surface spills associated with hydraulic fracturing operations. J Air Waste Manage Assoc. 63(4).424-432.).

178. **Evaluation of the hazards associated with systemic exposure to cobalt**. During 2012 and 2013, we conducted a series of volunteer studies where workers were exposed via ingestion to cobalt supplement. The objective was to evaluate claims of toxicity at certain blood concentrations associated with cobalt leaching from hip implants and any claims regarding adverse effects due to taking it as a vitamin supplement. The studies were published in a series of articles in 2013 and 2014.

179. **Dose reconstruction in the petrochemical and refining industry**. In the Fall of 2012, a major oil company retained us to conduct dose reconstructions for as many as five of their refineries (some of which also had chemical plants).

180. **Evaluating the occupational exposure of pressmen to benzene (1938-2006)**. In 2012, we were retained by a solvent manufacturer who sold benzene to companies who made ink solubulizer which was used in the printing industry. There were claims that pressmen had been overexposed to benzene as a result of this (and similar) products which contained 2-50% benzene).

181. **Conducted an evaluation of the risks associated with having slightly lesser quantities of supplemental nutrients/vitamins in flour**. During the spring of 2012, we were retained by a major food company, and evaluated whether a 10% lesser (or greater) amount, than specified by FDA of certain additives, posed any health risks to consumers.

182. **Evaluated the comparative hazards of removing and not-removing asbestos containing floor tiles in nearly 500,000 apartments in New York City and Northern New Jersey**. We were asked whether the risks were greater with removing these tiles compared to the hazard associated with the cleaning/repair of these tiles going forward (e.g., leaving them in place) (Winter 2012).

183. **Formaldehyde exposure to hair stylists. It had been alleged in 2011 (and previously) that the concentrations of formaldehyde in some hair straighteners was causing eye, nose and throat irritation in some hair stylists**. We concluded that many claims were apparently accurate and confirmed this through a simulation study (Pierce, J.S., A. Abelmann, L.J. Spicer, R.E. Adams, M.E. Glynn, K. Neier, B.L. Finley, and S.H. Gaffney. 2011. Characterization of formaldehyde exposure resulting from the use of four professional hair straightening products. J Occup Env Hyg. 8(11).686-699.).

184. **Provided assistance in obtaining a pre-manufacture notice (PMN) for a new adhesive used to make modern-era passports**. An American firm asked us to work with both Chinese and Japanese firms to facilitate receiving approval to produce a new glue which had previously only been available in East Asia. This was completed by the end of 2011.

185. **Assessed the risk associated with PFOA or PFOS in MSWTP sludges**. We evaluated the threat to groundwater of using sludges from water treatment plants as soil amendment in farm fields. This practice was apparently common in Alabama and Mississippi where there were textile mills treating carpets with stain repellents (Fall 2011)

186. **Evaluated the alleged hazard of lead in Lake Merced (and the sources)**. Retained by Zurich Insurance to assess the overall risks to the environment and humans, as well as identify the source of the lead (Fall 2011).

187. **Hazard of housewives to asbestos in the 1950s-1980s**. Over the past five years, there has been a significant increase in the number of mesothelioma cases that are alleged to be associated with exposure to any form of asbestos due to "take home" exposures. From about 2007 to 2011, ChemRisk has been studying this issue with respect to auto mechanics, pipefitters, insulators, phenolic molding compound manufacturers, dry wallers, and numerous other occupations, which have been claimed to pose a "take home" risk to family members. The definitive review on the topic was published in a peer reviewed journal in 2012.

188. **Assessed possible human health hazard of inadvertent use of non-food grade additives in flour**. During the summer of 2011, ChemRisk was asked to evaluate whether the use of non-food grade azo (a trace additive to commercial flour), rather than the food grade version, might pose a health hazard. The additive was made in Korea. Working in conjunction with a well-known law firm, we conducted a comparative analysis and submitted our work to the FDA.

189. **Evaluated the degradation of potassium sorbate (a food preservative) in salty foods**. We were asked in the Summer of 2011 to assess the importance of the degradation of this food preservative in snack foods. Interestingly, this additive degraded by as much as 80 percent in foods before their shelf life had expired.

190. **Evaluated the presence of dioxins, furans, PCBs and flame retardants in shrimp from developing countries**. In conjunction with a famous analytical laboratory, ChemRisk conducted a study of nearly 30 different sources of shrimp to the U.S. food market which were both farm raised and natural. This was the first comparative assessment of its type involving shrimp from 12 countries. The results were reported at 3 national scientific meetings and in two journal articles (2008-2011). This work was performed as a public service by ChemRisk.

191. **Evaluation of the toxicity of cobalt**. Beginning in July (2011) we began evaluating the potential toxicity of cobalt for a major pharmaceutical and medical device firm.

192. **Retained to characterize the mechanism by which metal-on-metal hip implants were needing revision**. In the summer of 2011, we began evaluating the various biological mechanisms which might cause an implant to need to be replaced. Our research on the mechanism continued through 2014-2018.

193. **Evaluated the possible "take home" exposure (and risks) of asbestos on clothing**. Beginning in mid-2011, we undertook research directed at evaluating the likelihood that biologically important quantities of asbestos might have routinely been taken home by workers who handled asbestos during the 1940-1960s era. The evaluation attempted to assess the validity of various research efforts of the 1960s-1980s which indicated that only a limited quantity of respirable fibers which were present in contaminated clothing were likely to be released in the in-home environment. We funded the initial work and it was discussed at various scientific conferences in 2012 and 2015. (Donovan, E., B.L. Donovan, M.A. McKinley, D.M. Cowan, and D.J. Paustenbach. 2012. Evaluation of take home (para-occupational) exposure to asbestos and disease. A review of the literature. Crit Rev Tox. 42(9).703-731.).

194. **Assessed the possible inhalation hazard associated with the manufacture of a select family of food flavorings (including diacetyl)**. In mid-2011, we evaluated the historical pulmonary function tests of workers in a food flavorings plant in an attempt to determine if their work had produced an increased incidence of lung disease (much like claims that diacetyl had caused mild to serious lung illnesses).

195. **Assessment of the human health hazard posed by asbestos containing floor tiles**. In mid-2011, we were retained to evaluate the historical and future health risks associated with living in apartments which had asbestos containing floor tiles manufactured from about 1935-1975. The assessment was used to resolve financial claims associated with renovating apartments which, in total, contained more than 10,000,000 square feet of these tiles. Publication is in progress in 2017.

196. **Conducted an overall chemical hazards analysis of a new chemical process to be used to manufacture the next generation of passports**. During the first half of 2011, for a combined private sector and government entity, we evaluated the chemicals used (and related emissions) to manufacture a new type of passport that is believed to be above counterfeiting.

197. **Conducted product sustainability assessment of various household products**. In 2011, ChemRisk was asked to evaluate a number of consumer products produced in China and Vietnam to ensure that no chemicals were present at concentrations that might be considered a health hazard by any reasonable regulatory body (including California Prop 65) or non-government organization. This was one of a number of related evaluations of products produced in developing countries.

198. **Evaluated the inhalation hazard associated with using solvents containing less than 0.1% benzene sold between 1955-1975**. During these years, a number of paints and solvents were sold into commerce that contained relatively small concentrations of benzene (usually as a trace contaminant). Allegations have been made that although OSHA concluded that these cleaners/solvents did not pose a significant human health hazard, literally thousands of lawsuits were filed between 2007 and the present asserting that this was not the case. We were retained in 2011 by numerous clients to evaluate their own data or data from simulation studies to estimate exposure of workers and any related health hazards.

199. **Evaluated the human health hazard posed by contaminated cheese**. In May 2011, we evaluated the safety and health hazard associated with the presence of plastic chips and strands from a process filter in large quantities of bulk cheese. The various potential possible adverse effects, as well as risks to the business were assessed.

200. **Conducted an assessment of the cause of death for two citizens**. We were asked to try to identify how two adults died of carbon monoxide poisoning associated with falling asleep in a mobile recreational vehicle. We conducted an exposure assessment and concluded that an unfortunate series of events had to occur for this event to happen (Spring 2011).

201. **Conducted a scientific evaluation regarding the basis for a class certification**. As ChemRisk has been asked numerous times in the past, there are essential elements which support the appropriateness of certifying a class for processing by the courts. We evaluated an incident where thousands of pounds of an irritant were volatilized in a relatively short period of time and dozens of residents reported transient irritant symptoms. This incident was evaluated and recreated; and testimony was provided in New Orleans in the spring of 2011; client was Dow Chemical.

202. **Assessment of the presence of isothiazolinone in paints and paper markers**. In early 2011, some firms were using this stabilizer/preservative in marking pens at very low concentrations. In recent years, there has been increasing concerns about whether this known skin sensitizer might pose a hazard if it remained in commerce. As part of a product sustainability assessment, we attempted to identify the threshold dose at which this additive might produce some response in already sensitized persons, as well as compare that dose against guidelines being proposed or implemented in various countries. This work was published in a peer-reviewed journal.

203. **The hazards of having used crocidolite in some phenolic molding materials.** In early 2011, we were retained to evaluate the possible health hazard of using crocidolite as a filler in some materials made from phenolic molding compounds produced from 1940-1970.

204. **Assessed the possible hazard to airplane mechanics of brake wear debris from airplanes**. Like most brakes manufactured from 1910-1980s, asbestos was a major constituent of those used in airplanes. In early 2011, we evaluated this hazard and attempted to quantitate the relative magnitude of historical exposure of these mechanics.

205. **Assessing the risks of chips of asphalt covered asbestos fabric in soils**. During early 2011, ChemRisk began quantifying the possible human health hazards associated with having various size scraps (usually less than 1 x 1") of asbestos cloth (covered on one or two sides with mastic) present in soils predominately located in farm fields. These were present due to the removal of pipes which were part of the national oil pipeline. At the time, various early guidance was being developed to help direct such assessments. Many thousands of acres were potentially contaminated.

206. **Assessed claims regarding the historical hazard posed by chrysotile fabric in radios and televisions produced between 1950-1975**. For some of these appliances, it was deemed appropriate to have one or more asbestos containing parts so as to minimize the likelihood of failure or a fire. Some claims had been made that repairmen might have been at risk of developing asbestos related disease. Evaluation was conducted in 2010 and 2011.

207. **Assessed the hazards posed by dioxin in poultry contaminated with dioxins in Germany**. In January 2011, provided pro bono advice to a regulatory agency who was trying to assess the human health hazard associated with having fed dioxin-tainted oils (with feed) to chickens which then had a "higher than normal" concentration of dioxins and furans.

208. **Assessed the health risks posed by contamination of cookies (via contaminated air) by the local use of pesticides to control insect infestation**. In late 2010 and into 2011, we were asked to determine whether the peanut butter cookies sold by this organization might have absorbed amounts of pesticides that would have compromised their edibility (all due to pesticide use in the warehouse where final product cookies were stored). We recommended destroying this product.

209. **Evaluated claims of contamination of sediments involving the Presidio.** In November 2010, ChemRisk performed a critical evaluation of the scientific bases for remediating sediments in an important lake on the former military site. The client was Zurich Insurance Company. Testimony was provided. The courts agreed with our analysis and reduced Zurich liability by almost $300,000,000.

210. **Evaluated the life cycle and sustainability issues related to photovoltaic cells (PVC)**. This industry is attempting to modify the way it produces cells and wishes to minimize the adverse impact on the environment of their ultimate disposal.

ChemRisk began work with several firms in the industry in late 2010 and this evolved in some applied research which ChemRisk conducted and discussed at scientific meetings.

211. **Conducted a preliminary epidemiology study of the number of increased ankle injuries due to running on artificial turf**. In about 2010, we were retained to respond to claims that cleats used on genuine grass turf, when being used on artificial turf, caused an increased number of ankle injuries. We conducted a preliminary study of injuries of high school and college students in several different leagues.

212. **Evaluating the health risks to the remediation teams, on the boats, at the British Petroleum (BP) oil spill in Louisiana**. In the Spring and Summer of 2010, the BP oil rig off the Louisiana coast was the cause of the largest oil spill in history. ChemRisk was contacted by both PRPs about the possible benzene, xylene and toluene hazards to the boatman. Nearly 35,000 samples were evaluated and, interestingly, we found that the concentrations of benzene, toluene, xylene and ethylbenzene were no greater during the remediation than during regular use of the boats for fishing. These results were presented in the fall of 2010 at two major scientific meetings. The results were published in a major journal. No compensation was received.

213. **Provided assistance to patent lawyers regarding protection of a patent on a process for removing PBDE flame retardants from pharmaceutical drugs.** One of the new blockbuster drugs now on the market is based on concentrating oils from fish caught in Scandinavian countries that are known to contain considerable concentrations of dioxins, furans, PCBs and PBDEs. In the summer of 2010, ChemRisk assisted in helping them understand the possible hazards and evaluated their patent for removing these chemicals.

214. **Evaluated an episodic exposure to hydrogen sulfide at a refinery**. In mid-2010, we were asked to evaluate a case involving a young man who had allegedly been exposed for about 10 minutes to concentrations of 4-50 ppm of hydrogen sulfide. About 19 months after the incident, he went into a comatose state or vegetative state and some suggested that it was due to his exposure during this incident. Weeks of work were invested in recreating the incident and testimony was offered as to the event and the likely cause of his disease.

215. **Attempted to determine the cause of contact dermatitis in babies wearing specific types of clothing**. In mid-2010, ChemRisk was retained by a major supplier of children's clothing to try to understand the cause of dermatitis that was present on the backs of some children who wore certain underclothing which had a stenciled label. This case involved claims of a sensitization response to a dye in the label. It was a project not unlike others ChemRisk has tackled involved chemicals that cause allergic contact dermatitis at very low concentrations. About 4,000 children may have been temporarily affected.

216. **Evaluated the plausible historical exposure of persons who were "bystanders" to those workers actively involved in handling asbestos products during the 1930-1975 era**. Over the course of several years, which culminated in the presentation of our work at a couple scientific conferences in 2009 and 2010, ChemRisk developed a predictive model based on empirical data for characterizing the exposure of persons working within 5 to 50 feet of asbestos workers. The work was published in a peer-reviewed article in 2010.

217. **Evaluated claims (late 2009 and early 2010) that exposure to petroleum catalysts used in the production of crude oils might have caused acute and chronic respiratory disease**. ChemRisk was asked to investigate the individual exposure records, including medical records for those persons who claimed injury. It was their view of the plaintiffs that handling dry catalysts, including spent catalyst, posed a special constellation of diseases, primarily due to the metal content. The medical and Industrial hygiene records failed to support that claim and the client, HOVIC, was not found liable for any alleged diseases [U.S. Virgin Islands). Our evaluation of the catalysts was published in a peer-review journal.

218. **Assessed the developmental hazard of inks used in various printers**. Allegations of developmental effects in children were made against select manufacturers of printers who used certain inks. We conducted an assessment of the relevant historical toxicology data and conducted an exposure assessment.

219. **Evaluated the hazards posed by methylene bisphenyl isocyanate (MDI) in foams used in coal mines**. A ten-year long litigation involved claims that MDI vapor (and perhaps contact with the skin) emanating from a foam used to fill cracks in the walls and ceilings of mines had sensitized hundreds of miners. ChemRisk evaluated all the available data and various reports of experts. Ultimately, these claims were found to be without merit and the case was resolved. Work first performed in 2003 then again in 2010.

220. **Evaluated the historical exposure of tire workers to benzene**. From about 2005-2010, ChemRisk collected industrial hygiene data from a tire manufacturing plant and estimated the typical airborne concentrations in the facility over a period of about 30 years. This study may result in a journal article on this topic.

221. **Evaluated the legitimacy of claims that Coca-Cola was contaminated with elemental mercury**. In November 2009, ChemRisk was contacted by the client that there were claims that persons had been poisoned in Beijing as a result of drinking Sprite from their local manufacturing facility. Previously, ChemRisk had experience in evaluating similar "canning lines" and moved a small team to Beijing to conduct a hazard evaluation of the manufacturing process. ChemRisk focused on the possible presence of elemental mercury and were able to definitively show that no mercury was ever present in that facility. Regulatory authorities in China read our analysis and agreed.

222. **Assessed the adequacy of a new water treatment facility.** In mid-2009, ChemRisk was asked by the City of Sante Fe to evaluate the possible health risks of the treated and untreated water from the local river. The city planned to install a state-of-the art water treatment system and wanted to be sure that certain toxicants, including radionuclides, would be removed to concentrations that were safe for consumption. This was a long and difficult exercise which lasted 2-3 years.

223. **Conducted an evaluation of the hazards posed by bisphenol A (BPA) in various consumer products.** About 2009, as a result of increased social, regulatory and legal interest in BPA (a plasticizer), our staff conducted an evaluation of several consumer products to evaluate the possible perceived or actual human health risks.

224. **Contacted by counsel to assess some of the clinical data surrounding the death of Michael Jackson.** In mid-2009, ChemRisk was contacted by one of the key parties involved in this incident. The question involved whether the combination of chemicals thought to be taken by Mr. Jackson was likely to be fatal (considering dose and duration and pharmacokinetics) and whether the treating doctor may have been negligent. Advice was offered under the privilege and no compensation was received and no report was issued.

225. **Pharmaceuticals and personal care products in drinking water (PPCPs)**. In mid-2009, ChemRisk was asked to conduct a state-of-the-art evaluation of the regulatory initiatives, worldwide, which were focused on the possible health hazard posed by PPCPs indrinking water. We did this work first for the City of Melbourne (Australian) and then later for a major bottling company.

226. **Evaluation of complex, batch style, specialty chemicals facility.** In early 2009, on behalf of a large chemical company, ChemRisk evaluated 30 years of industrial hygiene data in an attempt to characterize the likely exposure of workers to about 30 different chemicals. Novel approaches to assessing the data were applied. ChemRisk published those analyses in late 2011.

227. **Hazards of asbestos in airplanes**. In early 2009, ChemRisk assessed for a major client the potential range of exposures to asbestos which might occur during the manufacture and repair of airplanes for the time period 1940-1985. The analyses needed to consider all aspects of exposure, with an emphasis on government knowledge (and Navy knowledge) of asbestos over time. The analysis of state-of-the-art issues was published in a peer-reviewed journal.

228. **Performed comprehensive toxicologic and medical assessment of a wide variety of health and property damage claims related to perchloroethylene (PCE), trichloroethylene (TCE), and other volatile byproducts (TCA, DCA)**. In January 2009, ChemRisk performed a comprehensive toxicologic and medical assessment of a wide variety of health and property damage claims in a related case. Exposures were alleged to have arisen from contamination of groundwater, associated with historical releases of various solvents. Summary judgment for the defense was returned on all claims involving our client, Cargill, in consolidated litigation brought by approximately 300 plaintiffs (recruited by Erin Brockovich) in Grand Island, Nebraska.

229. **Evaluation of the vehicle emissions from the M5 tunnel in Sydney, Australia.** The evaluation focuses on how to best use exhaust fans and other control devices to minimize emissions into the surrounding neighborhoods. The work was conducted throughout 2007 and into 2008. Client was the Sydney Regional Transportation Authority. A peer-reviewed manuscript was published describing our evaluation.

230. **Leaking drums of PCBs in the basement of an office building in Japan**. It was believed that a few drums of PCBs had been accidentally stored in the basement of an office building in Tokyo and that they leaked as much as 5 gallons of liquid (which seeped into the concrete). ChemRisk investigated a claim that air had channeled through the walls to a particular floor where persons were alleged to have adverse effects due to the volatilized PCBs (fall 2008).

231. **Evaluated the risk to children posed by lead in various consumer products produced in China**. During 2007-2008, ChemRisk evaluated the content and possible release of lead from plastics and other media which are used to make a number of consumer products in the United States. Based on these data, a health risk assessment was conducted, and the results were compared to various regulatory and non-regulatory criteria.

232. **Evaluating the hazards of various occupations exposed to silica.** Over a 3-year period (2005-2008), ChemRisk evaluated the history of occupational exposure of sandblasters to silica and the evolution of the associate personal protective equipment. This resulted in two peer-reviewed publications.

233. **Assessment of the hazard posed by asbestos in laboratory equipment**. In mid-2009, a major supplier of laboratory glassware and related items asked about the possible hazards associated with using metal meshwork pads (which contained asbestos and were used to be used with Bunsen burners) and then handling hot glassware with asbestos gloves. A simulation study may ultimately be performed.

234. **Assessed the minimal lifetime cumulative dose of chrysotile needed to increase the risk of mesothelioma**. Assembled the published literature and estimated the exposure of various cohorts to chrysotile. Determined that doses at least as high as those required to cause asbestosis were required to possibly increase the risk of mesothelioma; if chrysotile even had the capacity to do so. Results were published in a peer-reviewed journal in 2008.

235. **Evaluated the health risks posed by a contaminant in candy.** In 2008, we evaluated the presence of a contaminant in a food that was sold in a number of countries. Assisted the firm in evaluating the possible health risks and interacted with regulatory agencies to answer questions about our assessment. Ultimately, the firm chose to recall some of the product; no litigation occurred.

236. **Analysis of the historical exposure of semiconductor workers to methanol**. Since the 1990s, workers in the quality control department of many companies have cleaned wafers with methanol before placing them in a "flatness/imperfection" machine. In 2007, conducted both modeling and simulation studies to quantitatively measure the acute and chronic airborne concentration of methanol in the workplace. The results were published in a journal in 2008.

237. **A complex analysis (with colleagues) of the historical lifetime cumulative intake of asbestos for auto mechanics in the U.S. over the past 40 years compared to mechanics in Europe**. The data can be used to understand the risk following low level exposure, since at least 7-10 epidemiology studies are available for these cohorts. The work was conducted in 2005, and the manuscript was published in a peer-reviewed journal in 2007.

238. **A study of the exposure of citizens to historical aerial emissions of dioxins and furans from a wire cable recycler/producer**. During 2006 and 2007, conducted a major study of the blood concentrations of dioxins/furans in workers and some community members and compared the results against NHANES data. The data may be submitted to a journal for publication.

239. **Study of exposure of steel workers to asbestos**. In about 2006, we completed a dose-reconstruction analysis of exposure to asbestos in various jobs in steel mills for the period 1950-1980.

240. **Community Mercury Exposure Near a Gold Mine in Peru**. Around 2006, we were retained to evaluate an incident that occurred in Peru involving neighborhood exposure to elemental mercury which was associated with a gold mine. Cumulative and acute exposures to elemental mercury were assessed for over 40 individuals based on written summaries of their exposure history. Microenvironments included home (near and away from spilt mercury), outside playing with mercury, outside walking near mercury and ambient air exposure. This was one of the first major "toxics" cases against a firm in the US who was performing work in a foreign country. The difficult part of the analysis was later published in a peer reviewed journal.

241. **A proposed approach to characterizing the risks posed by airborne irritants in the work environment**. In 2005 and 2006, conducted a pro bono analysis of current methods for assessing occupational irritants, and proposed a new approach to setting occupational exposure limits. ChemRisk was invited to present our results at an international conference in Cologne, and the paper describing the work was published in 2006.

242. **Conducted evaluation of the hazards posed by DEHP in computer and phone cables.** Due to a challenge under California's Proposition 65, in about 2005, ChemRisk conducted a health risk assessment for a telecommunications firm to assess whether enough DEHP might be released from the handling of the cable to exceed the Prop 65 "safe harbor."

243. **An epidemiology study of contaminated indoor air (California).** In 2005, evaluated a concern by numerous employees in a large office building in San Francisco of a potential increased incidence of breast cancer in the workforce.

244. **Analysis of metals from degraded concrete in household dust (Pleasanton, CA).** In 2001, conducted an analysis of metals in dust that had flaked off the surface of concrete in a home. A risk assessment was conducted on behalf of the plaintiffs (e.g., homeowners).

245. **Analysis of maximum daily load (TMDL) of mercury in Savannah River (Georgia).** In 2000, worked with Savannah River Nuclear Site and regulatory agencies to develop a program to assess the mercury burdens to the river and the need to comply with new TMDL guidelines.

246. **Analysis of meat contamination from methyl bromide (Arizona/California).** In 2000, for the plaintiffs, evaluated the human health risks posed by treating frozen bacon and processed meats with methyl bromide. Expert testimony was provided in a deposition.

247. **A complex pharmacokinetic study of furan elimination from children exposed to excessive dioxin concentrations due to contaminated soil.** Over the years, a number of models have been proposed to predict the past and future blood levels of dioxin/furans in children due to ingestion of breast milk and other foods. Based on data collected from various studies conducted around the globe, a new model was built and validated. The results were published in a journal in 2008.

248. **A pharmacokinetic analysis of dioxin and furan elimination in children.** Between 2003 and 2006, conducted an extensive analysis of published and unpublished data on the biologic half-life of these persistent chemicals in young children and adolescents. In collaboration with researchers involved in the Seveso incident in Italy, a pharmacokinetic model was developed. Our resulting analyses could impact views about the hazard to children from eating dioxin contaminated soil. The analysis appeared in the press in 2008.

249. **A study of the integrity of a mobile home with respect to its ability to keep carbon monoxide from the living quarters, as well as an evaluation of various safeguards.** The investigation was conducted as a result of two deaths due to carbon monoxide. Many simulation studies were conducted under a number of conditions in New Mexico (Nov., 2007). A manuscript describing the findings from this study was published.

250. **State of art research regarding the bioavailability of dioxin/furans in soil.** Building upon 20 years of research on bioavailability, designed and executed a study to understand the various parameters that influence the release of these chemicals. Work was conducted in 2005-2007 and was submitted for publication.

251. **Assessment of the historical exposure of workers who use mineral spirits assumed to contain "trace concentrations of benzene" (between 0.001 and 1%)**. In 2007, conducted a simulation study that characterized the near-field and far-field airborne concentration of benzene exposure to workers who use reasonable quantities of mineral spirits. Results were published in 2012. The work was funded by ChemRisk.

252. **Assessment of the possible human exposure to asbestos resulting from handling and opening boxes that contained clutches.** Because of concerns about asbestos in the workplace, conducted a simulation study of workers who repeatedly handled boxes containing clutches by measuring both the acute and chronic airborne concentrations in the breathing zone. The work was conducted in 2007 and the results were published in early 2008.

253. **Evaluation of the possible human health hazard posed by benzene in soft drinks**. In 2006 and 2007, there were a number of reports regarding the detection of benzene in certain fruit flavored soft drinks. As a public service, conducted a pro bono sampling program and risk analysis of a particular manufacturer's soft drinks. The results have been presented in a peer-reviewed journal.

254. **Assessment of the historical exposure to benzene associated with using the rust dissolver known as Liquid Wrench**. In 2005, conducted a simulation study to assess the airborne concentration of benzene associated with using about 10 ml of liquid wrench, assuming it contained between 1-30% benzene. The results were published in a peer-reviewed journal in 2007. In addition, a companion paper describing our urinary monitoring study was also published.

255. **Assessment of ethylene oxide emissions from a hospital sterilizer (Illinois)**. In 2005-2006, evaluated historical exposures to EO that may have occurred as a result of sterilizer use. There were some allegations that acute and chronic health effects were observed in former and current workers.

256. **Assessment of N-nitrosodimethylamine (NDMA) and perchlorate in drinking water (California)**. During 1998-2006, evaluated the health risk to residents who might have ingested water containing various concentrations of dimethylnitrosamine and perchlorate. The assessment was conducted at a former rocket test site.

257. **Assessment of possible human exposure to asbestos resulting from handling and opening boxes that contained historical brake linings**. Because of concerns about asbestos in the workplace, conducted a simulation study of workers who repeatedly handled boxes containing brake linings by measuring both the acute and chronic airborne concentrations in the breathing zone. The work was conducted in 2006, and the results have been submitted for publication.

258. **Assessment of the possible dioxin contribution to diet from ingesting wild and farm raised catfish**. Questions have been raised about regional differences in the blood concentrations of dioxins in humans. In order to assess whether ingesting catfish might produce a typical fingerprint pattern and a typical contribution to diet, in 2006, farm and wild catfish were captured and assayed. The results will be submitted to a journal for publication. This work was funded by ChemRisk.

259. **Evaluation of all available studies of asbestos air samples from on-board shipping vessels**. More than 100 vessels were studied in an attempt to determine if the presence of asbestos in intact insulation released measurable concentrations of fibers. The work was conducted in 2006 and was published in a peer-reviewed article in 2008.

260. **Evaluation of potential sources of lead and data usability for source characterization in support of cost allocation litigation for railroad sites in Missouri.** Chemical concentration data at these sites were evaluated to determine whether potential sources of lead could be identified, and remediation costs could be allocated to several defendants (including a mining company) who transported lead using the railroad (summer 2006).

261. **Evaluation of lifetime cumulative asbestos dose by mechanics due to brake wear debris.** Between 2002 and 2006, characterized the historical exposure of mechanics to asbestos and brake wear debris. This particular study calculated the plausible range of lifetime doses for auto mechanics in the United States and Europe for the period 1950-2007 and compared those doses to other occupations. The study was published in a peer-reviewed journal in 2007.

262. **Evaluation of recent data on worker sensitization to beryllium.** In 2005-2006, conducted an evaluation of the past five years of industrial hygiene and biomonitoring data (e.g., BLPT data) at a large manufacturing complex. The results were published in a peer-reviewed manuscript.

263. **Evaluated a pharmaceutical manufacturing facility causing reported allergic skin responses.** In the hope of identifying what was causing an outbreak of apparent allergic contact dermatitis (ACD) and eye irritation incidents in a large fraction of the workers, we were retained to evaluate the manufacturing facility and procedures used to handle a rather common agent used to minimize nasal decongestion (fall 2005).

264. **Assessment of historical exposure of craftsman in refineries to asbestos (various locations).** In 2004-2005, conducted a thorough review of the literature regarding historical exposure of various tradesmen to asbestos in the petrochemical industry (and some others). The results were presented at two conferences, and then published in a peer- reviewed manuscript in 2007.

265. **Assessment of perfluorooctanoic Acid (PFOA) in groundwater (West Virginia).** In 2003, ChemRisk was retained by DuPont to characterize the human health hazards posed by various concentrations of PFOA in groundwater, ambient air, soil, and other media near their Parkersburg manufacturing site. The work was completed in 2005 and is currently being reviewed by USEPA. The analysis was published in a peer-reviewed scientific journal, presented at the First International Symposium on Fluorinated Alkyl Organics in the Environment (Toronto, Canada) in August 2005, and is considered an important and unique study.

266. **Assessment of asbestos in brakes used in very heavy earthmoving equipment (various locations).** In 2004-2005, evaluated published and unpublished literature regarding the characteristics of brake wear debris, as well as the likelihood of exposure to mechanics, involved in repairing heavy equipment.

267. **Assessment of benzene exposure by ship workers (various locations).** In 2004-2005, conducted an exposure assessment of persons who loaded and unloaded fuel oils from ships. The analysis was published in a peer-reviewed journal.

268. **Assessment of PAHs in soils at a former Manufactured Gas Plant (MGP) site (Chicago).** In 2005, ChemRisk was asked to help assess the current hazard of PAHs in soils to citizens living near a remediated MGP site. A risk assessment involving contaminated soil and vapor loss was conducted.

269. **Assessment of the possible human exposure to asbestos resulting from replacing gaskets in chemical piping and fittings.** Due to concerns about asbestos in the workplace, evaluated the published and unpublished literature in order to characterize the range of exposures. The work was conducted in 2005, and the results were published in 2007.

270. **A study of the human and ecological hazards of Tire Wear Particles (TWP).** Between 2005 and 2012, our firm had responsibility for designing and managing the research efforts to understand the domestic and international questions regarding health impacts of TWP. About 2,000,000 tons per year of TWP are released globally each year, and questions have been raised about TWP presence in ambient air and sediment. Funded by the 11 majortire manufacturers, studies of various types were conducted internationally over a period of five years. Nearly $8M in research and as many as 10 peer-reviewed papers were published as a result of this classic project in “product sustainability”.

271. **Evaluation of asbestos release from gaskets (Nationwide).** During 2003-2005, conducted a thorough review of the published literature regarding the possible release of asbestos during the handling and removal of gaskets from flanges, pumps, and autos. This work was published in a peer-reviewed paper.

272. **Evaluation of diesel particulate emissions from mining operations (California).** In an effort to understand the potential human health impact associated with diesel particulate emissions from sand and gravel mining and processing operations, our staff performed air dispersion modeling to predict diesel particulate emissions during these operations. This work was performed in order to fill permit requirements under the California Environmental Quality Act (Spring 2004).

273. **Asbestos, dioxin, and other materials in dust from the World Trade Center (New York).** In 2004-2005, conducted an analysis of how to determine whether WTC dust had entered a building and assessed the possible associated health risks (at the former 90 Church Street site). The fingerprinting analysis was published in a peer-reviewed journal.

274. **Assessment of asbestos in phenolic thermosetting resins (National).** In 2004, ChemRisk was retained to assist a manufacturer in characterizing the exposure and risks posed by asbestos in thermosetting resins used to make Bakelite-like products. A simulation study was conducted, and the results were published in a peer-reviewed journal.

275. **Assessment of PAHs in creosote treated wood (Louisiana).** In 2004, conducted an exposure and risk assessment of persons who handled treated wood, as well as an assessment of the dioxins released from this wood when burned in fireplaces.

276. **Evaluated the historical hazard of the use of asbestos in truck brake linings.** During the 1920-1985 era, most truck brakes contained 20-50% chrysotile asbestos. Because some of the techniques used to conduct maintenance work on these trucks is different than autos, beginning in 2004, we evaluated the complete repair operation using historical data and information from simulation studies to characterize the plausible health risks. This work was conducted in several large truck repair facilities.

277. **Assessment of efficacy of an air cleaning device for the home (National).** In 2000- 2003, conducted a series of field studies and some laboratory studies to assess the capability of an air cleaning device to remove and/or destroy various microbes, fungi, and other airborne chemicals.

278. **Assessment of risks posed by asbestos in automotive friction materials (National).** During 2001-2003, conducted a state-of-the-art evaluation of the toxicology, epidemiology, regulatory, and exposure components of the use of chrysotile asbestos in friction materials (brakes and clutches) in automobiles and trucks. This work has been published in a peer-reviewed journal.

279. **MTBE in California groundwater (California).** In 1999-2002, involved in work to evaluate the magnitude of the impact of MTBE on California groundwater. During the course of the evaluation, a number of papers were presented at conferences and published in the literature. About 7 different papers were published in peer-reviewed journals.

280. **Study of brain cancers in a large office building (California).** In 2000-2002, established a strategy for conducting a dose reconstruction and epidemiology study of the inhabitants of a formerly occupied office building in Southern California. The assessment was recently completed.

281. **Assessment of asbestos in glues, adhesives, coatings, and mastics (National).** In 2002, ChemRisk was retained to assist Amchem, Inc. in characterizing the exposure and risks posed by asbestos in glues, coatings, mastics, and sealants. A simulation study was conducted, and the results were published in a peer-reviewed journal.

282. **Assessment of health hazards posed by CCA-treated wood (National).** During 2001-2002, directed a team that evaluated the possible human health hazards posed by contact with the arsenic, copper, and chromium present on the surface of treated wood. The concern of regulatory agencies and society was the risk to children who played on decks and treated wood in playgrounds. Work was presented to USEPA Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) sampling and analysis plan (SAP).

283. **Human and ecological assessment of multi-chemical contaminated site (California).** Conducted an assessment of nearly 100 chemicals present in soil under a former drum-storage area. The assessment was the first multi-component soil assessment (pre- and post-remediation) accepted by the South Coast Board and the California USEPA. Cleanup of the site was conducted by a steam-heated auger under an USEPA research grant program (summer 2002).

284. **Assessment of thiocarbamate in wines (California).** In 2002, ChemRisk was retained by the Wine Institute to evaluate the results of the recently completed NTP bioassay on thiocarbamate. Conducted a screening cancer risk assessment to assess the possible impact on the wine industry.

285. **Dose reconstruction of benzene in the Pliofilm (Rubber) workers (National)**. In 2001-2002, conducted an update of Dr. Paustenbach's prior (1992) exposure analysis of this cohort, using Monte Carlo techniques and some recently discovered data. The analysis used virtually all of the available methodologies for characterizing the plausible range of exposures to this cohort. This analysis will be published in Toxicology and Environmental Health.

286. **Dose reconstruction of occupational exposure to benzene (Texas).** From 1999-2002, began to conduct a retrospective exposure assessment of office workers at an acetic acid plant to about 400 chemicals Exposure began in the 1960s and ended in the 1980s; data may be used in an epidemiology study. Some of the analysis was used in a personal injury litigation case. The results were published in a peer-reviewed journal.

287. **Epidemiology study of chromium (VI) (Ohio).** During 1998-2002, served as a science advisor on work involving the assembly of all available personnel, medical, and industrial hygiene data for the Painesville, Ohio, workers (so-called Diamond Shamrock Cohort). The results of the research were used by OSHA during their reevaluation of the dose- response curve and cancer potency factors for airborne hexavalent chromium. About four papers describing this work were published in peer-reviewed journals.

288. **Evaluation of aerosol generating medical device.** In 2001-2002, conducted a risk assessment that addressed the possibility that small metal particles (less than 1 μm) might be released from an aerosolizer during use.

289. **Evaluation of the eye irritation potential of a mining dust [trona] (National).** In2000-2002, worked with a number of physicians to develop a sensitive methodology for evaluating eye irritation associated with various levels of exposure to airborne mining dusts. The methodology involved photographing the surface of the eye and using a computer to objectively scale the irritation level.

290. **Assessment of lead and cadmium in talc and other baby products (California).** In 2000-2002, conducted a risk assessment that evaluated the likelihood that trace amounts of lead and cadmium in talc and zinc oxide ointment in baby products might penetrate the skin and produce an absorbed dose in excess of the California Proposition 65 "safe harbor" concentration.

291. **Assessment of lead in consumer products (California).** In 2000-2001, conducted scientific evaluations and supplied expert reports for claims involving ingestion and dermal absorption of lead (at least 6 cases). As a result of claims under California's Proposition 65, a series of lawsuits were filed from 1996-2001 involving human exposure to lead.

    The suits generally focused on ingestion and dermal absorption. ChemRisk designed a number of studies to understand some of the various consumer products and the likelihood that enough lead could be absorbed to exceed the "safe harbor" standards. The media of interest included telephone cables, vacuum cleaner hoses, computer battery charger cables, and related materials.

292. **Assessed the loss of silicon from drug injection devices due to historical use of talc.** In 2001, ChemRisk examined silica exposures in drug injection devices. For a number of years, up to the present, some manufacturers of automatic drug injection devices used talc as a lubricant or coating on the inside of the device. Concerns were raised about the possible hazards posed by the silica in the talc. The amount of talc released by the device during various injections was measured and the health risks were evaluated.

293. **Assessment of risks posed by bioterrorism (Virginia).** As a result of post-September 11, 2001, concerns, retained by a major credit card firm to evaluate the possible threat to their enterprise from chemically or biologically contaminated mail. The evaluation identified the primary areas of concern, and suggestions were offered as to how to improve engineering controls and implement a more comprehensive protection program.

294. **Retrospective risk assessment at Oak Ridge National Laboratory (Tennessee).** In 1995-2001, served as a science advisor on this largest-ever risk assessment, which involved reconstructing the possible historical offsite exposures to the public as a result of 50 years of operations at the Oak Ridge Reservation. Project is described in Chapter 14 (pp. 735-870) of *Human and Ecological Risk Assessment,* (John Wiley and Sons), Dennis Paustenbach (ed.).

295. **Conducted exposure assessment of phthalates released from the tubing of certain fluid delivery pumps.** In 2001, a medical device firm had developed a "finger pump" which could introduce very small or large quantities of blood, or a drug used for cancer treatment into the human bloodstream. However, the continued flexing of the plastic tubing was alleged to increase the leach rate of DEHP and other phthalates from the tubing. ChemRisk conducted a study using human blood and various pharmaceutical agents and measured the percentage loss of phthalates from the tubing over time and then assessed the possible health hazard.

296. **Assessment of chromium (VI) in groundwater (California).** During 2000–2001, interacted with regulatory agencies to help characterize risk from chromium. A number of studies showed that chromium (III) and chromium (VI) were in groundwater throughout the state as a result of naturally occurring and industrial sources. The concentrations of chromium (VI) were very low, but a public health guidance (PHG) value had been proposed.

297. **Assessment of dioxin emissions from oil refineries (California).** From 1995-2001, evaluated data regarding the contribution of refinery dioxin emissions in air and water to the environment. Provided testimony to several government agencies on this issue.

298. **Assessment of dioxin in soils near a former hazardous waste incinerator (Midland, MI).** In 2001, retained by Dow Chemical Company to characterize the possible human health hazards posed by the historical deposition of dioxins and furans into soils downwind of their incinerator. The soil concentrations were in the range of 50-400 ppt toxic equivalents (TEQ).

299. **Assessment of hazards posed by coal tars in shampoo (California).** In 2000-2001, retained by a pharmaceutical company to evaluate claims that the content of polycyclic aromatic hydrocarbons (PAHs) in its shampoo products exceeded the amount allowable under California's Proposition 65. An exposure assessment was conducted, and a deposition was taken.

300. **Assessment of hazards to children from arsenic in playground soils (National).** In 2001, retained by two national trade associations to evaluate the possible hazards posed by the leaching of arsenic into soils from timber treated with chromated copper arsenic (CCA). This analysis was the first major health risk assessment related to the national initiative to specifically focus on the possible hazards of certain contaminants and media to children. At least one paper describing our work was published.

301. **Assessment of health risks of water contaminant (New Jersey).** In 1996, designed a number of toxicology studies and conducted a health risk assessment to evaluate risk of adverse health effects from ingestion of low concentrations of a "trimer" that had leaked from soil into groundwater at the so-called Toms River site. The work was completed in 2001.

302. **Established OEL for glycol ethers for Union Carbide Corporation (National).** In 1996-2000, participated on a blue-ribbon panel. Because no OEL had been established to prevent the developmental or reproductive hazard to workers, this firm asked that a panel be formed to recommend a guideline. This panel was convened in 1996 and recommended that research be conducted to support a physiologically based pharmacokinetic model. Four years later, after the research work was completed, a new panel was established, and the data were used to establish a new OEL (work was published in 2001).

303. **Assessment of community health hazards and diesel exhaust from truck terminal (Phoenix, AZ).** In 2000, conducted a semi-quantitative assessment as a result of recent USEPA positions that diesel exhaust from trucks may pose a human health hazard. A petition was filed to prevent construction of a truck terminal that was to hold 500 vehicles in response to USEPA's position. Attended a public hearing in September 2000.

304. **Mercury in gas line pressure regulators (Michigan and Illinois).** In the summer of 2000, developed a field program to measure airborne mercury in the 0.01 to 5.0 µg/m3 range and to evaluate the possible public health significance (assuming exposure had occurred for many years). It had been reported that, in homes built between 1935-1975, gas pressure regulators often contained elemental mercury (1-3 teaspoons each). Apparently, during installation and removal (which occurred to a large extent over the past 25 years) some small spills occurred. Managed the sampling of over 1000 homes and analyzed the data.

305. **Risk assessment of fish contaminated with PCB/1,1,1-trichloro-2,2-bis (p-chlorophenyl)-ethane (DDT) from the Palos Verdes Shelf (California).** From 1995-2000, developed and implemented a unique Monte Carlo-based assessment of the health risks from ingested fish containing PCB and DDT from contaminated sediments in Los Angeles harbor. This was, at the time, the costliest cleanup litigated by the Department of Justice (~ $1B). The assessment was peer-reviewed by an outside panel of professors, and later published in a peer-reviewed journal and book chapter. The case was resolved in federal court in late 2000 (commonly known as "the Montrose case at Palos Verdes").

306. **Assessment of benzene in diesel exhaust from locomotives (South Dakota).** During 1999-2000, conducted a series of dose reconstruction studies in a turn-of-the-century roundhouse involving diesel exhaust, nitrous oxides, carbon monoxide, and benzene. These studies were performed because of the application of a different legal standard regarding causation criteria with respect to occupational exposure of railroad workers. A question was raised regarding the possibility that benzene present in diesel exhausts could contribute to an increased incidence of leukemia and other diseases in these workers.

307. **Assessment of dioxin and furans in soils and sediments (Midland, Michigan).** In 2001-2005, conducted a comprehensive risk assessment of dioxins surrounding a former incinerator at the Dow facility in Midland. In addition, provided advice on how to assess the human and ecological hazards associated with the presence of these chemicals in flood plains downstream of the facility.

308. **Evaluation of medical device safety (California).** In 2000, evaluated the hazard from micron-sized metal airborne particles unintentionally released by a medical device that delivered drugs via inhalation.

309. **Assessment of occupational health hazards posed by airborne beryllium (Ohio and Arizona).** Beginning in early 1999, designed a comprehensive program for characterizing the hazards posed by airborne and dermal contact with beryllium in the workplace. Ultimately, was involved in numerous research efforts to understand the a) usefulness of beryllium blood lymphocyte proliferation test (BLPT) monitoring; b) importance of particle size and chemical form of the beryllium in determining the hazard; c) relationship between disease and the other routes of exposure to beryllium; and d) importance of establishing different dose-metrics. Worked with the client and ACGIH to put together an international symposium on beryllium, held September 1999 in Washington, DC.

310. **NAFTA litigation involving MTBE (Toronto, Canada).** In 1999, retained by Methanex Corp. to address the environmental and human health hazards associated with the use of MTBE by the United States as an oxygenate. Their claim was that California banned MTBE in an arbitrary manner. The case was settled in World Court in 2004.

311. **Assessment of health hazards of formaldehyde in mobile homes (Missouri).** In 1999, evaluated historical health hazards, including asthma, cancer, and immune and respiratory system diseases associated with presence of various concentrations of formaldehyde in mobile homes. Some of this work was used in personal injury litigation.

312. **Assessment of the benzene hazard posed by mineral spirits (Arizona).** In 1999, conducted a series of dose reconstruction experiments to evaluate benzene hazards in railroad workers. It was alleged that, from 1960-1990, mineral spirits might have contained enough benzene to be measurable in air and, therefore, increase the probability of developing acute myelogenous leukemia in railroad workers. A manuscript describing the work was published.

313. **Assessment of the hazards posed by occupational exposure to sensory irritants (National).** In 1999, served as chairman of the meeting that presented various papers regarding considerations for setting OELs for sensory irritants. The symposium was convened by the American Chemistry Council (ACC) as a result of international concern about the relatively small margin of safety inherent in many OELs for irritants. These papers were published in a special issue of the AIHA journal.

314. **Assessment of the occupational hazards of various types of beryllium in different settings (California).** In 1999, conducted dose reconstruction to evaluate the average and peak lifetime exposure to various forms of beryllium for a worker in the aerospace industry. Assessed the quality of employer efforts to minimize exposure to this agent over the last 50 years.

315. **Evaluation of 2-ethylcyanoacrylate (ECA) as a respiratory sensitizer (National and Europe).** In 1998-1999, conducted a literature evaluation of all published studies on ECA to evaluate increased concern about chemicals in the workplace and in consumer products that might induce or elicit an asthmatic response. Conducted an exposure assessment on location in Puerto Rico. Also conducted an epidemiology study of this worker cohort and published the results in a journal. A qualitative assessment of a facility in Dublin, Ireland was also conducted; this information was then presented to and evaluated by the ACGIH Threshold Limit Value (TLV) Committee, who revised the TLV, in part, based on this study. Two manuscripts were published describing the work.

316. **Risk assessment of emissions from a waste incinerator (Louisiana).** In 1998-1999, conducted a risk assessment of airborne emissions released from the largest existing waste incinerator. Determined that improved emission controls were necessary to limit potential dioxin exposures to farmers living near the incinerator and to prevent intake by cattle. The design of the air pollution control devices was modified, and a permit was then issued so that it could operate. For other reasons, the new facility never went into production.

317. **Assessment of risks posed by chromium (III) in Hackensack River (New Jersey).** From about 1994-1999, evaluated the risks to aquatic species and humans posed by the presence of chromium in the sediments of the Hackensack River.

318. **Retrospective assessment of trichloroethylene (TCE) in drinking water (Phoenix, AZ).** In 1997-1998, conducted research and a health risk assessment to assess exposure to TCE vapors from contaminated tap water. This work was later published in the journal Risk Analysis.

319. **State-of-the-art assessment involving disposal of wastes in landfills (Ohio and Michigan).** In 1998, conducted an evaluation of the appropriateness of behavior by major rubber and steel casting firms who chose to place industrial wastes in municipal landfills in the 1950s and 1960s. Testimony regarding the evaluation was presented in state court in Akron, Ohio.

320. **Assessment of di(2-ethylhexyl) phthalate (DEHP) in packaged cheeses under Proposition 65 (Washington, DC).** In 1997-1998, evaluated the validity of claims that DEHP was present at unacceptable levels (under Proposition 65) in processed cheeses using a stratified, random focused sampling program. A risk assessment evaluating 60 cheeses was conducted.

321. **Assessment of dioxin emissions from a combustor (Columbus, OH).** In 1997-1998, was retained by plaintiffs to evaluate the legitimacy of a claim that airborne emissions of dioxins from a combustor may have raised dioxin levels in blood in citizens. The data indicated that the uptake was negligible, which was not surprising, since the amount of farmland near the combustor was negligible.

322. **Assessment of hazards posed by combustion products from commercial fires (California).** In 1997-1998, evaluated the possible public health hazards associated with the emission and transport of combustion products produced during a fire involving a chemical plant. Assessed hazards due to carbon dioxide, dioxins, PAHs, soot, and fine particles.

323. **Assessment of the emissions from a combustor/vitrifier (Louisiana).** In 1998, conducted a state-of-the-art screening risk assessment of all aerial emissions from what was to be the world's largest combustor. The primary focus of this work was to assess the long- term impact on aquatic species from runoff and entry into streams/bayous.

324. **Assessment of toxics in sediment, groundwater, and soil (Louisiana).** From 1992-1998, oversaw a major human and ecological toxicology assessment involving the evaluation of potential hazards resulting from emissions from one of America's largest chemical manufacturing plants adjoining a wetlands and bayou. The study occurred over six years and produced nearly 3,000 pages of text. The study's chemical of primary interest was Hexachlorobenzene.

325. **Evaluation of the safety of silicone breast implants (SBI) (Columbus, OH).** In 1997-1998, conducted an evaluation of the toxicology information, medical literature, epidemiology, case reports, biomaterials information, and related materials to assess the safety of humans of using SBI. SBI were used by plastic surgeons throughout the world for physical enhancement from about 1964 to 1984.

326. **Environmental assessment of proposed golf course (Ohio).** In 1996-1997, conducted a comprehensive risk assessment to characterize issues associated with a proposed golf course. Pesticide runoff and water consumption have concerned communities across America since about 1985; as a result, most new golf courses cannot be built without a comprehensive assessment. This assessment was one of the first times risk assessment was used to characterize the issues.

327. **Assessment of PCBs in Hudson River (New York).** In 1987-1997, designed studies of the concentrations and location of PCBs in sediments. A creel study was conducted of local and Native American fisherman in an effort to characterize the health risks resulting from PCBs. A risk assessment was later conducted.

328. **Assessment of property near a former landfill subsequently used as a residential site (Northern California).** From 1990-1997, served as principal-in-charge of health risk assessment for a residential development built in the vicinity of an excavated former landfill. A comprehensive risk assessment was conducted, and the analysis was presented in state court.

329. **Ecotoxicology assessment of contaminated sediments in the Newark Bay watershed (Passaic River, NJ).** In 1991-1997, directed a project involving a complete assessment of the human, aquatic, and avian hazards posed by dioxin, PCBs, and other long-lived chemicals in sediments.

330. **Assessment of dioxin in soil (California).** In 1995-1996, served as project manager of risk assessment of polychlorinated dibenzo-p-dioxin/furans (PCDD/Fs) from a combustor source in soil, sediment, and air. Approach evaluated tetra- through hepta-CDD/F separately from octa-CDD/F to allow use of congener-specific disposition and toxicity data.

331. **Assessment of risks of chromium (VI) in drinking water (California).** In 1995-1996, developed a multi-pathway exposure and risk assessment to estimate the retrospective exposure history of approximately ten test plaintiffs with alleged exposure to hexavalent chromium in groundwater. Designed and conducted a series of bench scale testing and human pharmacokinetic studies to examine the fate of hexavalent chromium in humans after tap water ingestion. Nearly twenty peer-reviewed papers and/or abstracts were developed and presented at various scientific meetings.

332. **Dose reconstruction of chromium workers at the Painesville site (Ohio).** Beginning in 1996, conducted an evaluation of historical occupational exposure information for one of the largest chromium processing sites in the United States, which operated from 1940-1970. Project involved reviewing documents including air sampling data, medical data, and manufacturing information. The analysis resulted in the publication of four different manuscripts that are, in a large measure, the basis for OSHA regulations regarding airborne chromium (VI).

333. **Sampling of chromium (VI) in air.** For two summers, served as the principal-in- charge of a major research program devoted to collecting more than 300 twelve-hour samples of airborne dust near sites containing COPR in soils. At least four papers were published about this work (mid 1990s).

334. **Risk assessment of CERCLA cost recovery (California).** In 1994-1995, conducted a comprehensive critique of remedial investigation, risk assessment, and feasibility study documents prepared for a heavily investigated CERCLA site in California. Examined the strengths and weaknesses of the reported findings. Data showed that client was a de minimus contributor.

335. **Exposure assessment of herbicide risks (California).** During 1994-1995, developed plausible estimates of dioxin uptake resulting from specific work activities. Designed and conducted experiments to quantitate exposure to aerosols for a roadside weed abatement operator resulting from blowback. Developed dermal uptake models that were integrated with PBPK models to estimate total dioxin uptake and blood concentrations of dioxin.

336. **Risk assessment and research of Pentachlorophenol/dioxin (Georgia).** In mid-1990s, managed a project that delineated the state of scientific knowledge from 1950 to present regarding the known environmental fate and transport characteristics of pentachlorophenol products. Provided a summary and analysis of site-characterization data, and a screening level risk assessment for two facilities seeking cost recovery.

337. **Research of metals bioavailability (Louisiana).** In the mid-1990s, conducted research of several issues pertaining to the production of a vitrified aggregate material from soils originally contaminated with lead. Provided research materials relevant to the critical issues of metals accumulation and the transport and fate and risk assessment considerations to identify safe uses of the aggregate. The aggregate has been used in both concrete and asphalt. Served as an expert witness in federal court to address the regulatory compliance issues with respect to toxicology and risk assessment.

338. **Assessment of aquatic and human health hazards posed by sediment containing very high levels of TCDD (Sydney, Australia).** In 1994-1995, conducted a preliminary risk assessment of the hazards posed by harbor sediments containing 2,3,7,8-TCDD at concentrations as great as 20 mg/kg. This site is near Homebush Bay in Sydney Harbor, and portions of the area were eventually remediated and used as part of the Olympic Village for the 2000 Olympics.

339. **Assessment of benzene in indoor air as a result of contaminated soil (California).** In mid-1990s, for the plaintiffs (homeowners), managed risk assessment that evaluated cancer risk due to potential indoor exposure to benzene emitted from contaminated soil underlying residences.

340. **Assessment of dioxin emissions from oil refineries (Northern California).** In 1995, assembled available air and water emissions from refineries and assessed the hazard to humans and wildlife. Conducted the first comprehensive study of dioxin runoff to the San Francisco Bay resulting from airborne deposition from all possible sources. The work was presented at the International Dioxin Conference and was published in a peer-reviewed journal.

341. **Assessment of dioxin emissions from world's largest incinerator (Michigan).** In mid-1990s, served as an expert in determining the possible health risks associated with the aerial emissions from the City of Detroit's municipal waste incinerators, at the request of former mayor Coleman Young. The issue was of considerable interest to Canada, which believed that the majority of the emissions were being deposited onto Canadian soils.

342. **Assessment of dioxin-contaminated sediment in Passaic River (New Jersey).** From 1991-1995, served as the principal-in-charge and key interface to USEPA on a project involving dioxin-contaminated sediment in New Jersey. Developed scoping documents and work plans for sediment sampling on at least six different occasions. Helped write the work plan for the remedial investigation, which required four years to implement.

343. **Assessment of lead from a rotary kiln (Louisiana).** In 1991, prepared human and ecological risk assessments for a former hazardous waste treatment facility. The assessment included the evaluation of lead in site soils using the USEPA integrated exposure uptake/biokinetic (IEUBK) model. This assessment was a landmark risk assessment because it addressed the thorny issue of recycling so-called "low risk" combustion by-products. The case was argued in federal court in Louisiana against the U.S. Department of Justice in about 1995.

344. **Ecotoxicology assessment of chromium in sediment in the Hackensack River (New Jersey).** Between 1994 and 1995, performed technical oversight for an ecological assessment involving site-collected sediments, crabs, and other wildlife.

345. **Health assessment of contaminated groundwater at a major Superfund site (California).** In 1994-1995, conducted an assessment of three pesticides in soil to determine whether one of the suppliers of these chemicals could have produced soil contamination sufficient to warrant cleanup.

346. **Risk assessment of refinery emissions (California).** In the mid-1990s, conducted an analysis of chemical emissions and the associated risks from a refinery in California. Past chemical emissions were found in refinery records, and a retrospective assessment of exposures of 4,000 nearby residents was conducted.

347. **Assessment of cadmium-contaminated sediment on the Hudson River (Marathon Battery, New York).** In the 1990s, conducted a preliminary ecological assessment of the potential hazards to aquatic and avian species due to cadmium in both surface and buried sediments. Ultimately, the sediments at this site were remediated under Superfund.

348. **Assessment of chloroform from a paper mill (Georgia).** In the mid-1990s, served as principal-in-charge of assessment of chronic chloroform inhalation exposure. Health risk was characterized using alternative cancer slope factor and presented a strong defense for the use of a physiologically based pharmacokinetics (PBPK) model approach that considered species-specific metabolic pathways.

349. **Assessment of ecotoxicology hazards associated with sediments contaminated with organochlorines (California).** In 1994, conducted risk assessment of human health and aquatic hazards associated with concentrations of DDT, chlordane, heptachlor, and dieldrin in surface sediments.

350. **Chemical fingerprinting of sediments (New Jersey).** From 1990-1994, used polytropic vector analysis and multivariate analysis (fingerprinting) to understand dioxin contamination of river sediments. Six papers on our work were published in the peer-reviewed literature.

351. **Development of method for detecting airborne chromium (VI) in particulates.** In the early 1990s, the primary concern associated with the presence of chromium (VI) in soil was the potential inhalation hazard of chromium (VI), a likely human carcinogen when present in acid mist. Since no ambient method for detecting ppb concentrations was available at the time, ChemRisk developed a new method based on the work of the California Air Resources Board and NIOSH. It was later accepted by ASTM as the standard method for sampling ambient concentrations of chromium (VI) in airborne particulates.

352. **Dose reconstruction at Rocky Flats (Colorado).** From 1991-1994, served as a science advisor for a $6M toxicologic review and dose reconstruction project for the Colorado Department of Health. This retrospective assessment quantitatively evaluated the possible offsite health impacts of radionuclide and chemical emissions from the Rocky Flats Nuclear Weapons Facility since operations began in 1953. Several peer-reviewed papers were published describing the work.

353. **Evaluation of occupational standards for formaldehyde (Washington, DC).** In 1993-1994, on behalf of the Formaldehyde Institute, convened a panel of experts to identify the airborne concentration of formaldehyde that does not produce sensory irritation. A 50- page peer-reviewed paper was eventually published.

354. **Evaluation of reasonableness of USEPA model for predicting soil concentrations in airborne particulates (New Jersey).** In 1992-1994, conducted an air sampling program near a chromium-contaminated site with the intent of validating Cowherd's soil suspension model. The results were published in a peer-reviewed journal.

355. **Assessment of 1,4-dioxane in wine under Proposition 65 (California).** In 1992, evaluated the accuracy of claims that 1,4-dioxane was present at unacceptable levels in wine. Developed a PBPK model for the chemical and published results in a journal in 1994.

356. **Assessment of cadmium in sediments (New York).** In 1994, evaluated the possible ecological and human health hazards posed by cadmium contamination of sediments in a bay. Ultimately, the so-called Marathon Battery site was among the first to undergo sediment remediation.

357. **Risk assessment of chloroform, hydrogen sulfide (H2S), dioxin (Washington).** In 1993, conducted risk assessment of possible airborne chemical emissions during the dredging and remediation of a wastewater treatment facility. More than thirty expert reports and datasets provided by the plaintiffs' experts were analyzed. The chemicals of interest were chlorinated dioxins and furans, chloroform, methylene chloride, and other chlorinated compounds, H2S and mercaptans, mustard gas, oxides of sulfur and nitrogen, nitrosamines, and sulfuric acid mist or fog. Testified in state court in 1994.

358. **Retrospective exposure assessment of benzene (Pliofilm) workers.** In 1991-1993, under a contract with American Petroleum Institute (API), reviewed industrial hygiene and process engineering records for three pliofilm manufacturing facilities in Ohio and reconstructed the likely uptake of benzene by almost 400 different people who worked during the period 1939-1976. These exposure estimates were then combined with mortality data, and the cancer potency factor for benzene based on the human epidemiology experience was calculated. Our work was considered during the 1997 reassessment of the USEPA/OSHA cancer potency factor for benzene. The current TLV [0.3 ppm (1994)] was based on our analysis. Work was published in a peer-reviewed journal, which has been frequently used in international regulations involving benzene.

359. **Assessment of aquatic hazard from contaminated sediments (California).** In 1991-1993, evaluated the possible impact of contaminated sediments on a reach of the Port of Oakland (Heckathorn site). Following a field study, ChemRisk showed that the most significant adverse effect on aquatic life was from high levels of suspended solids in waters due to boats moving in and out of the shipping channel.

360. **Re-Opening Records of Decision (ROD) on Dioxin Contaminated Soils.** In the winter of 2012, we were retained by one of our historical clients to evaluate claims by EPA that a ROD should be revisited due to the change in dioxin in soil clean-up guidelines. We conducted the original assessment in 1990. The assessment was still ongoing in late 2014.

361. **Assessment of dioxin emissions from an industrial oil-fired boiler (Portland, ME).** In the early 1990s, served as a principal reviewer for an assessment that predicted the dioxin concentration in local crops and grazing stock near an oil-fired boiler.

362. **Assessment of hazards posed by contaminated soil at a former battery recycling facility (New York and Pennsylvania).** In 1992-1993, conducted an ecological and human health assessment of lead-contaminated soil at two former battery recycling centers. This site ultimately underwent partial (selective) remediation and was considered a model for remediation because of how the risk assessment directed the cleanup approach.

363. **Assessment of mercury in fish (Puerto Rico).** In 1993, developed a quantitative health risk assessment of inorganic and methyl mercury exposures in a fishing village in Puerto Rico (Superfund site, USEPA Region II). Analyses included pharmacokinetic modeling of chemical uptake into beef and dairy cows and edible marine organisms, and subsequent evaluation of maternal body burden and breast-milk levels in exposed human populations. Monte Carlo analysis of fish tissue data was used to evaluate human exposure.

364. **Comprehensive risk assessment of chromium in soil.** Over a period of two years (1991-1993), ChemRisk conducted a number of risk assessments of the cancer and dermatitis hazards posed by the presence of COPR in soil. Our analyses were published in three different peer-reviewed journals.

365. **Proposed reference concentration for chromium (Consortium Clients).** From 1991-1993, prepared and submitted comments to USEPA's proposed "reference concentration" for airborne chromium. Was invited to serve as advisor to an USEPA work group to evaluate better methods for setting these criteria. Work was published in a peer-reviewed journal.

366. **Risk assessment of PCBs in recycled paper products (California).** In 1992-1993, was asked to determine if the possible human health risks due to using napkins and paper towels made from PCB-containing recycled paper exceeded limits established under California's Proposition 65. Risks were determined to be well below the Proposition 65 risk criteria.

367. **Human health and ecological risk assessment of a southern California port (California).** In the early 1990s, served as lead scientist and project manager for the risk assessment of a remedial action plan for metal recycling facility located in a port district area. Assessed potential exposures to on-site workers, nearby residents, and marine life related to heavy metals, PAHs, and PCBs. Developed a risk-based sampling approach to collect data to support using site-specific leaching profile and conducted the risk assessment.

368. **Assessment of wood treatment chemicals in soils and sediments (North Carolina).** In the early 1990s, examined contaminant migration and potential human health risks to community members from a former wood treatment facility contaminated with creosote, PAHs, pentachlorophenol, and dioxin compounds. Evaluated whether alleged chemical releases could have adversely affected residents.

369. **Assessment of cyclodiene pesticides in soil (Illinois).** From 1990-1992, prepared a multipath way exposure and risk assessment for a state Superfund site in Illinois. It was alleged that aerial emissions from a pesticide-formulation facility increased the concentration of dieldrin, chlordane, aldrin, and heptachlor in the city soils. The city was scheduled to be partially evacuated and was to undergo extensive remediation. USEPA ultimately issued a no-action alternative for the site, and no remediation was required.

370. **Assessment of dioxin-contaminated site (Arkansas).** In 1991 and 1992, identified acceptable cleanup levels for soil at an industrial site known as the Vertac site, which had housed a former manufacturer of 2,4,5-Trichlorophenoxyacetic acid (Silvex).

371. **Assessment of mercury in soil (Puerto Rico).** In 1992, evaluated the acceptability of post-remedial levels of mercury in soil at a site in Puerto Rico.

372. **Assessment of New Jersey Department of Environmental Protection's (NJDEP) soil clean-up levels (New Jersey).** In 1991-1992, prepared an extensive critique of NJDEP's proposed 1991 Regulation for Soil Cleanup Standards. The critique included detailed comments regarding appropriate methods for assessing contaminant uptake and developing health-protective levels for chemicals and metals in soils, groundwater, and interior surfaces of buildings. Ultimately, the proposed standard adopted most of our recommendations.

373. **Evaluation of a residential community built on a landfill (Southern California).** In the early 1990s, evaluated the possible future health risks associated with a 40-acre municipal landfill, above which a large residential community was to be located.

374. **Critique of proposed regulation of airborne hydrogen sulfide (Washington).** In the early 1990s, reviewed a hazard communication document released by a state health department regarding hydrogen sulfide toxicity. Supervised research and documentation to support comments to the state regarding the hazard communication revision.

375. **Assessment of questions about an allergic contact dermatitis hazard.** This work involved developing an original research program to identify the minimum-elicitation threshold for chromium (VI) in sensitized people. This $1-million program involved 54 volunteers who were patch-tested in order to determine the threshold of elicitation. The work was published in a peer-reviewed journal in 1995. Work was conducted in the early-1990s.

376. **Assessment of chromium (VI) leaching from soil as a result of contact with sweat.** In the early 1990s, conducted research that evaluated the dermal bioavailability of chromium (VI) and chromium (III) in soil when present in sweat. The work was published in a peer- reviewed journal.

377. **Bioaccessibility research was conducted on dioxin contaminated soils and clean-up levels were derived.** Original lab work was conducted to derive the oral bioaccessibility. A Monte Carlo-based risk assessment was conducted. We participated in community and regulatory meetings to explain the significance of our studies. A similar project may be conducted in New Zealand for Dow Chemical (also involving dioxins in soil).

378. **Assessment of Hudson County (New Jersey).** Over a period of eight years, beginning around 1990, served as the primary toxicologist and risk assessor evaluating the hazards posed by the presence of chromium (VI) and chromium (III) in soils in both residential and industrial areas. During this time, we conducted a significant amount of original research to evaluate the possible health hazards posed by chromite ore processing residue (COPR) in soils. Virtually all of this work was published in a series of peer reviewed papers.

379. **Assessment of incinerator emissions (Martinez, CA).** From 1988-1991, managed and prepared a multi-pathway assessment of the health risks associated with emissions of particulates and vapors from a combustor. The State of California had previously determined that the dioxin risks were significant, and that the client would have to warn the surrounding communities.

    ChemRisk developed one of the nation's first multi-pathway exposure analyses, accounting for ingestion of mother's milk, vegetables, and crops, as well as for indirect exposure from grazing animals (meat and dairy products).

380. **Risk-based remedial investigation, Rockwell Site (Southern California).** From 1989-1991, used risk assessment principles to design and guide remedial investigation activities at a federal Superfund site involving mixed wastes. USEPA approval of the sampling designs, which greatly minimized the number of environmental samples collected (residential soil, groundwater, garden vegetables, and ambient air), saved a substantial amount over the originally estimated sampling and analytical costs, yet provided more useful information than the previous approach.

381. **Avian risk assessment (Illinois).** From 1989-1990, conducted an avian assessment of the possible hazard from cyclodienes in surface soil at a state Superfund site. Assessment involved collecting and analyzing live and dead birds potentially exposed to high levels of pesticides. Pathology and tissue analyses were conducted.

382. **Assessment of exposure to airborne selexol (Chicago, IL).** In 1990, evaluated the potential health hazards to the community following an episodic event where a chemical used to scrub gaseous vinyl chloride and benzene emissions from landfill gas was accidentally released to the atmosphere.

383. **Environmental Sources of Blood Lead and Trends in Children's Blood Lead Levels in Colorado.** In the late 1980s, we developed a position paper on environmental sources of blood lead and trends in children's blood lead levels which related to proposed remedial actions at various Superfund sites. Additionally, a statistical analysis of paired child blood lead and environmental lead data was developed to identify relationships that could be included in predictive models, such as the USEPA's IEUBK Model.

384. **Assessment of Love Canal (New York).** In 1989, evaluated more than ten years of work by numerous groups, and served as an expert witness in the personal injury litigation involving exposure to dioxin and volatile organic compounds in Love Canal resident homes.

385. **Proposed ambient water quality criteria for 2,3,7,8-TCDD (Texas, Louisiana, and Georgia).** During the late 1980s, assisted in preparing the assessment that served as a scientific basis for setting dioxin emission standards for pulp and paper mills on waterways in the three above-mentioned states. These limits were later accepted by regulatory agencies and courts in ten other states.

386. **Assessment of TCDD from incinerator (Times Beach, Missouri).** In 1986-1988, evaluated hazards from the aerial emissions associated with combusting dioxin-contaminated soils. Work was conducted for USEPA, which had hoped to install a temporary incinerator at Times Beach. In 1990, published a peer-reviewed paper describing the analyses.

387. **Risk assessment of radionuclides in phosphate mine slag used to construct cement blocks (Tennessee).** In 1979-1982, conducted original research at Purdue University to determine radon emanation rate from brick, concrete block, and insulation derived from phosphate slag. Performed a risk assessment that considered the resulting airborne radon concentration in typical homes, as well as background levels. Concluded there was negligible risk to persons living in these homes, and later published the assessment in a peer-reviewed journal.

388. **Evaluation of the use of a "non-target-specific" pesticide to eradicate coyotes in a farming area (California and Arizona).** In 1988, served as a pro-bono consultant to Friends of the Earth (Washington, DC), the plaintiffs in the case. Submitted an affidavit indicating that the approach proposed by the United States government was not sufficiently target-species-specific enough to warrant the benefit. Because of this analysis and other reasons, the program was not implemented.

389. **Evaluation of Times Beach (Missouri).** From 1984-1987, directed the scientific research that evaluated the possible health risks associated with exposure to 2,3,7,8-TCDD in soil. Managed a group of three full-time PhD research toxicologists and a number of contract labs conducting work involving exposure assessment and low-dose extrapolation analyses. Directed the original research involving a) dermal bioavailability of dioxin in soil; b) oral bioavailability of dioxin in soil; c) ingestion rates of soil by children (via Dr. Calabrese at the University of Massachusetts); d) vapor pressure measurements of dioxin; e) soil erosion wind models; f) low dose model sensitivity analyses (with Sielken); and g) dermal uptake via human skin in vitro. Resulted in eight peer-reviewed publications.

Following three years of effort, in 1987, USEPA decided that our analyses had merit, and chose to recommend that the risk-specific dose (RSD) for the 1 in 1,000,000 cancer risk for dioxin be changed from 6 fg/kg-day to 100 fg/kg-day (the first USEPA reassessment). Our work on soil ingestion and our risk assessment methodology was used in decision-making for dozens of sites contaminated with dioxin in the 1980s and 1990s. At least ten peer- reviewed papers describing the work were published.

Unexpected Outcomes

1. **A study of Los Alamos**: While working on a government contract, we determined that those involved in the Manhattan Project were unaware that they had had a small amount of radioactive material in a duct "go critical" and that the explosion and gases were blown into an adjoining housing complex on the Los Alamos site (Gaffney, S.H., E.P. Donovan, J.J. Shonka, M.H. Le, and T.E. Widner. 2013. An independent evaluation of plutonium body burdens in populations near Los Alamos Laboratory using human autopsy data. Int J Hyg Env Health 216(3):263-270). We briefed the community and our contract officer of the event. This work has been described by the DOE and DOD as an exposure assessment which is relative to their mission.

2. **Airborne endotoxins in the workplace**: On two occasions, once in the fiberglass manufacturing industry, and other time in the "shrink wrap" industry, we identified the presence of airborne endotoxins and documented higher than preferred concentrations. We recommended a significant set of changes that, in one case, required the building to be abandoned and a new factory constructed.

3. **Benzene and Pliofilm Workers**: Many years ago (circa 1990-1994), we reported that we could explain why the AML rate was so high in these workers (by job task) and that those data made sense given what was in the literature regarding threshold doses (Paustenbach, D.J., P.E. Price, W. Ollison, C. Blank, J.D. Jernigan, R.D. Bass, and D. Peterson. 1992. Re-evaluation of benzene exposure for the Pliofilm (rubberworker) cohort (1936-1976). J Toxicol Environ Health. 36(3):177-231). In the view of many, this paper did not reflect well on the manufacturer at the time. NIOSH once believed that our assessment was unnecessarily conservative (Utterback, D. F., and Rinsky, R. A. 1995. Benzene exposure assessment in rubber hydrochloride workers: a critical evaluation of previous estimates. Am. I. Ind. Med. 27:661-676) so we re-conducted the study using a Monte Carlo analysis. The work was described in a published paper (Williams, P.R. and D.J. Paustenbach. 2003. Reconstruction of benzene exposure for the Pliofilm cohort (1936-1976) using Monte Carlo techniques. J Toxicol Environ Health A. 66(8):677-781). It seems to have satisfied the concerns of NIOSH.

4. **Beryllium in workplace air**: We recommended to a client that they needed to brief both NIOSH and OSHA that the different forms of beryllium had genuinely different hazard potential and toxicity. We also recommended that they voluntarily adopt an internal occupational exposure limit that was 10-50-fold lower than the "then current" PEL and that they should set 3-4 different OELs, depending on the form of beryllium. (Kolanz, M.E., A.K. Madl, M.A. Kelsh, M.S. Kent, R.M. Kalmes, and D.J. Paustenbach. 2001. A comparison and critique of historical and current exposure assessment methods for beryllium: Implications for evaluating risk of chronic beryllium disease. Appl Occup Environ Hyg. 16(5):593-614.; Paustenbach, D.J., A.K. Madl, and J. Greene. 2001. Identifying an appropriate occupational exposure limit (OEL) for beryllium: Data gaps and current research initiatives. Appl Occup Environ Hyg. 16(5):527-38)

5. **Brazilian Blow-Out (hair dye/straightener)**: We were the first to document that it could be expected that some persons who worked in certain workplaces would experience eye and nose irritation (mostly hairdressers) when they used this particular hair straightener. We published these results in 2015 (Pierce, J.S., A. Abelmann, L. J. Spicer, R. E. Adams, M. E. Glynn, K. Neier, B. L. Finley & S. H. Gaffney. 2011. Characterization of formaldehyde exposure resulting from the use of four professional hair straightening products. J Occup Env Hyg. 8(11):686-699). The manufacturer then sued ChemRisk. The case was dropped when the State of California and Federal CPSC agreed with our assessment.

6. **Contaminants in candy**: After being asked to evaluate the presence of a contaminant that had been found in a candy, we recommended a partial recall of the product (which meant all products in the warehouse and in shipment had to be brought back and destroyed). The manufacturer had not hoped for that outcome but complied and the FDA agreed that our conclusion was appropriate.

7. **Contaminants in produce**: After evaluating a considerable amount of data over a long weekend, we recommended a food recall of kale products by a firm who had retained us regarding possible contamination by salmonella. The manufacturer had not hoped for that outcome but complied.

8. **Dioxins in beef**: Even though it was suspected that grazing animals might be the source of the intake of most dioxins found in the blood of Americans in the 1960s to the 1980s, we were the first to prove the quantitative relationship (Fries, G.F. and D.J. Paustenbach. 1990. Evaluation of potential transmission of 2,3,7,8 tetrachlorodibenzo-p-dioxin- contaminated incinerator emissions to humans via foods. J Toxicol Environ Health. 29:1- 43). Prior to our work, it had been advocated by several other consulting groups that the number of dioxins in foods was trivial and that they did not understand how Americans had developed relatively high concentrations of dioxins/furans in their adipose and blood. They suspected it might be due to inhalation or drinking water or some unknown source. Ultimately it was shown that most of the dioxins in humans was due to particulate emissions from combustors (because the particles landed on vegetation which was ingested by grazing cows and sheep).

9. **Exposure to amphiboles and mesothelioma**: Several years ago, we concluded that, historically, there were some tasks that were part of the "manufacture" of plastics that could involve significant exposure to asbestos. We then concluded that if crocidolite was used in the process, that there was likely to be a fairly high incidence of mesotheliomas. These exposures normally occurred in the 1940s and 1950s (perhaps even into the 1960s) and some epidemiology studies confirmed our suspicions.

10. **Labeling of vitamins**: After review of available information, we recommended to the client, and we reported this to FDA, that they needed to warn that a vitamin supplement containing zeolites contained concentrations of lead and cobalt that were too high to be given to children. We advocated that the warning needed to identify the presence of certain metals. This position was later embraced by the FDA and the product was no longer manufactured.

11. **PFOA in groundwater**: We conducted an analysis that explained why groundwater many miles from a facility could become contaminated via aerial deposition (Paustenbach, D.J., J.M. Panko, P.K. Scott and K.M. Unice. 2007. A methodology for estimating human exposure to perfluorooctanoic acid (PFOA): A retrospective exposure assessment of a community (1951-2003). J Toxicol Environ Health A. 70(1):28-57). This was the first occasion where any aerially distributed chemical was found to be able to reach groundwater. The EPA, NGOs and various professors were surprised that we made the connection and that we reported our data in a journal. Three major universities were hired by EPA to check whether our methodology and conclusions were correct; and they confirmed the results of our analyses (Shin H.M., V.M. Vieira, P.B. Ryan, R. Detwiler, B. Sanders, K. Steenland and S.M. Bartell. 2011. Environmental fate and transport modeling for perfluorooctanoic acid emitted from the Washington Works Facility in West Virginia. Environ Sci Technol. 15:45(4):1435-42.)

12. **PFOA in groundwater**: We conducted an analysis that explained why groundwater many miles from a facility could become contaminated via aerial deposition (Paustenbach, D.J., J.M. Panko, P.K. Scott and K.M. Unice. 2007. A methodology for estimating human exposure to perfluorooctanoic acid (PFOA): A retrospective exposure assessment of a community (1951-2003). J Toxicol Environ Health A. 70(1):28-57). This was the first occasion where any aerially distributed chemical was found to be able to reach groundwater. The EPA, NGOs and various professors were surprised that we made the connection and that we reported our data in a journal. Three major universities were hired by EPA to check whether our methodology and conclusions were correct; and they confirmed the results of our analyses (Shin H.M., V.M. Vieira, P.B. Ryan, R. Detwiler, B. Sanders, K. Steenland and S.M. Bartell. 2011. Environmental fate and transport modeling for perfluorooctanoic acid emitted from the Washington Works Facility in West Virginia. Environ Sci Technol. 15:45(4):1435-42.)

13. **PFOA in groundwater due to use of water treatment sludges as soil amendments**: We had been asked to evaluate whether sludges from former carpet and clothing treating facilities, when applied to soil, could contaminate groundwater. We concluded that in some cases, where the water table was shallow, this could occur. A published paper by an environmental advocacy group applauded us for our work on the PFCs (Lerner, S. 2015. The Teflon Toxin, from https://theintercept.com/2015/08/11/dupont-chemistry- deception/). This incident was memorialized in the movie Dark Waters (released in Dec. 2019).

14. **The results of the Trinity Test**: While working on a government contract, we concluded that scientists in the Federal government had underestimated the power of the Trinity Test blast. Due to this underestimate, we had to share with the city that more persons were affected by the blast than had been previously known. It is described in a published paper (Widner, T.E. and S.M. Flack. 2010. Characterization of the world's first nuclear explosion, the Trinity Test, as a source of public radiation exposure. Health Physics. 98(3):480-497). Not surprisingly, our contractor was disappointed that we had reached such a conclusion.

15. **Wear Debris and Hip Implants**: We have documented, although not the first to do so, that large wear debris from an articulating implant offers the opportunity for a myriad of adverse effects. Part of this work was published in 2017 by (Kovochich, M., E.S. Fung, E. Donovan, K.M. Unice, D.J. Paustenbach, and B.L. Finley. 2017. Characterization of wear debris from metal-on-metal hip implants during normal wear versus edge-loading conditions. J Biomed Mat Res B. Advanced online publication, May 8, 2017. doi: 10.1002/jbm.b.33902). It will likely be the basis for future in-vivo studies which will likely show that for many patients this will be the primary cause of the need for a hip replacement. We found that normal wear from a normal implant almost never produced particles which could cause the cascade of events that might cause bone erosion and the ultimate need to replace the implant.

16. **Occupational hazards at Hanford**: In 2015, members of our firm were asked to serve on an audit committee of work practices used at the Hanford site in the State of Washington (part of the original Manhattan project). The team wrote a rather jarring report that indicated that there were numerous significant shortcomings in the historical and current "health and safety" programs at this important site (report available upon request)

17. **Occupational exposure to crocidolite by cement pipe manufacturers**: We were retained around 2015 to evaluate a number of tasks involving the cutting of cement asbestos containing pipe. We reported that the airborne concentrations, although perhaps considered acceptable at the time, would be considered quite excessive by current standards.

PUBLICATIONS

Peer-Reviewed Publications

1) Tuttle, B. P., et al. An Evaluation of Trends for Mesothelioma in Women: Along with Comments about the Morbidity and Mortality Weekly Report. (2023). *(To soon be submitted).*

2) Brooke Simmons, Laura Hallett, Josh Maskrey, Rachel Hirani, Allison Insley, **Dennis Paustenbach**. Asbestos Exposure During Simulated Use of Synthetic Rubber Solution Duct Sealer. (2023). *(Paper is to be submitted shortly).*

3) **Paustenbach, D. J.,** Stevens, M. E., Tuttle, B. P., Shore, R. A., Ligas, S., and Brew, D. W. (2023). Occupational Exposure to Asbestos in the Steel Industry. Journal of Exposure Science & Environmental Epidemiology. 36: 1-31 (DOI.

4) **Paustenbach, D. J.** and J. Gibbons. 2021. Radiological risk assessment of the Hunters Point Naval Shipyard (HPNS). Critical Reviews in Toxicology. 52(7): 499-545. https://doi.org/10.1080/10408444.2022.2118107

5) **D.J. Paustenbach**, D. Brew, S. Ligas & J. Heywood. 2021. A critical review of the 2020 EPA risk assessment for chrysotile and its many shortcomings. Critical Reviews in Toxicology. 51(6): 509-539.

6) Zisook, R. E., Simmons, B. D., Vater, M., Perez, A., Donovan, E. P., **Paustenbach, D. J.**, and Cyrs, W. D. 2020. Emissions associated with operations of four different additive manufacturing or 3D printing technologies. Journal of Occupational and Environmental Hygiene. 17(10): 464-479.

7) Hollins, D., A. Burns, K. Unice, and **D. J. Paustenbach.** 2019. An analysis of workplace exposures to asbestos at three steel mills located in the United States (1972-1982). Tox and Ind Health. 35 (11-12); 726-737.

8) Kovochich, M., B.L. Finley, R. Novick, A.D. Monnot, E. Donovan, K.M. Unice, E.S. Fung, D. Fung, and **D.J. Paustenbach**. 2018. Understanding outcomes and toxicological aspects of second-generation metal-on-metal hip implants: A state-of-the-art review. Crit Rev Toxicol. 48(10): 839-887.

9) Monnot, A.D., K.M. Towle, E.M. Warshaw, E.S. Fung, R.M. Novick, **D.J. Paustenbach**, and D.A. Drechsel. 2018. Skin sensitization induction risk assessment of common ingredients in commercially available cleansing conditioners. Dermatitis. 30(2): 116-128.

10) Fung, E. S., D. A. Drechsel, K. M. Towle, M. T. Hoang, R. M. Novick, C. Poteete, **D. J. Paustenbach**, and A. D. Monnot. 2018. Screening-level assessment of personal care product constituents using publicly available data. Cosmetics. 5(2): 38. doi: 10.3390/cosmetics5020038.

11) Drechsel, D.A., K.M. Towle, E.S. Fung, R.M. Novick, **D.J. Paustenbach**, and A.D. Monnot. 2018. Skin sensitization induction potential from daily exposure to fragrances in personal care products. Dermatitis. 29(6): 324-331.

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2) 2008. Encyclopedia of toxic substances. **D.J. Paustenbach** (one of many contributors). John Wiley and Sons, New York, NY. More than 1000 pages.

3) 2002. Human and Ecological Risk Assessment: Theory and Practice. **D.J. Paustenbach** (ed.). John Wiley and Sons, New York, NY. 1556 pages (33 chapters by 50 contributors).

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1) **Paustenbach D.J.**, A. Maier and W. Cyrs. 2020. Chapter 20: The history and biological basis of occupational exposure limits for chemical agents. In: B. Cohrssen B (eds.), *Patty's Industrial Hygiene*. Seventh edition. Wiley & Sons, New York.

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24) **Paustenbach, D.J.** 2000. Chapter 41: The history and biological basis of occupational exposure limits for chemical agents. In: Harris, R. (ed.), *Patty's Industrial Hygiene*, Vol. 3. Fifth edition. John Wiley & Sons, New York, NY, pp. 1903-2000.

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32) **Paustenbach, D.J.** 1997. Chapter 30: Occupational exposure limits. In: *ILO Encyclopedia of Occupational Health and Safety*. Fourth edition. World Health Organization, Geneva, Switzerland, pp. 30.27-30.34.

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50) **Paustenbach, D.J.** 1989. Chapter 22: Risk assessment methodologies for developmental and reproductive toxicants: a study of the glycol ethers. In: **D.J. Paustenbach** (ed.), *The Risk Assessment of Environmental Hazards: A Textbook of Case Studies*. John Wiley & Sons, New York, NY, pp. 725-768.

51) **Paustenbach, D.J.** 1989. Chapter 28: The engineer's responsibilities for controlling occupational disease and preventing accidents. In: Cralley, L., and L. Cralley (eds.), *In-Plant Practices for Job Related Health Hazards Control: Engineering Aspects*, Vol. 2. John Wiley & Sons, New York, NY, pp. 541-569.

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53) **Paustenbach, D.J.**, H.P. Shu, and F.J. Murray. 1987. Chapter 14: Assessing the potential human health hazards of dioxin-contaminated soil. In: Exner, J. (ed.), *Solving Hazardous Waste Problems.* American Chemical Society, Washington, DC, pp. 178-213.

54) **Paustenbach, D.J.**, J.H. Clewell, III, M.L. Gargas, and M.E. Andersen. 1987. Development of a physiologically based pharmacokinetics model for multiday inhalation of carbon tetrachloride. In: Gillette, J.R. (ed.), *Pharmacokinetics in Risk Assessment, Vol. VIII: Drinking Water and Health*. NRC Press, Washington, DC, pp. 312-326.

55) **Paustenbach, D.J.** 1985. Biological rhythms, shiftwork, and occupational health. pp. 175–312. In: Cralley and Cralley (eds.), *Patty's Industrial Hygiene and Toxicology*, Vol. IIIB. John Wiley & Sons, New York, NY, pp. 175-312.

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Major Reports

1) ILSI (1996). Human Health Assessment and Life-cycle Assessment: Analysis by an Expert Panel. Panelists: T.A. Burke, J. Doull, T.E. McKone, **D.J. Paustenbach**, R. Scheuplein, H.A. Udo de Haes and J.L. Young. Health and Environmental Sciences Institute, International Life Sciences Institute, Washington, DC. Meeting was held on June 7-9, 1995.

2) NCRP Report No. 139 (2002). Risk-Based Classification of Radioactive and Hazardous Chemical Wastes. Scientific Committee 87-2 Members: A.G. Croff, M.J. Bell, **D.J. Paustenbach**, Y. Cohen, V.C. Rogers, L. C. Keifer, A. Wallo, III. and D.C. Kocher. National Council on Radiation Protection and Measurements, Bethesda, MD.

Presentations at Scientific Conferences

1) 2022 (March). Current Thoughts on Risk Assessment Methodologies Used to Assess the Carcinogenic Risk of N-Nitrosodimethylamine (NDMA) and N-Nitrosodiethylamine (NDEA). Poster Presentation at Society of Toxicology Annual Meeting. Abstract #3172. March 27-31, 2022. San Diego, CA.

2) 2022 (March). A Methodology for Estimating 4-ABP Dermal Intake via Contaminated Consumer Products. Poster Presentation at Society of Toxicology Annual Meeting. Abstract #3964. March 27-31, 2022. San Diego, CA.

3) 2022 (March). Historical Use of Laboratory Equipment as a Risk Factor for Mesothelioma: A Weight of Evidence Approach. Poster Presentation at Society of Toxicology Annual Meeting. Abstract #3908. March 27-31, 2022. San Diego, CA.

4) 2022 (March). An Analysis of Historical Workplace Exposures to Asbestos at US Steel Facilities (1972-2001). Poster Presentation at Society of Toxicology Annual Meeting. Abstract #3961. March 27-31, 2022. San Diego, CA.

5) 2021 (May) Presented a paper at the Annual Meeting at the American Industrial Hygiene Conference & Exposition (AIHce). The title was "Asbestos Exposure During Simulated Use of Synthetic Rubber Solution Duct Sealer." The conference was held virtually on May 10-13, 2021.

6) 2021 (April) Presented a paper at the Second Monticello conference in Virginia. A meeting of 40 internationally recognized experts who were brought together to discuss asbestos and EMP. The title was "Historical Dose-Response Curves for Asbestos used by Regulatory Agencies."

7) 2020 (December) Presented paper at the annual meeting of the Society for Risk Analysis (SRA). The title was "Major changes in the risk assessment profession over the past 30 years." The Conference was virtual and was held from Dec. 14-17, 2020.

8) 2019 (September). Presented a paper at the Conference on Scientific and Legal aspects of the talc litigation entitled "Areas of scientific disagreement regarding within the talc cases: Do they have merit? (Washington, DC).

9) 2019 (September). The costs of chasing increasingly lower soil clean-up levels vs. the likely return in benefits to public health. Discussed at the John Evans scientific conference and celebration of his contributions to risk analysis. Harvard University, Boston, MA

10) 2019 (March). Evaluating the Phototoxic Potential of a Hair Cleansing Conditioner. Accepted Poster Presentation at Society of Toxicology Annual Meeting, March 10-14, 2019, Baltimore, MD.

11) 2019 (March). A Tier-Based Skin Sensitization Testing Strategy for Personal Care Products. Accepted Poster Presentation at Society of Toxicology Annual Meeting, March 10-14, 2019, Baltimore, MD.

12) 2019 (March). An In Vitro Human Assay for Evaluating Immunogenic and Sensitization Potential of Personal Care and Cosmetic Products. Presentation at Society of Toxicology Annual Meeting, March 10-14, 2019, Baltimore, MD.

13) 2019 (March). Examination of the FDA Adverse Event Reporting System to Assess the Halo Effect and Potential Reporting Bias. Presentation at Society of Toxicology Annual Meeting, March 10-14, 2019, Baltimore, MD.

14) 2018 (May). Asbestos Fiber Transport from Facilities into the Community: Results of Field Studies. Presented at American Industrial Hygiene Conference & Exposition (AIHce), May 20-23, 2018, Philadelphia, PA.

15) 2018 (May). Take-home exposures following cutting cement pipe. Presented at American Industrial Hygiene Conference & Exposition (AIHce), May 20-23, 2018, Philadelphia, PA.

16) 2018 (May). Airborne Chrysotile and Crocidolite Exposure to Workers and Bystanders during Use of a Powered Abrasive Saw to Cut Asbestos-Containing Cement Pipe. Presented at American Industrial Hygiene Conference & Exposition (AIHce), May 20-23, 2018, Philadelphia, PA.

17) 2018 (March). Understanding Divergent Outcomes in MoM-THA Patient Populations with Well-Fixed Components: A Critical Appraisal of Patient Management Protocols and Revision Trends (2000-2017). Presented Society of Toxicology Annual Meeting, March 11-15, 2018, San Antonio, TX.

18) 2018 (March). Characterizing cytotoxic and inflammatory responses to metal-on-metal wear debris from normal versus edge-loading conditions. Presented at Society of Toxicology Annual Meeting, March 11-15, 2018, San Antonio, TX.

19) Hoang, M., E. Fung, D. Drechsel, K. Towle, C. Poteete, D. Paustenbach, and A. Monnot. Screening-level safety assessment of personal care product constituent safety using publicly available data. Society of Toxicology, March 11-15, 2018. San Antonio, TX.

20) 2017 (June). The 2014 Crude 4-Methylcyclohexanemethanol Chemical Release and Birth Outcomes in West Virginia. Poster presentation at Society of Epidemiologic Research, June 20-23, 2017, Seattle, WA.

21) 2017. (March). Estimating Asbestos Emissions from Former Industrial Sites and Estimating Resulting Airborne Concentrations in the Surrounding Community: A Review of Methodologies. Abstract # 3248. Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017, Baltimore, MD.

22) 2017 (March). Perineal Use of Cosmetic Talc as a Risk Factor for Ovarian Cancer: A Weight-of-Evidence Evaluation. Abstract # 1288. Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017, Baltimore, MD.

23) 2017 (March). Characteristics of Cobalt Related Cardiomyopathy in Metal Hip Implant Patients. Abstract # 2142. Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017, Baltimore, MD.

24) 2017 (March). Characterization of Wear Debris from Metal-on-Metal Hip Implants during Normal Wear versus Edge Loading Conditions. Abstract # 2143. Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017, Baltimore, MD.

25) 2017 (March). An Evaluation of Dermal Irritation Potential of Crude 4-methylcyclohexane methanol (MCHM) in Humans in 48-Hour Patch Tests. Abstract # 2950. Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017, Baltimore, MD.

26) 2016 (November). Health risk assessment of exposures to a high molecular weight plasticizer present in automobile interiors. Poster presentation at Society of Environmental Toxicology and Chemistry (SETAC), 37th Annual Meeting, November 6-10, 2016, Orlando, FL.

27) 2016 (May). Anthophyllite Asbestos: State of the Art Understanding of its Toxicological Properties. Podium Presentation at American Industrial Hygiene Conference & Exposition (AIHce) May 21-26, 2016, Baltimore, MD.

28) 2016 (March). Historical Ambient Airborne Asbestos Concentrations in the United States - An Analysis of Published and Unpublished Literature. Poster Presentation at Society of Toxicology Annual Meeting. Abstract #1690. March 13-17, 2016. New Orleans, LA.

29) 2016 (March). Flame-Retardants in Upholstered Furnishings: An Assessment of Health Risk and Fire-Related Deaths in the Era of California Technical Bulletin (TB-117). Poster Presentation at Society of Toxicology Annual Meeting. Abstract #2669. March 13-17, 2016. New Orleans, LA.

30) 2016 (March). Risks Associated with Arsenic Exposure Resulting from the Consumption of California Wines Sold in the United States. Poster Presentation at Society of Toxicology Annual Meeting. Abstract #1264. March 13-17, 2016. New Orleans, LA.

31) 2016 (March). Estimate of 4-Methylcyclohexanemethanol (MCHM) Exposure with Normal Use of Contaminated Water during the Elk River Spill. Poster Presentation at Society of Toxicology Annual Meeting. Abstract 1693. March 13-17, 2016. New Orleans, LA.

32) 2016 (March). QSAR Modeling Toxicity Predictions of the Constituents of Crude 4-Methylcyclohexanemethanol (MCHM) and Structurally Related Chemicals. Poster Presentation at Society of Toxicology Annual Meeting. Abstract #1445. March 13-17, 2016. New Orleans, LA.

33) 2015 (May). Characterization of Chrysotile Asbestos Fiber Removal Rates from Air. Presentation Number: SR-119-03. Podium presentation at the American Industrial Hygiene Conference & Expo (AIHce), May 30-June 4, 2015, Salt Lake City, UT.

34) 2015 (March). Toxicology Based Cancer Causation Analysis of CoCr-Containing Hip Implants: A Quantitative Assessment of Genotoxicity and Tumorigenicity Studies. Abstract Number: 2006.Poster presentation at the 54th Annual Meeting and Society of Toxicology (SOT) Meeting at the San Diego Convention Center, March 22-26, 2015, San Diego, CA.

35) 2014 (June). Impact of the Evolving Regulatory Environment on Industrial Hygiene. Presentation Number: RT205-04. Roundtable Session at The American Industrial Hygiene Conference & Exposition (AIHce) May 31 – June 5, 2014, at the Henry B. Gonzalez Convention Center (HBGCC), San Antonio, TX

36) 2014 (March). Age-Related Trends in US Pleural Mesothelioma and Soft Tissue Sarcoma Rates: Evidence for a Longevity Effect. Abstract Number: 225. Presented at Society of Toxicology 53rd Annual Meeting and ToxExpo, March 23-27, 2014, Phoenix, AZ.

37) 2014 (March). Nanoparticles from the Wear of Cobalt-Chromium Alloy Metal-on-Metal Hip Implants: Physicochemical and Dose Analysis of Patient and Toxicology Studies. Presented at Society of Toxicology 53rd Annual Meeting and ToxExpo, Phoenix, AZ; March 23-27, 2014. Abstract Number: 603j.

38) 2014 (March). Correlation of Blood Cr (III) and Adverse Health Effects: Application of PBPK Modeling to Determine Non-toxic Blood Concentrations. Presented at Society of Toxicology 53rd Annual Meeting and ToxExpo, Phoenix, AZ; March 23-27, 2014. Abstract Number: 2233.

39) 2014 (March). Evaluation of Four Alpha-Diketones for Toll-Like Receptor-4 (TLR-4) Activation in Human Embryonic Kidney Cells. Presented at Society of Toxicology 53rd Annual Meeting and ToxExpo, Phoenix, AZ; March 23-27, 2014. Abstract Number: 1610.

40) 2014 (March). A Refined Co Biokinetic Model Based on Human Data. Presented at Society of Toxicology 53rd Annual Meeting and ToxExpo, Phoenix, AZ; March 23-27, 2014. Abstract Number: 77.

41) 2013 (August). Pulmonary Obstruction among Workers at a Food Flavorings Manufacturing Facility. Poster presentation at The International Society of Exposure Science (ISES), Basel, Switzerland, August 19 - 23, 2013. Abstract ID: 5315.

42) 2013 (August). Occupational Exposures Measured in a Food Flavoring Manufacturing Facility. Poster presentation at The International Society of Exposure Science (ISES), Basel, Switzerland, August 19 - 23, 2013. Abstract ID: 5397.

43) 2013 (May). Evolution of Warnings and Labels on Encapsulated Asbestos-Containing Products (1930–1990). Session: Legal, Regulatory, Guidelines, Standards. Poster presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 21, 2013; 10:00 AM – 12:00 PM. Presentation Number: SR-403-08

44) 2013 (May). Historical Outdoor Airborne Asbestos Concentrations Associated with Emission Sources in the United States: A Review of Published and Unpublished Data. Session: Aerosols. Poster presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 20, 2013; 10:00 AM – 12:00 PM. Presentation Number: SR-401-03

45) 2013 (May). Measurement of Airborne Asbestos Fiber Settling Rates in a Simulation Study of Clothes Handling. Session: Exposure Assessment Strategies. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 20, 2013; 3:00 PM – 3:30 PM. Presentation Number: SR-108-04.

46) 2013 (May). Evaluation of Potential Para-Occupational Exposure to Chrysotile Asbestos during Laundering Activities through a SimulationStudy. Session: Exposure Assessment Strategies. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 20, 2013; 3:30 PM – 4:00 PM. Presentation Number: SR-108-05

47) 2013 (May). Exposure to Food Flavorings at a Manufacturing Facility. Session: IH General Practice. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 22, 2013; 2:00 PM – 2:30 PM. Presentation Number: SR-131-03.

48) 2013 (May). Pulmonary Restriction among Workers at a Food Flavoring Manufacturing Facility; A Follow Up Study. Session: Occupational and Environmental Epidemiology. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 23, 2013; 1:30 PM – 2:00 PM. Presentation Number: SR-146-03

49) 2013 (March). Cobalt Whole Blood Concentrations in Healthy Adult Volunteers Following Two-Weeks of Ingesting a Cobalt Supplement. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas, March 12, 2013. Safety Assessment: Non pharmaceuticals; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 1555/Poster Board 616.

50) 2013 (March). Airborne Diacetyl from Cooking and Consumption of Microwave Popcorn: Estimation of Consumer Exposure with a Two-zone Near-field/Far-field Model. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Exposure Assessment: New Characterizations, Methods, and Models; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 1268/Poster Board230.

51) 2013 (March). Method: Measuring Protein-Bound and Free Cobalt (II) in Human Serum - Size Exclusion Liquid Chromatography with ICP-MS. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Metals I; 9:00 A.M. to 12:30 P.M.; Exhibit Halls C&D. Abstract number 1168/Poster Board 620.

52) 2013 (March). Dose-response relationships for blood cobalt concentrations and associated health effects. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Metals II; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 1514/Poster Board 573.

53) 2013 (March). Cobalt blood concentrations and health effects in adult volunteers during a 90-day cobalt supplement ingestion study. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 14, 2013. Late-Breaking Abstract Session; 8:30 A.M. to 12:00 P.M.; Exhibit Hall A. Abstract number 2556/Poster Board 144.

54) 2013 (March). Lack of an Association between Cumulative Exposure to Diacetyl and Changes in Pulmonary Health among Workers at a Food Flavorings Manufacturer. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 11, 2013. Epidemiology: Exposures and Associations; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 478/Poster Board 253.

55) 2013 (March). Speciation of Chromium Released from Metal-on-Metal Hip Implants. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Metals I; 9:00 A.M. to 12:30 P.M.; Exhibit Halls C&D. Abstract number 1166/Poster Board 618.

56) 2013 (March). Effects of Cobalt Dietary Supplementation on Cobalt Body Burden, Steady-State Levels and Selected Biochemical Parameters. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 14, 2013. Late-Breaking Abstract Session; 8:30 A.M. to 12:00 P.M.: Exhibit Hall A. Abstract number 2555/Poster Board 143.

57) 2012 (December). Evaluation of Chrysotile Fiber Adherence to Clothing Exposed to Known Airborne Asbestos Concentrations Before and After Handling and Shaking Out of the Clothing. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

58) 2012 (December). Derivation of a Chronic Oral Reference Dose for Cobalt. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

59) 2012 (December). Evaluation of Potential Take Home Exposure during Laundering Activities: A Simulation Study of Airborne Chrysotile Concentrations Associated with Handling Clothing Exposed to Known Levels of Airborne Asbestos. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

60) 2012 (December). Investigation of Cobalt Steady-State Levels in Five Healthy Adult Volunteers Taking 14-Days of a Cobalt Supplement. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

61) 2012 (October). Evaluation of Potential Take Home Exposure during Laundering Activities: A Simulation Study of Airborne Chrysotile Concentrations Associated with Handling Clothing Exposed to Known Levels of Airborne Asbestos. Presenting at the 2012 International Society of Exposure Science conference, Seattle WA: October 28-Nov 1, 2012.

62) 2012 (October). Evaluation of Chrysotile Fiber Adherence to Clothing Exposed to Known Airborne Asbestos Concentrations Before and After Handling and Shaking Out of the Clothing. Presenting at the 2012 International Society of Exposure Science conference, Seattle WA: October 28-Nov 1, 2012.

63) 2012 (June). Comparing Pulmonary Function Data in Flavorings Manufacturing Workers. Presented at the 45th Society for Epidemiological Research (SER) Annual Meeting. June 27 - 30, 2012, in Minneapolis, MN.

64) 2012 (June). Analysis and Modeling of Airborne BTEX Concentrations from the Deepwater Horizon Oil Spill. To be presented at the "Assessing Exposure During Disaster Response: The Gulf Oil Spill Experience" roundtable. Presented at 2012 American Industrial Hygiene Conference & Expo (AIHce), June 16-21, 2012, in Indianapolis, IN.

65) 2012 (March). Is dermal sensitization for 1,2-benzisothiazolin-3-one [BIT] in consumer products a cause for concern? Presented at Society of Toxicology's (SOT) 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California. March 12, 2012. Safety Evaluation: Nonpharmaceuticals; 9:30 AM - 12:30 PM; Exhibit Hall; 273 Poster Board -360.

66) 2012 (March). An Analysis of Historical Exposures of Pressmen to Airborne Benzene (1930s to 2006). Presented at Society of Toxicology's (SOT) 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California. March 14, 2012. Exposure Assessment: Case-Specific Characterizations; 9:00 AM - 12:30 PM; Exhibit Hall; 2106 Poster Board -530.

67) 2012 (March). Derivation of LOAEL and NOAEL for Tremolite Asbestos. Presented at Society of Toxicology's (SOT) 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California. March 14, 2012. Exposure Assessment: Case-Specific Characterizations; 9:00 AM - 12:30 PM; Exhibit Hall; 2114 Poster Board -538.

68) 2012 (March). Tremolite Asbestos Exposures Associated with the Use of Commercial Products. Presented at Society of Toxicology's (SOT) 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California. March 14, 2012. Exposure Assessment: Case-Specific Characterizations; 9:00 AM - 12:30 PM; Exhibit Hall; 2115 Poster Board -539.

69) 2012 (March). Human PBPK Modeling of Benzene Inhalation Based Chinese Worker Urinary Metabolite Data: Comparison of Human and Mouse Metabolism. Presented at Society of Toxicology's (SOT) 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California. March 14, 2012. Disposition and Pharmacokinetics; 9:00 AM - 12:30 PM; Exhibit Hall; 1893 Poster Board -226.

70) 2011 (October). Evaluation of Para-Occupational Exposures to Asbestos: A Review of the Literature (1900-Present). Presented at the 21st Annual ISES Conference. Advancing Exposure Science for Environmental Health. October 23 - 27, 2011. Baltimore, Maryland.

71) 2011 (October). Government and Navy knowledge regarding health hazards of asbestos: A state of the science evaluation (1900 to 1970). Presented at the 21st Annual ISES Conference. Advancing Exposure Science for Environmental Health. October 23 - 27, 2011. Baltimore, Maryland.

72) 2011 (October). Airborne Concentrations of Metals and Total Dust during Solid Catalyst Loading and Unloading Operations at a Petroleum Refinery. Presented at the 21st Annual ISES Conference. Advancing Exposure Science for Environmental Health. October 23 - 27, 2011. Baltimore, Maryland.

73) 2011 (May). Analysis of Historical Industrial Hygiene Data: A Case Study Involving Benzene Exposures at a Petrochemical Manufacturing Facility (1974-1999). Presentation at American Industrial Hygiene Conference and Expo (AIHce), May 14 – May 19, 2011, Portland, Oregon.

74) 2011 (May). Exposure Reconstruction in Occupational Human Health Risk Assessment: Current Methods and a Recommended Framework. Presented at American Industrial Hygiene Conference and Expo (AIHce), May 14 – May 19, 2011, Portland, Oregon.

75) 2011 (May). The Role of Exposure Reconstruction in Occupational Human Health Risk Assessment: Current Methods and a Recommended Framework. Presented at American Industrial Hygiene Conference and Expo (AIHce), May 14 – May 19, 2011, Portland, Oregon.

76) 2011 (May). Determinants of Deathly Carbon Monoxide Exposure inside a Recreational Vehicle. Presented at American Industrial Hygiene Conference and Expo (AIHce), May 14 – May 19, 2011, Portland, Oregon.

77) 2011 (April). Putting on the brakes or stepping on the gas? The future of automotive asbestos litigation. Presented at the 2011 American Bar Association meeting on Emerging Issues in Motor Vehicle Product Liability Litigation meeting. March 30-April 1, 2011, Phoenix, AZ.

78) 2011 (March). Product sustainability: The role of chemical watch lists in chemical deselection from products manufacturing processes. Presented at the Society of Toxicology (SOT) Annual Meeting, Thursday, March 10, 2011. 8:30 AM to 12:00 Noon. Washington, D.C.

79) 2011 (March). A Case Control Study of Chronic Myelomonocytic Leukemia in Shanghai, China. Presented at the Society of Toxicology (SOT) Annual Meeting, Tuesday, March 8, 2011. 9:00 AM to 12:30 PM. Abstract #1210, Poster Board #713. Washington, D.C. (Epidemiology and Exposure Evaluations)

80) 2011 (March). Evaluation of Airborne Toxicant Concentrations from the Deepwater Horizon Oil Spill. Presented at the Society of Toxicology (SOT) Annual Meeting, Tuesday, March 8, 2011. 9:00 AM to 12:30 PM. Abstract #1262, Poster Board #834. Washington, D.C. (Exposure Assessments and Biomonitoring Applications)

81) 2011 (March). Reverse Causation of Dioxin Dose-Response Trends for Risk of Diabetes Mellitus Type 2 Among Operation Ranch Hand Vietnam Veterans. Presented at the Society of Toxicology (SOT) Annual Meeting, Wednesday, March 9, 2011. 1:00 PM to 4:30 PM. Abstract #2255, Poster Board #359. Washington, D.C. [Persistent Organic Compounds (POPs)]

82) 2011 (March). An assessment of the bioavailability of cadmium in thin-film PV modules. Presented at the Society of Toxicology (SOT) Annual Meeting, Thursday March 10, 2011. 8:30 AM – 12:00 PM. Abstract #2909, Poster Board #155. Exhibit Hall, Convention Center. Washington, D.C. (Grace Period Abstracts - Session IV)

83) 2010 (December). Final Results of CDC's Los Alamos Historical Document Retrieval and Assessment (LAHDRA) project. Presented at the Society for Risk Analysis (SRA) Annual Meeting, Wednesday December 8, 2010. Abstract #M3-E.5. Salt Lake City, UT.

84) 2010 (December). Estimating the airborne concentrations of benzene and other relevant volatiles in boats operating in or near oil spills: A comparison between the Exxon-Valdez and Deepwater Horizon incidents. Presented at the Society for Risk Analysis (SRA) Annual Meeting, Wednesday December 8, 2010. Abstract #W3-E.1. Salt Lake City, UT.

85) 2010 (December). Reflections on the role of risk assessment at OSHA over the 40-year journey: has it been a big disappointment? Presented at the Society for Risk Analysis (SRA) Annual Meeting, Wednesday December 8, 2010. Abstract #M3-A.4.

86) 2010 (November). Possible risks associated with coalbed methane-produced water. Presented at the Society of Environmental Toxicology and Chemistry (SETAC) North America 31st Annual Meeting; Monday November 8th, 2010. Abstract #MP235. Portland, OR.

87) 2010 (May). Task-based analysis of benzene air concentrations associated with refinery operations. American Industrial Hygiene Conference & Exposition, May 22 to May 27, 2010. Podium presentation in Hazardous Occupational Exposures – Case Studies session, May 24, 2010. Denver, CO.

88) 2010 (March). Job-based analysis of benzene air concentrations associated with refinery operations. Poster presentation at The Society of Toxicology's Annual Meeting. # 1851 PB 406. March 7 – 11, 2010. Salt Lake City, UT.

89) 2010 (March). Gasoline: Unappreciated villain or unwarranted suspect? Poster presentation at The Society of Toxicology's Annual Meeting. # 124 PB 206. March 7-11, 2010. Salt Lake City, UT.

90) 2010 (April). Reflections on thirty years in chemical risk assessment… and thoughts about the next ten years. Presented at the Conference on Environmental Decisions: Risks and Uncertainties – Switzerland. April 25-29, 2010, Centro Stefano Franscini, Monte Verità, Switzerland.

91) 2009 (September). Gasoline: A complex chemical mixture or a dangerous vehicle for benzene exposure. Presented at Benzene 2009: Health Effects and Mechanisms of Bone Marrow Toxicity Implications for t-AML and the Mode of Action Framework, September 7-11, 2009, Munich, Germany.

92) 2009 (September). Job and task-based analysis of benzene air concentrations associated with refinery operations. Presented at Benzene 2009: Health Effects and Mechanisms of Bone Marrow Toxicity Implications for t-AML and the Mode of Action Framework, September 7-11, 2009, Munich, Germany.

93) 2009 (September). Comparison of modeled and measured concentrations of airborne benzene from the use of petroleum-based solvents spiked with low levels of benzene. Presented at Benzene 2009: Health Effects and Mechanisms of Bone MarrowToxicity Implications for t-AML and the Mode of Action Framework, September 7-11, 2009, Munich, Germany.

94) 2009 (August). Distribution of polychlorinated biphenyl concentrations inwild-caught and farm-raised shrimp by geographic region. Presented at the 29th International Symposium on Halogenated Persistent Organic Pollutants, August 23-28, 2009, Beijing, China.

95) 2009 (August). Concentrations of polychlorinated biphenyls in seafood products from the U.S. retail market. Presented at the 29th International Symposium on Halogenated Persistent Organic Pollutants, August 23-28, 2009, Beijing, China.

96) 2009 (August). An investigation of wild-caught and farm-raised shrimp samples with high concentrations of polychlorinated biphenyls. Presented at the 29th International Symposium on Halogenated Persistent Organic Pollutants, August 23-28, 2009, Beijing, China.

97) 2009 (March). Toxicogenetics and toxicogenomics – Science fiction or the future of toxic torts? Presented at the Defense Research Institute's Toxic Torts and Environmental Law Seminar, March 19-20, 2009, Phoenix, AZ.

98) 2009 (March). Meddling with science – Is scientific research manipulated for purposes of litigation or regulation? Presented at the Defense Research Institute's Toxic Torts and Environmental Law Seminar, March 19-20, 2009, Phoenix, AZ.

99) 2009 (March). Potential for occupational exposures of hairdressers to vinyl chloridein hairspray (1967-1974). Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Baltimore, MD.

100) 2009 (March). Mechanic and bystander chrysotile exposures during heavy equipment brake removal. Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Baltimore, MD.

101) 2009 (March). Lead testing wipes contain measurable background levels of lead. Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Baltimore, MD.

102) 2009 (March). PBPK Modeling of benzene metabolites in bone marrow of humans with varied workplace exposure patterns and CYP2E1 activity. Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Baltimore, MD.

103) 2009 (January). Reflections on the future practice of occupational hygiene. Presented at the YUMA Industrial Hygiene Meeting, January 21-23, 2009, San Diego, CA.

104) 2008 (October). A review of historical ambient airborne asbestos concentrations in cities and buildings: 1950s to the present day. Abstract 1274. Presented at the Annual International Society of Exposure Analysis Conference, October 12-16, 2008. Pasadena, CA.

105) 2008 (October). Evaluation of bystander exposure to asbestos: Review of the literature (1950s – present). Abstract 1011. Presented at the Annual International Society of Exposure Analysis Conference, October 12-16, 2008. Pasadena, CA.

106) 2008 (October). Potential occupational exposures of hairdressers to vinyl chloride in hairspray (1962-1973). Abstract 1150. Presented at the Annual International Society of Exposure Analysis Conference, October 12-16, 2008. Pasadena, CA.

107) 2008 (October). Conducting risk assessments of chemicals in consumer products. Abstract 922. Presented at the Annual International Society of Exposure Analysis Conference, October 12-16, 2008. Pasadena, CA.

108) 2008 (October). Benzene exposure in refinery workers (1976-2006). Abstract 864. Presented at the Annual International Society of Exposure Analysis Conference, October 12-16, 2008. Pasadena, CA.

109) 2008 (August). Principal components analysis (PCA) of PBDE concentrations in fish tissue from southern Mississippi. Presented at the 28th International Symposium on Halogenated Persistent Organic Pollutants (POPs) – Dioxin Conference, August 17-22, 2008. Birmingham, England, UK.

110) 2008 (August). Analysis of fish tissue concentrations of dioxins and furans using principal components analysis (PCA). Presented at the 28th International Symposium on Halogenated Persistent Organic Pollutants (POPs) – Dioxin Conference, August 17-22, 2008. Birmingham, England, UK.

111) 2008 (June). Comparing equal delivered doses of airborne benzene for 8 hr/day steady exposure vs. peak exposure regiments using a PBPK model. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Minneapolis, MN.

112) 2008 (June). Comparison of modeled and measured concentrations of airborne benzene from the use of petroleum-based solvents spiked with low levels of benzene. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Minneapolis, MN.

113) 2008 (June). Validation of two different exposure models using the results of a simulation study involving exposures to methanol vapors during the cleaning of semiconductor wafers. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Minneapolis, MN.

114) 2008 (June). Benzene exposure in refinery workers: Baytown, TX (1978-2006). Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Minneapolis, MN.

115) 2008 (June). Residential and occupational indoor surface dust criteria for and PAHs and PCDD/PCDF. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Minneapolis, MN.

116) 2008 (June). Analysis of historical air monitoring data for copper beryllium at a manufacturing plant (1964-2000). Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Minneapolis, MN.

117) 2008 (June). Groundwater vapor intrusion into a school – modeled concentrations vs. monitoring results. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Minneapolis, MN.

118) 2008 (March). Assessment of the health risks posed by benzene in certain soft drinks. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Seattle, WA.

119) 2008 (March). The importance of asbestos fiber length as a predictor of potency for asbestos-related disease. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Seattle, WA.

120) 2008 (March). Occupational exposure to benzene the ExxonMobil refinery in Joliet, Illinois (1977-2006). Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Seattle, WA.

121) 2008 (March). A study of airborne chrysotile concentrations associated with handling, unpacking, and repacking boxes of automobile clutch discs (circa 1950-1980). Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Seattle, WA.

122) 2008 (March). Detailed asbestos fiber size and morphology analyses of automobile clutch discs, brake pads, and brake shoes. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Seattle, WA.

123) 2008 (March). Cancer mortality in Chinese populations surrounding an alloy plant with chromium smelting operations (1960-1978). Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Seattle, WA.

124) 2008 (March). The possible community health hazards posed by emissions from automobile traffic tunnels: A review of the literature. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Seattle, WA.

125) 2008 (April). Lessons learned after 10 years of brake dust litigation. Presented paper at American Bar Association. Biltmore Hotel, Phoenix, Arizona.

126) 2007 (December). Keynote speaker at the annual national meeting of the Australian Institute of Occupational Hygiene (AIOH). Held in Melbourne, Australia.

127) 2007 (October). Exposure to chrysotile asbestos associated with handling, unpacking, and repacking boxes of automobile clutch discs. Presented at the 17th Annual Conference of the International Society of Exposure Analysis, October 14-18, 2007. Durham/Research Triangle Park, NC.

128) 2007 (October). Residential area development and potential for public exposures around the Manhattan Project and early AEC sites. Presented at the 17th Annual Conference of the International Society of Exposure Analysis, October 14-18, 2007. Durham/Research Triangle Park, NC.

129) 2007 (October). Factors influencing the development of warnings on regulated and non-regulated consumer products. Presented at the 17th Annual Conference of the International Society of Exposure Analysis, October 14-18, 2007. Durham/Research Triangle Park, NC.

130) 2007 (September). Chair for session regarding the study of soils in Midland, Michigan. 30th International Dioxin Meeting, Sept. 4-8. Tokyo, Japan.

131) 2007 (July). A review of the world's first test of a nuclear device (Trinity Site, July 16, 1945) and potential radiation exposures to residents of New Mexico. Presented at the 52nd Annual Meeting of the Health Physics Society, July 8-12, 2007. Portland, OR.

132) 2007 (July). A review of residential areas developed around Manhattan Project and early AEC sites and potential pathways for public exposures. Presented at the 52nd Annual Meeting of the Health Physics Society, July 8-12, 2007. Portland, OR.

133) 2007 (March). Meta-analysis of asbestos-related disease among skilled craftsmen in various occupational settings. Presented at the Society of Toxicology (SOT), March 25-29, 2007. Charlotte, NC.

134) 2007 (March). Development of PCDD/F and dioxin-like PCB serum concentration reference values for the general U.S. population using the 2005-WHO TEFs and the 2001-2002 NHANES data. Presented at the Society of Toxicology (SOT), March 25-29, 2007. Charlotte, NC.

135) 2007 (March). Assessment of potential human health risks posed by benzene in a commercial beverage. Presented at the Society of Toxicology (SOT), March 25-29, 2007. Charlotte, NC.

136) 2007 (March). Dietary intake of PBDEs based on consumption of catfish in Southern Mississippi. Presented at the Society of Toxicology (SOT), March 25-29, 2007. Charlotte, NC.

137) 2007 (March). Occupational exposures associated with petroleum-derived solvents containing trace levels of benzene. Presented at the Society of Toxicology (SOT), March 25-29, 2007. Charlotte, NC.

138) 2007 (February). Role of practice of industrial hygiene. Presented at the NASA Ames Research Center, February 14, 2007. Mountain View, CA.

139) 2006 (September). Evaluation of bricklayer exposures to airborne asbestos in steel mills (1972-1981). Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 5-6, 2006. Paris, France.

140) 2006 (September). Background concentrations of airborne asbestos onboard maritime shipping vessels (1978-1992). Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 2-6, 2006. Paris, France.

141) 2006 (September). Assessment of the beryllium lymphocyte proliferation test: Lessons learned from a long-term occupational surveillance program. Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 5-6, 2006. Paris, France.

142) 2006 (September). Retrospective exposure assessment of asbestos related to skilled craftsmen at a petroleum refinery in Beaumont, Texas (1940-2005). Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 4, 2006. Paris, France.

143) 2006 (September). The challenge of setting Occupational Exposure Limits (OELs) for odorants and irritants. Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 4, 2006. Paris, France.

144) 2006 (September). Airborne concentrations of benzene associated with the historical use of Liquid Wrench. Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 4, 2006. Paris, France.

145) 2006 (September). Factors affecting the bioaccessibility and bioavailability of hexavalent chromium and dioxin contaminants in soil, and their relative risk assessment. Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 4, 2006. Paris, France.

146) 2006 (September). Reliability of spot urine samples. Poster Session I. Presented at the International Conference on Environmental Epidemiology and Exposure (ISEE/ISEA), September 3-4, 2006. Paris, France.

147) 2006 (August). Development of PCDD/F TEQ serum reference values for the U.S. Population for use in evaluating biomonitoring results. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

148) 2006 (August). Comparing polychlorinated biphenyls in farm-raised and wild-caught catfish from Southern Mississippi. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

149) 2006 (August). Polybrominated diphenyl ethers in southern Mississippi catfish. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

150) 2006 (August). Are dioxin body burdens surrogates for other risk factors in associations between dioxin and diabetes? Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

151) 2006 (August). Comparing PCDDs, PCDFs, and dioxin-like PCBs in farm-raised and wild-caught catfish from Southern Mississippi. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 23, 2006. Oslo, Norway.

152) 2006 (May). Reconstruction of exposure of skilled craftsmen to asbestos at the Beaumont, Texas Refinery (1946-2004). Presented at the American Industrial Hygiene Conference & Expo (AIHce), May 13-18, 2006. Chicago, IL.

153) 2006 (May). Reconstruction of benzene exposures during the simulated use of a penetrating and de-rusting agent. Presented at the American Industrial Hygiene Conference & Expo (AIHce), May 13-18, 2006. Chicago, IL.

154) 2006 (May). Assessment of exposure-response patterns for beryllium sensitization and chronic beryllium disease. Presented at the American Industrial Hygiene Conference & Expo (AIHce), May 13-18, 2006. Chicago, IL.

155) 2006 (May). Total phenol and t,t-muconic acid as biomarkers for individual exposure to benzene: evidence of high background concentrations in some persons. Invited presentation at the AIHce & Vent Conference, May 13-18, 2006. Chicago, IL.

156) 2006 (March). DNA-protein crosslinks as a potential biomonitor of hexavalent chromium exposure in rainbow trout. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

157) 2006 (March). An integrated toxicokinetic model for estimating childhood body burdens of dioxins based on various studies. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

158) 2006 (March). Implications of age-dependent half-lives of dioxins on assessment of breast milk dose and body burden. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

159) 2006 (March). Dioxin and diabetes: Does the current weight of evidence demonstrate a relationship? Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

160) 2006 (March). Persistence of DNA-protein crosslinks in erythrocytes of channel catfish after acute hexavalent chromium exposure. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

161) 2006 (March). Beryllium exposure and the prevalence of chronic beryllium disease and beryllium sensitization. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

162) 2006 (March). High background levels of urinary benzene metabolites found in volunteer study. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

163) 2006 (March). Evaluation of PCDD/F and dioxin-like PCB serum concentration data from the 2001-2002 National Health and Nutrition Survey in the United States. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

164) 2006 (March). Reconstruction of benzene exposures during the simulated use of a penetrating and de-rusting agent. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

165) 2006 (March). Reconstruction of exposure of skilled craftsmen to asbestos at the Beaumont, Texas Refinery (1946-2004). Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

166) 2006 (March). Hormesis: A challenge to the linear dose-response model, and its implications in risk assessment, regulatory policy, and biomedical research. Presentation at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

167) 2005 (November). Exposures associated with tasks performed on marine vessels. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

168) 2005 (November). A historical review of asbestos exposures among skilled craftsmen. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

169) 2005 (November). Exposure and the prevalence of chronic beryllium disease and beryllium sensitization. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

170) 2005 (November). Estimation of inhalation exposures to the OFF! Mosquito Coil III following indoor use. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

171) 2005 (November). Airborne benzene exposure of mechanics and gasoline service station attendants. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

172) 2005 (September). Incorporating hormesis into the risk assessment paradigm. 9th International Conference on Environmental Mutagens & 36th Annual Meeting of the Environmental Mutagen Society, September 3-8, 2005. San Francisco, CA.

173) 2005 (August). Age and concentration-dependent TCDD elimination half-life in Seveso children. 25th International Symposium on Halogenated Environmental Organic Pollutants and POPs, 20th International Symposium on Polycyclic Aromatic Compounds, August 21-26, 2005. Toronto, Canada.

174) 2005 (August). Age and concentration-dependent elimination half-lives of chlorinated dibenzofurans in Yusho and Yucheng patients. 25th International Symposium on Halogenated Environmental Organic Pollutants and POPs, 20th International Symposium on Polycyclic Aromatic Compounds, August 21-26, 2005. Toronto, Canada.

175) 2005 (August). Identifying a soil clean-up criteria for dioxin in residential soils: How has 20 years of research and risk assessment experience impacted the analysis? 25th International Symposium on Halogenated Environmental Organic Pollutants and POPs, 20th International Symposium on Polycyclic Aromatic Compounds, August 21-26, 2005. Toronto, Canada.

176) 2005 (August). Retrospective modeling of potential residential exposure to perfluorooctanic acid (PFOA) releases from a manufacturing facility. First International Symposium on Fluorinated Alkyl Organics in the Environment, August 18-20, 2005. Toronto, Canada.

177) 2005 (May). Introductory lecture on "Recent trends in asbestos research: The old is like the new." Annual meeting of the American Industrial Hygiene Association. May 24. Anaheim, CA.

178) 2005 (March). Updating exposure limits: How to preserve the future of the industrial hygiene profession. Presentation at Organization for Resource Councilors Annual Scientific Conference, California Section. Napa, CA.

179) 2005 (March). An age-dependent half-life model for estimating childhood body burdens of dibenzodioxins and dibenzofurans. Presentation at the Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

180) 2005 (March). Chrysotile asbestos exposure associated with removal of automobile exhaust systems (Circa 1946-1970). Presentation at the Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

181) 2005 (March). Exposure reconstruction of historical airborne benzene concentrations: Case study of a deck crewman on board crude oil and chemical tankers. Presentation at the Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

182) 2005 (March). Current regulatory and scientific views regarding chemical hazards to children. Presentation at the Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

183) 2004 (December). Evaluating asbestos exposures associated with vehicle brake cleaning and machining activities using short-term and TWA measurements. Annual Meeting of Society for Risk Analysis (SRA), Conference, December 5-8, 2004. Palm springs, CA.

184) 2004 (December). Cumulative occupational asbestos exposures of U.S. brake repair mechanics. Society for Risk Analysis 2004 Conference, December 5-8, 2004. Palm springs, CA.

185) 2004 (December). Session rappatour for one day meeting on European Exposure Assessment Toolbox. Society for Risk Analysis (SRA) 2—4 Conference, December 5-8, 2004. Palm Springs, CA

186) 2004 (December). An evaluation of the Toxic Equivalency Factor (TEF) for 2,3,4,7,8-PCDF (4-PCDF) using data from the recent NTP dioxin bioassays. Society for Risk Analysis 2004 Conference, December 5-8, 2004. Palm springs, CA.

187) 2004 (October). A review of recent surface dust sampling methodologies and their usefulness for exposure assessment of residences. International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

188) 2004 (October). Analysis of endogenous and exogenous sources of acetone exposure in children. International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

189) 2004 (October). Chrysotile asbestos exposure associated with removal of automobile exhaust systems (Circa 1950-1974): Preliminary Findings of a Simulation Study. International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

190) 2004 (October). Occupational exposure to airborne asbestos during installation and removal of asbestos-containing gaskets and packings: A Review and interpretation of published and unpublished studies. International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

191) 2004 (October). An evaluation of historical exposure to airborne asbestos by bystanders and workers during the installation and removal of gaskets and packing (1982-1991). International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

192) 2004 (September). An approach to calculating childhood body burdens of dioxin using age-dependent half-lives. International Dioxin Meeting. September 6-10, 2004. Berlin, Germany.

193) 2004 (September). Surface dust criteria for dioxin and dioxin-like compounds for re-entry to buildings. International Dioxin Meeting. September 6-10, 2004. Berlin, Germany.

194) 2004 (July). 32nd Annual IADC Trial Academy. Featured expert witness. July 30-August 7, 2004. Stanford Law School. Palo Alto, California.

195) 2004 (June). Reflections on twenty years in risk assessment: Lessons learned and how they relate to incorporating hormesis or non-linearity into the risk assessment paradigm. Presentation at the University of Massachusetts Conference on Non-Linearity, June 8, 2004. Amherst, MA.

196) 2004 (June). Our future is tied to updating exposure limits. Presentation at American Industrial Hygiene Association, Northern California Section meeting, June 2, 2004. Oakland, CA.

197) 2004 (May). Converting exposure to absorbed dose: An evolving field. Lecture in graduate course at Stanford University, May 26, 2004. Palo Alto, CA.

198) 2004 (March). Occupational exposure to airborne chrysotile asbestos during use and removal of mastics, coating, and adhesives (circa 1940's-present day) (with F. Mowat, and M. Bono). Presentation at the Society of Toxicology's 43rd Annual Meeting, March 22-25, 2004. Baltimore, MD.

199) 2004 (March). Reentry criteria for dioxin and dioxin-like compounds for building surfaces (with J. Greene and G. Brorby). Presentation at the Society of Toxicology's 43rd Annual Meeting, March 22-25, 2004. Baltimore, MD.

200) 2004 (March). Consideration relevant to constructing a human PBPK model for Perfluorooactanoic Acid (PFOA) (with G. Jepson). Presentation at the Society of Toxicology's 43rd Annual Meeting, March 22-25, 2004. Baltimore, MD.

201) 2004 (March). Dose reconstruction and exposure simulation studies: Their role in litigation. Presentation at the Defense Research Institute's Toxic Tort and Environmental Law Seminar, March 18-19, 2004. New Orleans, LA.

202) 2004 (January). Dose reconstruction and dose simulation: its current and future role in forensic toxicology and epidemiology. Lecture at University of California at Irvine, January 27, 2004. Irvine, CA.

203) 2004 (January). Dose reconstruction and dose simulation: its current and future role in forensic toxicology and epidemiology. Presentation at University of Michigan School of Public Health, January 16, 2004. Ann Arbor, MI.

204) 2003 (December). Environmental and occupational health hazards associated with the presence of asbestos in brake linings and pads (1900 to present) (with G. Brorby and B. Finley). Presentation at the Society for Risk Analysis Annual Meeting, December 7-10, 2003. Baltimore, MD.

205) 2003 (December). Residential exposures to elemental mercury due to releases from the removal of gas pressure regulators (with P. Williams, G. Brorby and P. Sheehan). Presentation at the Society for Risk Analysis Annual Meeting, December 7-10, 2003. Baltimore, MD.

206) 2003 (December). Evaluating occupational exposures to benzene at an industrial chemical plant (with P. Williams). Presentation at the Society for Risk Analysis Annual Meeting, December 7-10, 2003. Baltimore, MD.

207) 2003 (December). An evaluation of historical exposures of mechanics to asbestos from brake repair (with R. Richter and P. Sheehan). Presentation at the Society for Risk Analysis Annual Meeting, December 7-10, 2003. Baltimore, MD.

208) 2003 (September). The evolution of dose reconstruction analyses over time (with P. Williams). Presentation at the International Society of Exposure Analysis Annual Conference, September 21-25, 2003. Stresa, Italy.

209) 2003 (September). Elemental mercury releases associated with the removal of gas pressure regulators in homes (with P. Williams, G. Brorby, and P. Sheehan). Presentation at the International Society of Exposure Analysis Annual Conference, September 21-25, 2003. Stresa, Italy.

210) 2003 (September). Characterizing benzene air concentrations at an industrial chemical plant (with P. Williams). Presentation at the International Society of Exposure Analysis Annual Conference, September 21-25, 2003. Stresa, Italy.

211) 2003 (September). How the industrial hygiene profession can update the Occupational Exposure Limits. Invited speaker. Professional Conference on Industrial Hygiene, September 14, 2003. Palm springs, CA.

212) 2003 (August). Exposure of infants and children in the U.S. to the flame retardant decabromodiphenyl oxide (DBDPO). Presentation at Dioxin 2003, 23rd International Symposium on Halogenated Organic & Persistent Organic Pollutants, August 24-29, 2003. Boston, Massachusetts.

213) 2003 (March). Refining the PBPK model for chromium (VI) in humans (with S. Hays and D. Proctor). Presentation at the Society of Toxicology 42nd Annual Meeting, March 9-13, 2003. Salt Lake City, Utah.

214) 2003 (March). Evaluating the threat of chemical and biological warfare via mail or drinking water delivery systems (with B. Murphy). Presentation at the Society of Toxicology 42nd Annual Meeting, March 9-13, 2003. Salt Lake City, Utah.

215) 2003 (March). Assessing the hazard to children of low-level environmental exposures. Presentation at the Society of Toxicology 42nd Annual Meeting, March 9-13, 2003. Salt Lake City, Utah.

216) 2003 (March). Estimated children's exposure to decabromodiphenyl oxide in the U.S. Presentation at the Society of Toxicology 42nd Annual Meeting, March 9-13, 2003. Salt Lake City, Utah.

217) 2002 (December). Historical overview of dose reconstruction analysis and general methodology. Presentation at the Society for Risk Analysis Annual Conference, December 9-11, 2002. New Orleans, Louisiana.

218) 2002 (December). Overview of children's exposure to environmental toxicants (with P.R.D. Williams). Presentation at the Society for Risk Analysis Annual Conference, December 9-11, 2002. New Orleans, Louisiana.

219) 2002 (December). Benzene Exposure Reconstruction for the Pliofilm Cohort (1936-1976) Using Monte Carlo Techniques (with P.R.D. Williams). Presentation at the Society for Risk Analysis Annual Conference, December 9-11, 2002. New Orleans, Louisiana.

220) 2002 (October). Conducted short course at the International Conference on Contaminated Soils, Sediments and Water entitled "Recent Advances in the Practice of Risk Assessment" (with A. Madl and R. DeMott). October 21-24, 2002. Amherst, MA.

221) 2002 (September). Dose Reconstruction in the Occupational Setting (with P. Williams and A. Madl). 17th Annual Professional Conference on Industrial Hygiene (PCIH). Title of conference: Thriving in Unpredictable Times. September 28-October 1, 2002. Cincinnati, OH.

222) 2002 (August). Estimating historical benzene exposures (1936-1976) among rubber hydrochloride (Pliofilm) workers using probabilistic modeling techniques. (with Williams, P.R.D. and J. Warmerdam) International Society of Exposure Analysis Annual Conference, August 12-15, 2002. Vancouver, British Columbia.

223) 2002 (June). Evaluation of elemental mercury releases associated with the removal of gas pressure regulators in homes. (with Williams, P.R.D., P. Sheehan, and G. Brorby) American Industrial Hygiene Association Conference & Expo, June 3-6, 2002. San Diego, CA.

224) 2002 (June). Probabilistic exposure assessment of benzene for rubber hydrochloride (Pliofilm) workers (1936-1976). (With P. Williams) American Industrial Hygiene Association Conference & Expo, June 3-6, 2002. San Diego, CA.

225) 2002 (May). Applying Risk Assessment Principals to Chemical and Biological Terrorism: An Overview Plus Two Case Studies. NorCal SRA (Society of Risk Assessment) and NorCal SOT (Society of Toxicology) Title of conference: Chemical and biological terrorism: the role of risk assessment. May 22, 2002. Berkeley CA.

226) 2002 (March). Lung cancer mortality among workers exposed to airborne hexavalent chromium. (With D.M. Proctor). 41st Annual Meeting of Society of Toxicology, March 17-21, 2002. Nashville, TN.

227) 2002 (March). Dose-response assessment for lung cancer mortality of an occupational cohort exposed to airborne hexavalent chromium. (With D. M. Proctor). 41st Annual Meeting of Society of Toxicology, March 17-21, 2002. Nashville, TN.

228) 2002 (March). Lung cancer mortality among workers exposed to airborne hexavalent chromium (with D. M. Proctor). 41st Annual Meeting of Society of Toxicology, March 17-21, 2002. Nashville, TN.

229) 2002 (March). Is mercury in urine indicative of exposure to low levels of mercury vapor? (With J.S. Tsuji, P. Williams, M. Edwards and K.P. Avadhanam). 41st Annual Meeting of Society of Toxicology, March 17-21, 2002. Nashville, TN.

230) 2002 (March). Dose reconstruction of benzene exposure for pliofilm cohort (1936-1976) using Monte Carlo techniques. (With P. Williams). 41st Annual Meeting of Society of Toxicology, March 17-21, 2002. Nashville, TN.

231) 2002 (March). Rate of hexavalent chromium reduction by human gastric fluid. (With D. M. Proctor). 41st Annual Meeting of Society of Toxicology, March 17-21, 2002. Nashville, TN.

232) 2002 (March). Estimation of the oral bioaccessibility of Dioxins/Furans in weathered soil. US-Vietnam Scientific Conference on Human Health and Environmental Effects of Agent Orange/Dioxin, March 3-6, 2002. Ha Noi, Vietnam.

233) 2002 (March). Temporal trends in human TCDD body burden. Vietnam Scientific Conference on Human Health and Environmental Effects of Agent Orange/Dioxin, March 3-6, 2002. Ha Noi, Vietnam.

234) 2002 (March). A Proposed Reference Dose (Rfd) For Dioxin Of 5-10 Pg/Kg-Day: A Weight Of Evidence Evaluation Of The Human Studies. US-Vietnam Scientific Conference on Human Health and Environmental Effects of Agent Orange/Dioxin, March 3-6, 2002. Ha Noi, Vietnam.

235) 2001 (November). Presented 3-hour guest lecture at Emery University to a class on Environmental Science and Risk Assessment. Atlanta, GA.

236) 2001 (September). Reducing PCDD/PCDF formation and emission from a hazardous waste combustion facility-technological identification, implementation, and achievement. (With B. Sun). Dioxin 2001, September 9-14, 2001. Kyongju, Korea.

237) 2001 (September). *In vitro* bioaccessibility study of low concentrations (50-350 ppt TEQ) of dioxin/furans in weathered soils (with K. Fehling and M.V. Ruby). Dioxin 2001, September 9-14, 2001. Kyongju, Korea.

238) 2001 (September). The United States USEPA Science Advisory Board report (2001) on the USEPA dioxin reassessment. Dioxin 2001, September 9-14, 2001. Kyongju, Korea.

239) 2001 (March). A probabilistic assessment of household exposures to MTBE from drinking water (with P. Williams and P. Sheehan). 40th Annual Meeting of Society of Toxicology, March 25-29, 2001. San Francisco, CA.

240) 2001 (March). Event by event probabilistic methodology for assessing health risks of persistent chemicals in fish: a case study. 40th Annual Meeting of Society of Toxicology, March 25-29, 2001. San Francisco, CA.

241) 2001 (March). Is hexavalent chromium carcinogenic via the oral route of exposure an evaluation of the state of the science and implications for drinking water regulations (with D.M. Proctor). 40th Annual Meeting of Society of Toxicology, March 25-29, 2001. San Francisco, CA.

242) 2001 (March). An alternative approach for toxicity testing of genetically modified foods (with J. Greene, P. Williams, and K. Avadhanam). 40th Annual Meeting of Society of Toxicology, March 25-29, 2001. San Francisco, CA.

243) 2001 (March). Contribution of individual truck operations to ambient diesel particulate matter (DPM) concentrations: implications for risk assessment and management (with A.K. Madl and B. Finley). 40th Annual Meeting of Society of Toxicology, March 25-29, 2001. San Francisco, CA.

244) 2001 (March). Identification of a Proposition 65 no significant risk level for coal tar. 40th Annual Meeting of Society of Toxicology, March 25-29, 2001. San Francisco, CA.

245) 2000 (December). A case study of MTBE exposures and risk in California (with P.R.D. Williams). Platform Presentation at the 16th Annual Society of Risk Analysis Conference, December 3-6, 2000. Arlington, VA.

246) 2000 (October). MTBE ambient air and drinking water exposures in California (with P.R.D. Williams, P. Sheehan, and J. Warmerdam). 10th Annual International Society of Exposure Analysis, October 24-27, 2000. Monterey, CA.

247) 2000 (October). MTBE in California drinking water: A probabilistic assessment of exposures (with P. Sheehan and P. Williams). 10th Annual International Society of Exposure Analysis, October 24-27, 2000. Monterey, CA.

248) 2000 (October). Assessing risks to nursing infants whose mothers ingested fish containing persistent organic pollutants (POPs): Inadequacy of USEPA default methods and directions for the future (with N.D. Wilson, V.A. Craven, S.M. Hays, B.E. Finley, and B.D. Kerger). 10th Annual International Society of Exposure Analysis, October 24-27, 2002. Monterey, CA.

249) 2000 (August). Is dioxin a threshold carcinogen? A quantitative analysis of the epidemiological data using internal dose and Monte Carlo Methods (with C.R. Kirman, L.A. Aylward, N.J. Karch, B.L. Finley, and S.M. Hays). Dioxin 2000: 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs. August 13-17, 2000. Monterey, CA.

250) 2000 (August). International concern over persistent organic pollutants (POPs) in foods: Risk assessment and public policy (with K. Connor). Dioxin 2000: 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 13-17, 2000. Monterey, CA.

251) 2000 (August). The formation of hepta- and octa-dioxins in feces of cows fed pentachlorophenol treated wood (with G. Fries, W. Luksemburg, M. Lorber, and J. Ferrario). 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 13-17, 2000. Monterey, CA.

252) 2000 (May). Alveolar-deposited airborne particles of beryllium as a predictor of the prevalence of disease in a beryllium processing facility. Platform presentation at the American Industrial Health Conference & Exposition (with M. Kent, T. Robins, A.K. Madl, and M. Goodman), May 22-26, 2000, Orlando, FL.

253) 2000 (May). Biomonitoring for beryllium in workers of a beryllium processing facility. Platform presentation at the American Industrial Health Conference & Exposition (with Y. Lowney, D. Deubner, S.M. Hays, P. Chapman, B. Kerger, and W. Shields), May 22-26, 2000, Orlando, FL.

254) 2000 (May). Chronic beryllium disease and beryllium sensitization at a beryllium mine and extraction facility. Platform presentation at the American Industrial Health Conference & Exposition (with M. Kelsh, D. Deubner, L. Maier, M Kent, B. Smith, P. Chapman, K. Zhao, and M. Kolanz), May 22-26, 2000, Orlando, FL.

255) 2000 (May). The role of extrapulmonary exposure pathways in the prevalence of chronic beryllium disease and beryllium sensitization. Platform presentation at the American Industrial Health Conference & Exposition (with D. Deubner, M. Kelsh, Y. Lowney), May 22-26, 2000, Orlando, FL.

256) 2000 (February). Using PBPK modeling in the regulation of toxic compounds. Presentation at the Toxicokinetic Modeling Symposium (with S. Hays), February 17-18, 2000, The Hague, the Netherlands.

257) 2000 (March). Consideration of alternate exposure pathways in the possible relation to prevalence chronic beryllium disease. Presentation at the Society of Toxicology Annual Meeting (with D. Deubner, M. Kelsh, Y. Lowney, and M. Kolanz), March 19-23, 2000, Philadelphia, PA.

258) 2000 (March). The persistent, bioaccumulative toxics (PBT) project: risk-based intentions—toxicological limitations. Presentation at the Society of Toxicology Annual Meeting (with H. Estreicher and K.T. Connor), March 19-23, 2000, Philadelphia, PA.

259) 1999 (September). Fingerprinting analysis of PCDD/PCDF sources in a surface water outfall near a petroleum refinery. Paper presented at the 19th International Symposium on Halogenated Environmental Organic Pollutants and POPs (with M.L. Moore, M.K. Butcher, K. Connor, and D.B. Mathur), Venice, Italy.

260) 1999 (September). Risk assessment in industrial hygiene. Presented to Symposia in Risk Assessment Methodology for the Practicing Industrial Hygienist, New Orleans, LA.

261) 1999 (September). Joint ACGIH and Brush Wellman Symposia on "Understanding the Risks and Research Involving Beryllium." Washington, DC.

262) 1999 (March). Comparison of acute inhalation exposure levels for chemical irritants among six agencies in the United States. Paper presented at the 38th Annual Meeting of the Society of Toxicology (with A.K. Madl and R.M. Kalmes), New Orleans, LA.

263) 1999 (March). Evolution of safety evaluation in the 20th century. Paper presented at the 38th Annual Meeting of the Society of Toxicology (with D.G. Dodge, P.J. Sheehan, and T.C. Bernhardt), New Orleans, LA.

264) 1998 (December). Assessing the ecological risks of dam removal. Paper presented at the Meeting of the Society for Risk Analysis (with P.J. Sheehan, R.J. Wenning, B.D. Wright, N.M. King, and D.M. Becklin), Phoenix, AZ.

265) 1998 (December). Background risks associated with exposure to *n*-nitrosodimethyamine (NDMA): is something amiss in the regulation of this chemical? Paper presented at the Meeting of the Society for Risk Analysis (with P.J. Sheehan, D. Mathur, and D. Dodge), Phoenix, AZ.

266) 1998 (December). Background risks from dietary exposure to di(2-ethylhexyl)phthalate (DEHP): implications of regulations in the context of California's Proposition 65. Paper presented at the Meeting of the Society for Risk Analysis (with D.B. Mathur and D.G. Dodge), Phoenix, AZ.

267) 1998 (December). Is TCDD a threshold carcinogen? A quantitative analysis of the epidemiological data. Paper presented at the Meeting of the Society for Risk Analysis (with C.R. Kirman, S.M. Hays, L. Aylward, and N.J. Karch), Phoenix, AZ.

268) 1998 (December). Significant up-coming changes in the application and practice of risk assessment. Paper presented at the Meeting of the Society for Risk Analysis (with D.G. Dodge), Phoenix, AZ.

269) 1998 (May). Future trends in the practice of health risk assessment. Keynote Speaker at Southern California Society for Risk Analysis Annual Meeting, UCLA, Los Angeles, CA.

270) 1998 (March). Comparison of measured and model-estimated indoor concentrations of airborne chloroform from use of residential tap water. Paper presented at the 37th Annual Meeting of the Society of Toxicology (with R.O. Richter, D. Suder, G.E. Corbett, T.P. Flahive, and B.D. Kerger), Seattle, WA.

271) 1998 (March). Measurements of airborne concentrations of halogenated methanes due to showering and bathing. Paper presented at the 37th Annual Meeting of the Society of Toxicology (with B.D. Kerger, C.E. Schmidt, T.P. Flahive, G.E. Corbett, and R.O. Richter), Seattle, WA.

272) 1998 (March). The ever-changing environmental responsibilities of the golf course industry. Keynote speaker at annual meeting of the Ohio Professional Golf Course Owners Association, Columbus, OH.

273) 1998 (March). Update on methods to derive ambient air limits. Paper presented at the 37th Annual Mtg. of the Society of Toxicology (with J.E. Ryer-Powder and K. Gaynor), Seattle, WA.

274) 1998 (February). A methodology for evaluating the human health hazard posed by ingesting hexavalent chromium in drinking water. Invited lecturer at Harvard University School of Public Health, Boston, MA.

275) 1998 (February). Series of lectures on Hum. Ecol. Risk Assess. Invited lecturer for 4 days at the University of Kuwait: Sponsored by Kuwait Foundation for the Advancement of Science. Kuwait City, Kuwait.

276) 1998 (February). Using the risk assessment methodology to tackle a unique environmental issue: hexavalent chromium in groundwater. Invited lecturer at Yale University School of Public Health, New Haven, CT.

277) 1998 (January). How industrial hygienists can change the national risk priorities embraced by regulatory agencies. Invited lecturer as part of the University of Michigan School of Public Health "Experts in the Field" series: How Industrial Hygienists Can Change the National Risk Priorities Embraced by Regulatory Agencies. Ann Arbor, MI.

278) 1997 (December). Critical review and reassessment of USEPA USEPA's risk-based cleanup level for dioxin and relocation plan for the Escambia Superfund site in Pensacola, Florida. Paper presented at the Annual Meeting and Exposition of the Society of Risk Analysis (with T.C. Bernhardt, D.B. Mathur, G.R. Vishwanath, and R.J. Wenning), Washington, DC.

279) 1997 (December). Human ingestion of chromium (VI) in drinking water: Pharmacokinetics following repeated exposure. Paper presented at the Annual Meeting and Exposition of the Society of Risk Analysis (with B.L. Finley, D.B., Kerger, M.W. Katanoa, M.L. Gargas, and G.C. Corbett), Washington, DC.

280) 1997 (December). The effect of cooking practices on levels of DDT and PCB compounds in the edible tissue of fish. Paper presented at the Annual Meeting and Exposition of the Society of Risk Analysis (with N.D. Wilson and N.M. Shear), Washington, DC.

281) 1997 (November). Invited speaker to the 2nd Workshop on Guidance for Environmental Risk Assessment and Management of Great Britain (Institute for Environment and Health), Royal College of Physicians, London.

282) 1997 (November). Participant in discussion on "Dust is More than Dirt." 7th Annual Meeting of the International Society of Exposure Analysis, Research Triangle Park, NC.

283) 1997 (November). The historical practice of risk assessment and how the field will evolve over the next 10 years. Featured speaker at the annual Lone Star Section Meeting of the Society of Risk Assessment, San Antonio, TX.

284) 1997 (October). The practice of health risk assessment; 1975-1995 and 1995-2005. Experts Guest Lecture Series of the Graduate Program at the Stanford University Civil/Environmental Engineering Department, Palo Alto, CA.

285) 1997 (August). Comparing the predicted uptake of TCDD based on exposure calculations with the actual uptake: a case study of residents of Times Beach. Paper presented at the 17th International Symposium on Chlorinated Dioxins and Related Compounds (with S. Hays, S. El-Sururi, P. Underwood, and R. Ku), Indianapolis, IN.

286) 1997 (August). Relative doses of 2,3,7,8-TCDD using alternative dose metrics: comparison of the NIOSH and ranch hand populations. Paper presented at the 17th International Symposium on Chlorinated Dioxins and Related Compounds (with L. Aylward, S. Hays, J. Czernec, B. Brien, and N. Karch), Indianapolis, IN.

287) 1997 (April). Lecture in the "Topics in Risk Assessment" course at Stanford University, directed by Dr. Warner North, Alto, CA.

288) 1997 (April). Scientific symposium on proper dose metrics for assessing the risks due to persistent chemicals like dioxin, furans, PCB, and DDT. Sponsored by International Life Science Institute, Resources for the Future, and the American Industrial Health Council 1997, Washington, DC.

289) 1997 (March). Desert Storm: Environmental contamination, litigation strategies and bankruptcy considerations. Paper presented at Toxic/Hazardous Substances and Environmental Law Committee Symposium, ABA Tort and Insurance Practice Section, Inserting Real Science into Mass Toxic Tort Actions (with B.D. Kerger and J.V. Dagdigian).

290) 1997 (March). Risk assessment and its role in remedy selection. Invited paper at the Information Network for Superfund Settlements (a group of 100 Superfund Attorneys), Denver, CO.

291) 1997 (March). Risk assessment isn't dead..it is just undergoing a rebirth: implications to the Portland Cement Association. Presented to the Portland Cement Association, Chicago, IL.

292) 1997 (January). The role of risk assessment in environmental decision making in the U.S. and in Europe in the year 2000. Third Annual International Symposia on US-EURO Environmental Management, Brussels, Belgium.

293) 1996 (August). PCDD/PCDFs in urban stormwater discharged to San Francisco Bay, California USA. Paper presented at the 16th International Symposium on Chlorinated Dioxins and Related Compounds (with D. Mathur), Amsterdam, The Netherlands.

294) 1996 (August). Transport of chlorinated dioxin and furan contaminants in pentachlorophenol-treated wood to milk and adipose tissue of dairy cattle. Paper presented at the 16th International Symposium on Chlorinated Dioxins and Related Compounds (with Drs. Mathur and Fries), Amsterdam, The Netherlands.

295) 1996 (April). The role of risk assessment in Brownfield initiatives. Invited Paper at the International Conference on Industrial Site Recycling, Pittsburgh, PA.

296) 1996 (April). Urinary chromium as a biological marker of environmental exposure: what are the limitations? Invited Paper at the 30th Industrial Health Foundation's Annual Chromium Symposium, Washington, DC.

297) 1996 (March). An analysis of inter-individual variability in uptake and elimination of chromium from human volunteers. Annual Mtg. of the Society of Toxicology, Anaheim, CA.

298) 1996 (March). A physiologically-based pharmacokinetics model for ingestion of chromium (III and VI) in drinking water: validation with human studies. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

299) 1996 (March). Assessment of airborne hexavalent chromium in the home following use of contaminated tap water. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

300) 1996 (March). Dermal uptake of hexavalent chromium in human volunteers measures of systemic uptake from immersion in water at 22 ppm. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

301) 1996 (March). Dioxin - health risk assessment and analytical methodologies. Invited lecture to the San Francisco Bay Regional Water Quality Control Board, San Francisco, CA.

302) 1996 (March). Monte Carlo techniques and risk assessment. Four-hour professional development short course. 30th Annual Meeting of the Society of Toxicology, San Diego, CA.

303) 1996 (March). The chromium (VI) reductive capacity of household beverages: implications for risk assessment. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

304) 1996 (March). Toxicologic and environmental hazards posed by CR(VI) in the environment. Chair of a 1-day national symposium. Sponsored by the University of Massachusetts. Newport Beach, CA.

305) 1996 (March). Pharmacokinetics of drinking water exposure to select chromium (III and VI) compounds in human volunteers. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

306) 1996 (March). Reduction kinetics of hexavalent chromium in human blood. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

307) 1996 (March). Testing for DNA-protein cross linking after drinking water exposure to chromium (III and VI) in human volunteers. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

308) 1996 (February-March). The critical role of house dust in understanding the hazards posed by contaminated soils. Invited paper at the First National Conference on Exposure and Risk Assessment, Munich, Germany.

309) 1996 (February). Lessons learned in the United States about environmental regulations and risk assessment (1975-1995). Risk, Regulation, and Reason Conference (sponsored by the Santa Clara County Manufacturing Association), Palo Alto, CA.

310) 1996 (January). Risk assessment aspects of Proposition 65. California Bar Association, Sacramento, CA.

311) 1995 (October). The cost of identifying and evaluating airborne toxicants. Invited paper presented at the 1st East Asian Regional Air Toxics Conference (with R. Wenning), Hong Kong.

312) 1995 (September). Lessons learned in the United States about environmental regulations and risk assessment (1975-1995). Annual Meeting of the Business Council of Australia, Sydney, Australia.

313) 1995 (September). The Australian challenge regarding chlorinated chemicals: establishing a plan based on the U.S. experience. Australian/New Zealand Chlorine Work Group and PACIA, Melbourne, Victoria, Australia.

314) 1995 (August). Human vs. animal sensitivity to the immunological effects of TCDD: a preliminary comparison. 15th International Symposium on Chlorinated Dioxins and Related Compounds, Edmonton, Alberta, Canada.

315) 1995 (August). The relative susceptibility of animals and humans to the carcinogenic hazard posed by exposure to 2,3,7,8-TCDD: an evaluation of different dosimetric measures. 15th International Symposium on Chlorinated Dioxins and Related Compounds, Edmonton, Alberta, Canada.

316) 1995 (August). Validating dermal exposure assessment techniques for dioxin using body burden data and pharmacokinetic modeling. 15th International Symposium on Chlorinated Dioxins and Related Compounds, Edmonton, Alberta, Canada.

317) 1995 (May and June). Symposia on evaluation of the human health components of the life cycle assessment. Expert panel member. Sponsored by the International Life Sciences Institute, Washington, DC.

318) 1995 (May). Presented two invited lectures as part of a "Visiting Experts in Risk Assessment" series directed by Dr. Steve Hrudy. University of Calgary and University of Alberta at Edmonton.

319) 1995 (March). Chairman and key presenter at professional development course on risk assessment, 30th Annual Meeting of the Society of Toxicology, Baltimore, MD.

320) 1995 (March). Fundamentals of health risk assessment. Professional development short-course. 30th Annual Meeting of the Society of Toxicology, Baltimore, MD.

321) 1995 (March). New methods for assessing the risks of sites with contaminated soil. USEPA of Switzerland and the Kanton of Zurich, Zurich, Switzerland.

322) 1995 (February). Methods for improving risk assessments of sites contaminated with chemical carcinogens. 1st Australian Symposia on Carcinogens in the Environment, Melbourne, Australia.

323) 1995 (February). Risk assessment techniques for airborne toxics. Symposia sponsored by The Australian Clean Air Society, Melbourne, Australia.

324) 1995 (February). State-of-the-art exposure techniques: the use of Monte Carlo techniques. 1st Australian Symposia on Carcinogens in the Environment, Melbourne, Australia.

325) 1995 (January). Session chair (with Dr. Roger McClellan) on risk assessment methods at the 1st International Symposia on Butadiene and Isoprene, Seattle, WA.

326) 1994 (November). Presented a 4-hour short-course on Hum. Ecol. Risk Assess. Royal Academy of Engineering of South Australia, Adelaide, Australia.

327) 1994 (October). The proper role of epidemiology in regulatory risk assessment. Invited symposia participant. Harvard School of Public Health, Boston, MA.

328) 1994 (May). How realistic are current risk assessment procedures and criteria? Presentation at the Australian Waste Management Conference, Melbourne, Australia.

329) 1994 (May). Presented a 2-hour short-course on ecological risk assessment. New South Wales Environmental Protection Agency, Sydney, Australia.

330) 1994 (May). Presented an 8-hour course on advanced topics in health risk assessment at the Clean Air Society of Australia Meeting, Melbourne, Australia.

331) 1994 (February). Presented a lecture on ecotoxicology and risk assessment at the PPG Annual Environmental Conference, Lake Charles, LA.

332) 1994 (January). A comparison of generic human health and ecological risk-based soil remediation criteria in Canada and the United States. Paper presented at the 4th Annual ASTM Symposia on Environmental Toxicology and Risk Assessment (with B.L. Finley, M.J. Kangas, and P. Scott), Montreal, Canada.

333) 1994 (January). New methods for assessing the risks of airborne toxicants. Paper presented at the CIRCA/AWMA-OS Joint International Conference on Atmospheric Chemistry (with M. Gray and C. Curry), Toronto, Canada.

334) 1993 (October). Keynote speaker at the 1st U.S. Environmental Protection Agency Workshop on Physiologically Based Pharmacokinetics (PBPK) and Cancer Risk Assessment, North Carolina.

335) 1993 (October). Keynote speaker and invited U.S. representative to the 1st International Conference on Ecotoxicology, Melbourne, Australia.

336) 1993 (October). State-of-the-art in risk assessment. Invited speaker. Professional Conference on Industrial Hygiene, Cincinnati, OH.

337) 1993 (October). The historical use of risk assessment in the United States and how this experience can be utilized within the international arena. Presentation at the 1st International Environmental Risk Assessment Conference for Australia and New Zealand, Melbourne, Australia.

338) 1993 (September). Participated in a panel discussion on the pharmacokinetics of the dioxins at the 13th Annual International Dioxin Meeting, Vienna, Austria.

339) 1993 (August). Presented a lecture on setting a reference concentration for hexavalent and trivalent chromium at the USEPA Reference Dose Task Group meeting, Cincinnati, OH.

340) 1993 (March). An alternative to the USEPA's proposed inhalation reference concentrations for hexavalent chromium. Paper presented at the 32nd Annual Meeting of the Society of Toxicology (with B.L. Finley and D.M. Proctor), New Orleans, LA.

341) 1993 (March). Approaches to assessing human exposure to soil contaminants at wood preserving facilities. Paper presented at the 32nd Annual Meeting of the Society of Toxicology (with M.L. Gargas, P.K. Scott, and B.L. Finley), New Orleans, LA.

342) 1993 (March). Fundamentals of health risk assessment. Professional development course (4 hours). 32nd Annual Meeting of the Society of Toxicology, New Orleans, LA.

343) 1993 (March). Presented two, 1-hour professional development courses on recent improvements in exposure assessment at the 32nd Annual Meeting of the Society of Toxicology, New Orleans, LA.

344) 1993 (February). Health risk assessment and the practice of engineering. Presentation at the UCLA School of Public Health and Engineering, Los Angeles, CA.

345) 1993 (February). Using human patch-test data to establish health-protective concentrations of allergens in soils. Paper presented at the International Conference on Dermatology (with Drs. Finley and Nethercott), Honolulu, Hawaii.

346) 1993 (February). Understanding the hazard posed by xenobiotics in Passaic River sediments. Presentation at the SETAC Symposium on The Hazards posed by Dioxin in the Passaic River, Rutgers University, Piscataway, NJ.

347) 1992 (December). Historical reconstruction of benzene exposure for an occupational cohort of rubber workers. Paper presented at the Annual Meeting of the Society of Risk Analysis (with P.S. Price), San Diego, CA.

348) 1992 (December). Comparing the results of a Monte Carlo analysis with USEPA's reasonable maximum exposed individual (RMEI): a case study of a former wood treatment site. Paper presented at the Annual Meeting of the Society of Risk Analysis (with T.L. Copeland, M.A. Harris, and V. Lau), San Diego, CA.

349) 1992 (November). How to prioritize the national environmental agenda using risk assessment. Invited participant at a meeting of experts. Resources for the Future, Annapolis, MD.

350) 1992 (October). How to set a TLV for an irritant. Presentation at the Quarterly Meeting of the Northeast Section of the AIHA, Hartford, CT.

351) 1992 (October). The U.S. should adopt a risk-based environmental agenda. Presentation at the President's Forum at the Annual Meeting of the American Paper and Pulp Institute, Syracuse University, NY.

352) 1992 (August). A Monte Carlo analysis of exposures and cancer risks from 2,3,7,8-TCDD in soil at residential and industrial sites. Paper (Abstract #RSK-29) presented at the 12th International Dioxin meeting (with R. Wenning and V. Lau), Tampere, Finland.

353) 1992 (August). Chemometric analysis of potential sources of PCDD/PCDD in surficial sediments from Newark Bay. Paper (Abstract #13520) presented at the 12th International Dioxin Meeting (with R.J. Wenning), Tampere, Finland.

354) 1992 (August). Chemometric comparisons of PCDD and PCDF fingerprint patterns in environmental sources and marine and freshwater sediments. Paper (Abstract #ANA-9) presented at the 12th International Dioxin Meeting (with R.J. Wenning), Tampere, Finland.

355) 1992 (June). The rationale for the proposed TLV for formaldehyde. Presentation at the Annual American Industrial Hygiene Conference, Boston, MA.

356) 1992 (April). State-of-the-art approaches for assessing the risks of contaminated groundwater. Presentation at the Gulf Coast Hazardous Substance Research Center's Fourth Annual Symposium, Lamar University, Beaumont, TX.

357) 1992 (March). Regulatory actions with TCDD: what will happen in the 1990s? Presentation at the Fourth Annual Petroleum Contaminated Soils Conference, Newport Beach, CA.

358) 1992 (March). Use of risk assessment in setting TLVs. Presentation at the Northern California American Industrial Hygiene Association Annual Meeting, San Francisco, CA.

359) 1992 (February). Ecological risk assessment guidelines. Invited participant at the National Academy of Science's workshop, Fairfax, VA.

360) 1992 (February). Improving risk assessment through the use of Monte-Carlo analyses. Presentation given at the National Academy of Sciences', CRAM Committee, State-of-the-Art Approaches to Exposure Assessment, Washington, DC.

361) 1992 (February). State-of-the-art approaches to exposure assessment. Invited speaker and participant at the National Academy of Science's Symposia, held as part of USEPA's Committee on Risk Assessment Methods, Washington, DC.

362) 1992 (January). Environmental exposure assessment. Invited workshop participant. U.S. Environmental Protection Agency, Virginia Beach, VA.

363) 1991. Recent changes in regulatory toxicity rankings for wood-treating chemicals and their impact on risk assessment and remediation at wood-treating site. Paper presented at the American Wood Preservers Institute (with B. Finley and M. Harris), Scottsdale, AZ.

364) 1991 (November). A quantitative uncertainty analysis of the CAPCOA approach to risk assessment. Paper presented at the Western States Meeting of the Air and Waste Management Association (with T. Copeland), Seattle, WA.

365) 1991 (November). A state-of-the-art review of the human health hazards posed by benzene. Presentation at the First International Conference on the Health Hazards of Gasoline, Miami, FL.

366) 1991 (November). The role of risk assessment. Presentation at Problems Posed by Transferring Contaminated Properties (sponsored by Diepenback and Associates), Sacramento, CA.

367) 1991 (March). A comprehensive approach to setting soil standards. Presented at the 3rd Western States Contaminated Soil and Groundwater Conference, Newport Beach, CA.

368) 1991 (February). Future likely changes in the TLVs. University of Michigan School of Public Health, Ann Arbor, MI.

369) 1991 (February). Future trends in health risk assessment. Exxon Biomedical Research Laboratories, East Millstone, NJ.

370) 1991 (February). Risk-based remedial investigations. Presented to Phillips Petroleum Environmental Engineering Staff, Bartlesville, OK.

371) 1991 (January). The use of risk assessment to optimize the remedial investigation process. Presentation at Environment Remediation From Cradle to Grave (sponsored by Armstrong, Teasdale, Schlafly, Davis, and Dicus), St. Louis, MO.

372) 1991 (February). Future likely changes in the TLVs. University of Michigan School of Public Health, Ann Arbor, MI.

373) 1990 (December). The proper use of risk assessment to solve environmental problems. Presentation at the Northern Ohio Manufacturers Association (sponsored by the law firm of Squire, Sanders and Dempsey), Cleveland, OH.

374) 1990 (November). Practice of health risk assessment and its impact on the economy. Presentation at the Annual Meeting of American Institute of Chemical Engineers of New York State, Albany, NY.

375) 1990 (October). What does the risk assessment process tell us about the TLVs? Presentation at the 20th Professional Industrial Hygiene Conference, Vancouver, British Columbia, Canada.

376) 1990 (September). An evaluation of the inhalation hazard posed by dioxin-contaminated soil. Presentation at the 10th International Dioxin Meeting, Bayreuth, Germany.

377) 1990 (September). A re-evaluation of the tumor histopathology of Kociba et al. (1978) using 1990 criteria: implications for the risk assessment of 2,3,7,8-TCDD using the linearized multistage model. Presentation at the 10th International Dioxin Meeting, Bayreuth, Germany.

378) 1990 (September). Dioxin risk assessment of the Columbia River. Presentation at the 10th International Dioxin Meeting, Bayreuth, Germany.

379) 1990 (September). PCDDs and PCDFs in surficial sediments form the lower Passaic River and Newark Bay. Presentation at the 10th International Dioxin Meeting, Bayreuth, Germany.

380) 1990 (September). Risk assessment of 2,3,7,8-TCDD using a biologically-based cancer model: a re-evaluation of the Kociba et al. (1978) bioassay. Presentation at the 10th International Dioxin Meeting, Bayreuth, Germany.

381) 1990 (June). Using health risk assessment to set clean-up levels. Presentation at Management of Hazardous Waste Issues (sponsored by Executive Enterprises), San Francisco, CA.

382) 1990 (May). Development and field validation of a sampling and analytical method for airborne hexavalent chromium. Presentation at the Annual Meeting of the Air Pollution and Waste Management Association, Raleigh, NC.

383) 1990 (May). The assessment of health risks associated with indoor benzene vapor emitted from building foundation soil: a case study. Presentation at the Annual Meeting of the Air Pollution and Waste Management Association, Raleigh, NC.

384) 1990 (April). Criteria for using substitution as a control measure. Presentation at the 10th Annual Meeting of the Semiconductor Safety Association, Phoenix, AZ.

385) 1990 (April). Current procedures in the practice of health risk assessment. Team-taught 8-hour short course presented at the 12th Annual Hazmacon Meeting, Anaheim, CA.

386) 1990 (April). Fundamentals in risk assessment for safety engineers. Presentation atthe Annual Meeting of the American Society of Safety Engineers (California Section), Long Beach, CA.

387) 1990 (April). Methodology for setting airborne emissions limits for chloroform, chlorine dioxide, and chlorine from paper and pulp mills. Presentation at the Annual Meeting of the Technical Association of the Paper and Pulp Industries, Seattle, WA.

388) 1990 (April). Risk assessments methods and compliance with AB-2588. Presentation at Santa Clara Manufacturers Association, San Jose, CA.

389) 1990 (April). Setting rational health-based water quality standards for dioxin: risk assessment for the Columbia River. Presentation at the Annual Meeting of the Technical Association of the Paper and Pulp Industries, Seattle, WA.

390) 1990 (April). The practice of health risk assessment in the 1990's. Presentation at the 4th Conference on Toxic Substances, Canadian Air and Waste Management Association, Montreal, Canada.

391) 1990 (February). Risk assessment approaches for petroleum contaminated soils. Presentation at the Annual West Coast Meeting on Petroleum Contaminated Soils, Anaheim, CA.

392) 1989 (November). Assessing the risks of environmental tobacco smoke. Presented at the International Symposia on Environmental Tobacco Smoke, Montreal, Canada.

393) 1989 (November). Conservation in the practice of health risk assessment suggestions for avoiding mistakes. Presented at the Annual Meeting of the Society of Risk Analysis, San Francisco, CA.

394) 1989 (November). The role of risk assessment in dioxin litigation. Presented at Dioxin Claims and Litigation (sponsored by Executive Enterprises, Inc.), Washington, DC.

395) 1989 (November). Setting a clean-up level for dioxin contaminated soil based on indirect routes of exposure. Invited paper presented at the symposium A Re-evaluation of the 1 ppb Standard for Dioxin in Soil, Washington, DC.

396) 1989 (September). Assessment of pesticide related hazards to birds in residential settings. Presented at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Toronto, Canada.

397) 1989 (September). Risk assessment methods for petroleum contaminated sites. Presented at the 4th Annual Petroleum Contaminated Soils Conference, Amherst, MA.

398) 1989 (August). Evolving science and risk assessment methods. Presentation at the Fifth Annual San Diego Conference on Environmental Compliance, San Diego, CA.

399) 1989 (June). Risk based clean-up. Presented at California Environmental Compliance Management (sponsored by California Business Law Institute), Los Angeles, CA.

400) 1989 (May). Case studies of less than perfect risk assessments. Presented at California Manufacturers Association (CMA), Los Angeles, CA.

401) 1989 (April and May). Risk assessment approaches for complying with California's toxic hot spots - AB 2588 Law. Presented as short courses sponsored by Latham and Watkins, San Francisco, Los Angeles, Burbank, and San Diego, CA.

402) 1989 (February). Setting clean-up levels; site, by site, by site. Presented at the Western States HAZMAT Meeting, Seattle, WA.

403) 1989 (February). Fundamentals of Hum. Ecol. Risk Assess. Professional development short course (4 hours). Annual Meeting of the Soc. of Toxicology, Atlanta, GA.

404) 1989 (February). The risk assessment of environmental and human health hazards. Presented at the Annual Meeting of the Society of Toxicology, Atlanta, GA.

405) 1988 (December). Use of risk assessment methods in negotiating clean-up standards. Presentation at the Peninsula Industrial and Business Association, San Mateo, CA.

406) 1988 (November). New approaches to assessing the risks posed by dioxin. Presented at the East Coast Section of the Society of Toxicology, Cadbury, NJ.

407) 1988 (September). The USEPA's proposed position on the health hazards posed by dioxin. Presented at the Center for Environment and Energy Management, Washington, DC.

408) 1988 (July). CAPCOA air toxics risk assessment. Presented to the Santa Clara County Manufacturing Group, Santa Clara, CA.

409) 1988 (July). How health standards for groundwater contaminants are established. Presented at the American Groundwater Trust workshop Solving Groundwater Problems, City of Industry, CA.

410) 1988 (May). Why the USEPA risk assessment guidelines need to be updated. Presentation at the Joint Meeting of the Northern California Society of Toxicology and Society of Risk Analysis, Letterman Toxicology Institute, San Francisco, CA.

411) 1988 (April). A comparative health risk assessment of land filling versus incineration. Presentation at the 1st Conference on Municipal Solid Waste Disposal, Amherst, MA.

412) 1988 (April). Justification for USEPA's new position on dioxin. Paper presented at the Joint Meeting of the USEPA's Science Advisory Panel and Society of Toxicology session Assessing the Risks from Toxics in Northern California; What Science Can Tell Us, San Francisco, CA.

413) 1988 (April). Risk assessment approaches for developmental toxicants and other non-carcinogenic chemicals. Presentation at the Annual Meeting of the American Occupational Medical Association, New Orleans, LA.

414) 1988 (March). Risk assessment and Prop. 65: a challenge for industrial hygienists. Presented at the Southern California Chapter of the American Industrial Hygiene Association, Los Angeles, CA.

415) 1988 (February). A physiologically pharmacokinetics description of the tissue distribution and enzyme induction of 2,3 7,8-tetrachlorodibenzo-*p*-dioxin in the rat. Presented at the 27th Annual Meeting of the Society of Toxicology, Dallas, TX.

416) 1988 (February). Assessing the environmental and human health hazards of contaminated soil. Presentation at the 27th Annual Meeting of the Society of Toxicology, Dallas, TX.

417) 1988 (February). Risk assessment and Prop 65. Presented at the Annual Meeting of the Food Processors and Engineers, Santa Barbara, CA.

418) 1988 (February). Shortcomings in traditional approaches to risk assessment. Presentation at the New York City Bar Association (Environmental Law Section), New York, NY.

419) 1987 (December). Assessing the risks of your operations under Proposition 65. Short course at the California Manufacturers Association, Oakland and Anaheim, CA.

420) 1987 (December). Complying with Prop. 65 using risk assessment approaches. Presentation at the Hazardous Materials Conference, San Diego, CA.

421) 1987 (November). A methodology for calculating the level of dioxin contamination due to particulate emissions from incinerators. Presentation at the Annual Meeting of the Society of Environmental Toxicology and Chemistry, Pensacola, FL.

422) 1987 (November). A risk assessment of incinerator emissions as a potential source in foods of animal origin. Paper presented at the Annual Meeting of the Society of Risk Analysis (with G. Fries), Houston, TX.

423) 1987 (November). Risk assessment approaches for developmental and reproductive toxicants. Presentation at the Annual Meeting of the Occupational and Environmental Health Groups at Hewlett-Packard Corporation, Palo Alto, CA.

424) 1987 (October). A physiologically based pharmacokinetics model for 2,3,7,8-TCDD. Presentation at the 7th International Symposium on Dioxins and Related Compounds, Las Vegas, NV.

425) 1987 (October). Documentation of an occupational exposure limit for 2,3,7,8-TCDD. Presentation at the 7th International Symposium on Dioxins and Related Compounds, Las Vegas, NV.

426) 1987 (October). Evaluation of factors used to assess incinerator emissions as a potential source of TCDD in foods of animal origin. Presentation at the 7th International Symposium on Dioxins and Related Compounds, Las Vegas, NV.

427) 1987 (October). Oral bioavailability in the rat of soil bound TCDD. Presentation at the 7th International Symposium on Dioxins and Related Compounds, Las Vegas, NV.

428) 1987 (September). Evaluating the public health hazards of contaminated soil. Presentation at the 2nd Annual Conference on Petroleum Contaminated Soil, Amherst, MA.

429) 1987 (September). Improved risk assessment approaches for carcinogens and developmental toxins. Presentation at the Annual Meeting of the California Manufacturers Association, Santa Barbara, CA.

430) 1987 (September). Risk assessment methods for developmental and reproductive toxicants. Presentation at the USEPA Experts Workshop, Little Rock, AR.

431) 1987 (August). The fundamentals of toxicology and risk assessment. Presentation at the Silicon Valley Clean Water Alliance, San Jose, CA.

432) 1986 (November). The process of evaluating environmental health risks. Presentation at the Dioxins: From Soil to Receptor, Medical College of Virginia, Richmond, VA.

433) 1986 (October). The use of pharmacokinetics in risk assessment. Presentation at the National Academy of Science Workshop, Washington DC.

434) 1986 (September). A critical examination of assumptions used in risk assessments of dioxin contaminated soil. Paper presented at the 3rd Annual meeting of the International Society of Regulatory Toxicology and Pharmacology (with J. Murray), Washington, DC.

435) 1986 (May). Conducting an environmental risk assessment of contaminated soil. Presentation at the USEPA Region I, II and III Workshop on the Assessment of Health Hazards of Contaminated Soil, Andover, MA.

436) 1986 (April). Critical assumptions in the risk assessment of soil contaminated with 2,3,7,8-TCDD. Presentation at the 196th Annual Meeting of the American Chemical Society, New York, NY.

437) 1986 (March). An examination of critical assumptions in health risk assessments of 2,3,7,8-TCDD contaminated soil. Presentation at the 25th Annual Meeting of Society of Toxicology, New Orleans, LA.

438) 1985 (September). A critical review of assessments of the health risk associated with TCDD in soil. Presentation at the 5th International Symposium on Chlorinated Dioxins and Related Compounds, Bayreuth, Germany.

439) 1985 (May). Shortcomings in risk assessment approaches used in occupational health. Presentation at the Annual Meeting of the American Industrial Hygiene Association, Las Vegas, NV.

440) 1985 (April). Setting occupational exposure limits in high tech industries. Presentation at the Northern California AIHA Symposium on Industrial Hygiene Aspects of Emerging Technologies, Oakland, CA.

441) 1985 (March). A physiologically-based pharmacokinetics (PBPK) model for carbon tetrachloride. Presentation at the Annual Mtg. of the Society of Toxicology, San Diego, CA.

442) 1985 (March). Methods for setting exposure limits. AIHA and NSC Professional Development Course, Salt Lake City, UT.

443) 1985 (February). The shortcomings of most environmental risk assessments. Presentation to the Monsanto Corporation, St. Louis, MO.

444) 1984 (October). What does industry expect engineering graduates to know about environmental safety and health? Presentation to the Accreditation Board for Engineering and Technology, Knoxville, TN.

445) 1984 (April). Principles of occupational health engineering. NIOSH-Sponsored Course for Engineering Professors, Purdue University.

446) 1984 (April). The problem with most risk assessments. Presentation at the Risk Assessment at the New USEPA (sponsored by the Center for Environmental and Energy Management), Washington, DC.

447) 1984 (March). Methods for setting occupational exposure limits and conducting risk assessments. AIHA and National Safety Council Professional Development Seminar, Las Vegas, NV.

448) 1984 (March). The toxicology, environmental fate and ecological impact of pro-drone as a fire ant pesticide. Presentation at the Annual Fire Ant Symposium, Gainesville, FL.

449) 1983 (December). The successful interaction of the toxicologist and the industrial hygienist. Presentation at the 3rd Northeastern Occupational Health Conference: East Brunswick, NJ.

450) 1983 (November). An environmental risk assessment of pro-drone: insect growth regulator for the control of the imported red fire ant. Presentation at the Annual Meeting of Society of Environmental Toxicology and Chemistry, Washington, DC.

451) 1983 (November). Inhalation toxicology methods and data interpretation. Presentation at the Southern States Occupational Health Conference, Tulane University, New Orleans, LA.

452) 1983 (November). The regulatory and societal aspects of using pesticides for fire ant control. Presentation to the Connecticut Chapter of Sigma XI, Southbury, CT.

453) 1983 (October). Quantitative risk assessment and occupational health. Presentation at the Midwest Occupational Health Conference, St. Louis, MO.

454) 1983 (May). Approaches to establishing occupational exposure limits. Symposium chair at the Annual Meeting of the American Industrial Hygiene Association, Philadelphia, PA.

455) 1983 (February). Pharmacokinetics aspects of 12-hour per day exposure schedules. Presentation to the Exxon Environmental Health Center, East Millstone, NJ.

456) 1982-1984. Co-authored and presented with Dr. Tanner Stewart three case studies at the Darden Graduate School of Business, University of Virginia. The cases addressed the ethical and societal difficulties faced by executives who must deal with issues surrounding environmental and occupational safety and health. The cases were later used at several other prominent business schools.

457) 1982 (July). A new technique for educating engineering in occupation safety and health. Presentation at the 90th Annual Conference of the American Society for Engineering Education, Texas A&M University, College Station, TX.

458) 1982 (July). Health physics and industrial hygiene education and training at Purdue University. Presentation at the Annual Meeting of the Health Physics Society, Honolulu, HI.

459) 1982 (June). Industrial hygiene and health physics education at Purdue University. Paper presented at the Annual Meeting of the American Industrial Hygiene Association (with N. Zimmerman), Cincinnati, OH.

460) 1982 (June). The effect of the unusual work shift on the toxicology, disposition, and pharmacokinetics of carbon tetrachloride in the rat. Presentation at the Annual Meeting of the American Industrial Hygiene Association, Cincinnati, OH.

461) 1982 (June). The non-traditional work shift and human health. Editor of the symposia manuscript for the Annual Meeting of the AIHA, Cincinnati, OH.

462) 1982 (June). Toxicological implications of the 12 hour work shift and various models for adjusting occupational exposure limits. Presentation to the University of Texas School of Public Health, Houston, TX.

463) 1982 (April). The fate of carbon tetrachloride in the rat following exposure during the 8- and 12-hour work shift. Presentation at the Annual Meeting of the Soc. of Toxicology, Boston, MA.

464) 1982 (February). The effect of a 12-hour exposure regimen on the distribution, pharmacokinetics and toxicology of carbon tetrachloride in the rat. Presentation to the Rocky Mountain Center for Occupational Health, Salt Lake City, UT.

465) 1982 (January). Criteria for setting occupational exposure limits for unusual work schedules. Presentation to the University of Michigan, School of Public Health, Ann Arbor, MI.

466) 1981 (November). The need to educate engineers in occupational safety and health and a proposal for schools of engineering. Presentation at the Annual Meeting of the American Institute of Chemical Engineers, New Orleans, LA.

467) 1981 (July). The need for industrial hygiene engineering in engineering education. Presentation at the Second NIOSH Symposium, Texas A&M University, College Station, TX.

468) 1979 (October). Engineering control techniques in the chemical industry. Presentation at the New York State Section of the AIHA, Rochester, NY.

469) 1979 (May). The toxicology and pharmacokinetics of inhaled carbon tetrachloride during 8- and 12-hour exposure periods. Presentation at the Annual Meeting of the AIHA, Portland, OR.

470) 1978 (April). Reviewing new manufacturing facility designs in order to minimize future environmental health problems. Presentation at the Midwest Mgmt. Conf., Traverse City, MI.

471) 1978 (April). Nitrosamines: one corporation's experience with a suspect carcinogen. Presentation at the Midwest Management Conference, Traverse City, MI.

472) 1977 (December). The problems of accurate air sampling at the part per billion level. Presentation at the Midwest Safety Conference, Indianapolis, IN.

Published Abstracts

1) Drechsel, D.A., E.S. Fung, K.M. Towle, **D.J. Paustenbach** and A.D. Monnot. 2019. Evaluating the Phototoxic Potential of a Hair Cleansing Conditioner. Accepted Poster Presentation at Society of Toxicology Annual Meeting. March 10-14, 2019, Baltimore, MD.

2) Fung, E.S., D.A. Drechsel, K.M. Towle, **D.J. Paustenbach** and A.D. Monnot. 2019. A Tier-Based Skin Sensitization Testing Strategy for Personal Care Products. Accepted Poster Presentation at Society of Toxicology Annual Meeting, March 10-14, 2019, Baltimore, MD.

3) Monnot, A.D. S.S. Ahmed, A.M. Dickinson, D.A. Drechsel, K.M. Towle, **D.J. Paustenbach**, E.S. Fung. 2019. An In Vitro Human Assay for Evaluating Immunogenic and Sensitization Potential of Personal Care and Cosmetic Products. Accepted Poster Presentation at Society of Toxicology Annual Meeting, March 10-14, 2019, Baltimore, MD.

4) Towle, K.M., D.D. Drechsel, E.S. Fung, **D.J. Paustenbach** and AD. Monnot. 2019. Examination of the FDA Adverse Event Reporting System to Assess the Halo Effect and Potential Reporting Bias. Accepted Poster Presentation at Society of Toxicology Annual Meeting, March 10-14, 2019, Baltimore, MD.

5) Abelmann, A., J.R Maskrey, J. Lotter, A.M. Chapman, M.D. Nemhard, S. Schlaegle, B Bandli, R.J. Lee and **D.J. Paustenbach**. 2018. Asbestos Fiber Transport from Facilities into the Community: Results of Field Studies. Presented at American Industrial Hygiene Conference & Exposition (AIHce), Philadelphia, PA, May 20-23.

6) Lotter, J., A. Abelmann, J.R. Maskrey, A.M. Chapman, M.D. Nemdhard, J.M. Wilmouth, R.J. Lee and **D.J. Paustenbach**. 2018. Take-home exposures following cutting cement pipe. Presented at American Industrial Hygiene Conference & Exposition (AIHce), Philadelphia, PA, May 20-23.

7) Kovochich M, D. Fung, K.M. Unice, S. Mahoney, **D.J. Paustenbach**, and B.L. Finley. 2018. Understanding Divergent Outcomes in MoM-THA Patient Populations with Well-Fixed Components: A Critical Appraisal of Patient Management Protocols and Revision Trends (2000-2017). Presented at Society of Toxicology Annual Meeting, San Antonio, TX, March 11-15.

8) Kovochich M, E.S. Fung, S. Mahoney2, K.M. Unice, D. Fung, **D.J. Paustenbach**, and B.L. Finley. 2018. Characterizing cytotoxic and inflammatory responses to metal-on-metal wear debris from normal versus edge-loading conditions. Presented at Society of Toxicology Annual Meeting, San Antonio, TX, March 11-15.

9) Maskrey, J.R., A. Ablelmann, J. Lotter, A.M. Chapman, M.D. Nembhard, J.M. Wilmoth, R.J. Lee and **D.J. Paustenbach**. 2018. Airborne Chrysotile and Crocidolite Exposure to Workers and Bystanders during Use of a Powered Abrasive Saw to Cut Asbestos-Containing Cement Pipe. Presented at American Industrial Hygiene Conference & Exposition (AIHce), Philadelphia, PA, May 20-23.

10) Keeton, K.A., S.M. Benson, R.M. Novick, G.M. Marsh and **D.J. Paustenbach**. 2017. The 2014 Crude 4-Methylcyclohexanemethanol Chemical Release and Birth Outcomes in West Virginia. Poster presentation at Society of Epidemiologic Research, June 20-23, 2017, Seattle, WA.

11) Hollins, D.M., P.K. Scott, J.L Bare, C.A. Barlow, M. Nembhard, J.R. Maskrey and **D.J. Paustenbach**. 2017. Estimating Asbestos Emissions from Former Industrial Sites and Estimating Resulting Airborne Concentrations in the Surrounding Community: A Review of Methodologies. Abstract #3248. Late Breaking Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017, Baltimore, MD.

12) Finley, B.L., E.D. Donovan, M. Kovochich, **D.J. Paustenbach** and A.M. Urban. 2017. Perineal Use of Cosmetic Talc as a Risk Factor for Ovarian Cancer: A Weight-of-Evidence Evaluation. Abstract #1288. Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017, Baltimore, MD.

13) Fung, E.S., A.D. Monnot, B.E. Tvermoes, K.M. Unice, M. Kovochich, D.A. Galbraith, B.L. Finley and **D.J. Paustenbach**. 2017. Characteristics of Cobalt Related Cardiomyopathy in Metal Hip Implant Patients. Abstract #2142. Poster Presentation at Society of Toxicology Annual Meeting. March 12-16, 2017, Baltimore, MD.

14) Kovochich, M. E.S. Fung, E.P. Donovan, K.M. Unice, **D.J. Paustenbach** and B.L. Finley. 2017. Characterization of Wear Debris from Metal-on-Metal Hip Implants during Normal Wear versus Edge Loading Conditions. Abstract #2143. Poster Presentation at Society of Toxicology Annual Meeting, March 12-16, 2017. Baltimore, MD.

15) Monnot, A.D., R.M. Novick and **D.J. Paustenbach**. 2017. An Evaluation of Dermal Irritation Potential of Crude 4-methylcyclohexanemethanol (MCHM) in Humans in 48-Hour Patch Tests. Abstract #2950. Poster Presentation at Society of Toxicology Annual Meeting. March 12-16, 2017, Baltimore, MD.

16) Gaffney, S.H., B.D. Simmons, M.E. Grespin, L. Garnick, **D.J. Paustenbach** and A. Gauthier. 2016. Anthophyllite Asbestos: State of the Art Understanding of its Toxicological Properties. Podium Presentation at American Industrial Hygiene Conference & Exposition (AIHce), May 21-26, 2016, Baltimore, MD.

17) Abelmann, A., M.E. Glynn, J.S. Pierce, P.K. Scott, S. Serrano and **D.J. Paustenbach**. Historical ambient airborne asbestos concentrations in the United States - An analysis of published and unpublished literature. Abstract #1690. Poster Presentation at Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, LA.

18) Gloekler, L., E.C. Shay, N. Schmidt, N. Haghighat, J.M. Panko, D.M. Cowan and **D.J. Paustenbach**. 2016. Flame-retardants in upholstered furnishings: An assessment of health risk and fire-related deaths in the era of California Technical Bulletin (TB-117). Abstract #2669. Poster Presentation at Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, LA.

19) Monnot, A.D., B.E. Tvermoes, R. Gerads, H. Gürleyükc and **D.J. Paustenbach**. 2016. Risks associated with arsenic exposure resulting from the consumption of California wines sold in the United States. Abstract #1264. Poster Presentation at Society of Toxicology Annual Meeting, March 13-17, 201, New Orleans, LA.

20) Novick, R.M., P.K. Scott, B. Winans, S.M. Green and **D.J. Paustenbach**. 2016. Estimate of 4-methylcyclohexanemethanol (MCMH) exposure with normal use of contaminated water during the Elk River spill. Abstract #1693. Poster Presentation at Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, LA.

21) Tvermoes, B.E., K.M. Unice, B. Winans, M. Kovochich, W.V. Christian, E.D. Donovan, B.L. Finley, I. Kimber and **D.J. Paustenbach**. 2016. Evaluation of immune stimulation following exposure to metal particles and ions using the mouse popliteal lymph node assay. Abstract #3896. Poster Presentation at Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, LA.

22) Winans, B., R.M. Novick, S.M. Green and **D.J. Paustenbach**. 2016. QSAR modeling toxicity predictions of the constituents of crude 4-methylcyclohexanemethanol (MCHM) and structurally related chemicals. Abstract #1445. Poster Presentation at Society of Toxicology Annual Meeting, March 13-17, 2016, New Orleans, LA.

23) Huntley-Fenner, G., A Bernal, **D.J. Paustenbach** and B.D. Kerger. 2015. Risks of Unintended Health Consequences Associated with Negative Halo Effects. Presented at the American Marketing Association's 2015 Marketing & Public Policy Conference, June 4-6, 2015, Washington DC.

24) Sahmel, J., H.J. Avens, P.K. Scott, A.M. Burns, C. Barlow, K.M. Unice, A.K. Madl, J.L. Henshaw and **D.J. Paustenbach**. 2015. Characterization of Chrysotile Asbestos Fiber Removal Rates from Air. Podium presentation at the American Industrial Hygiene Conference & Expo (AIHce), May 30-June 4, 2015. Salt Lake City, UT.

25) Christian, W.V., L.D. Oliver, **D.J. Paustenbach**, M.L. Kreider and B.L. Finley. 2015. Toxicology Based Cancer Causation Analysis of CoCr-Containing Hip Implants: A Quantitative Assessment of Genotoxicity and Tumorigenicity Studies. Abstract #2006. Poster presentation at the 54th Annual Meeting and Society of Toxicology (SOT) Meeting at the San Diego Convention Center, San Diego, CA, March 22-26, 2015.

26) Kerger, B.D, C.J. Ronk, M.E. Glynn, B.L. Finley, and **D.J. Paustenbach**. 2014. Age-Related Trends in US Pleural Mesothelioma and Soft Tissue Sarcoma Rates: Evidence for a Longevity Effect. Poster presented at Society of Toxicology (SOT) 53rd Annual Meeting and ToxExpo; Abstract Number 225/Poster Board 402; Phoenix, AZ; March 23-27, 2014.

27) Liong, M., M. Kovochich, B.L. Finley, **D.J. Paustenbach**, and A.K. Madl. 2014. Nanoparticles from the Wear of Cobalt-Chromium Alloy Metal-on-Metal Hip Implants: Physicochemical and Dose Analysis of Patient and Toxicology Studies. Poster presented at Society of Toxicology (SOT) 53rd Annual Meeting and ToxExpo; Abstract Number 603j/Poster Board 472; Phoenix, AZ; March 23-27, 2014.

28) Monnot, A.D., W.V. Christian, B.L. Finley, and **D.J. Paustenbach**. 2014. Correlation of Blood Cr (III) and Adverse Health Effects: Application of PBPK Modeling to Determine Non-toxic Blood Concentrations. Poster presented at Society of Toxicology (SOT) 53rd Annual Meeting and ToxExpo; Abstract Number 2233/Poster Board 345; Phoenix, AZ; March 23-27, 2014.

29) Thuett, K.A., B.D. Kerger, B.L. Finley, and **D.J. Paustenbach**. 2014. Evaluation of Four Alpha-Diketones for Toll-Like Receptor-4 (TLR-4) Activation in Human Embryonic Kidney Cells. Poster presented at Society of Toxicology (SOT) 53rd Annual Meeting and ToxExpo; Abstract Number 1610/Poster Board 269; Phoenix, AZ; March 23-27, 2014.

30) Ronk, C.J., D.M. Hollins, M.J. Jacobsen, D.A. Galbraith, H.M. Bolstad, and **D.J. Paustenbach**. 2013. Pulmonary Obstruction among Workers at a Food Flavorings Manufacturing Facility. Abstract ID: 5315, Poster presentation at The International Society of Exposure Science (ISES), Basel, Switzerland, August 19 - 23, 2013.

31) Bolstad, H.M., D.M. Hollins, C.J. Ronk, A.M. Foda, R.J. Ward, M.J. Jacobsen, and **D.J. Paustenbach**. 2013. Occupational Exposures Measured in a Food Flavoring Manufacturing Facility. Abstract ID: 5397, Poster presentation at The International Society of Exposure Science (ISES), Basel, Switzerland, August 19 - 23, 2013.

32) Vishnevskaya, L., K.A. Thuett, W.D. Cyrs, P.S. Chapman, **D.J. Paustenbach**, and B.L. Finley. 2013. Evolution of Warnings and Labels on Encapsulated Asbestos-Containing Products (1930–1990). Session: Legal, Regulatory, Guidelines, Standards. Poster presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 21, 2013; 10:00 AM – 12:00 PM. Presentation Number: SR-403-08.

33) Abelmann, A, J.S. Pierce, M.E. Glynn, S. Serrano, C.J. Ronk, and **D.J. Paustenbach**. 2013. Historical Outdoor Airborne Asbestos Concentrations Associated with Emission Sources in the United States: A Review of Published and Unpublished Data. Session: Aerosols. Poster presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 20, 2013; 10:00 AM – 12:00 PM. Presentation Number: SR-401-03.

34) Sahmel, J., C.A. Barlow, A.M. Burns, P.K. Scott, A.K. Madl, J.L. Henshaw, and **D.J. Paustenbach**. 2013. Measurement of Airborne Asbestos Fiber Settling Rates in a Simulation Study of Clothes Handling. Session: Exposure Assessment Strategies. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 20, 2013; 3:00 PM – 3:30 PM. Presentation Number: SR-108-04.

35) Gaffney, S.H., B. Donovan, **D.J. Paustenbach**, J. Sahmel, C.A. Barlow, A.K. Madl, J.L. Henshaw, R.J. Lee, and D. Van Orden. 2013. Evaluation of Potential Para-Occupational Exposure to Chrysotile Asbestos during Laundering Activities through a Simulation Study. Session: Exposure Assessment Strategies. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 20, 2013; 3:30 PM – 4:00 PM. Presentation Number: SR-108-05.

36) Hollins, D.M. C.A. Ronk, A. Foda, R. Ward, M.E. Jacobsen, and **D.J. Paustenbach**. 2013. Inhalation Exposure to Food Flavorings at a Manufacturing Facility. Session: IH General Practice. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 22, 2013; 2:00 PM – 2:30 PM. Presentation Number: SR-131-03.

37) Ronk, C.A., D.M. Hollins, M.E. Jacobsen, A. Foda, D.A. Galbraith, and **D.J. Paustenbach**. 2013. Pulmonary Restriction among Workers at a Food Flavoring Manufacturing Facility; A Follow Up Study. Session: Occupational and Environmental Epidemiology. Podium presentation at The American Industrial Hygiene Conference & Exposition (AIHce) in Montreal, Quebec, Canada. May 23, 2013; 1:30 PM – 2:00 PM. Presentation Number: SR-146-03.

38) Finley, B.L., B.E. Tvermoes, K.M. Unice, J.M. Otani, **D.J. Paustenbach** and D.A. Galbraith. 2013. Cobalt Whole Blood Concentrations in Healthy Adult Volunteers Following Two-Weeks of Ingesting a Cobalt Supplement. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Safety Assessment: Non pharmaceuticals; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 1555/Poster Board 616.

39) H.M. Bolstad, K.M. Unice, J. Maskrey, D.M. Hollins, B.D. Kerger and **D.J. Paustenbach**. 2013. Airborne Diacetyl from Cooking and Consumption of Microwave Popcorn: Estimation of Consumer Exposure with a Two-zone Near- field/Far-field Model. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Exposure Assessment: New Characterizations, Methods, and Models; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 1268/Poster Board 230.

40) Kerger, B.D., R. Gerads, B.L. Finley and **D.J. Paustenbach**, DJ. 2013. Method: Measuring Protein-Bound and Free Cobalt (II) in Human Serum - Size Exclusion Liquid Chromatography with ICP-MS. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Metals I; 9:00 A.M. to 12:30 P.M.; Exhibit Halls C&D. Abstract number 1168/Poster Board 620.

41) Monnot, A.D., S.H. Gaffney, **D.J. Paustenbach**, and B.L. Finley. Dose-response relationships for blood cobalt concentrations and associated health effects. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Metals II; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 1514/Poster Board 573.

42) **Paustenbach, D.J.**, B.E. Tvermoes, J.M. Otani, K.M. Unice, B.L. Finley, and D.A. Galbraith. 2013. Cobalt blood concentrations and health effects in adult volunteers during a 90-day cobalt supplement ingestion study. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 14, 2013. Late-Breaking Abstract Session; 8:30 A.M. to 12:00 P.M.; Exhibit Hall A. Abstract number 2556/Poster Board 144.

43) Ronk, C.J., D.M. Hollins M.J. Jacobsen, A.M. Foda, D.A. Galbraith and **D.J. Paustenbach**. 2013. Lack of an Association between Cumulative Exposure to Diacetyl and Changes in Pulmonary Health among Workers at a Food Flavorings Manufacturer. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 11, 2013. Epidemiology: Exposures and Associations; 1:00 P.M. to 4:30 P.M.; Exhibit Halls C&D. Abstract number 478/Poster Board 253.

44) Thuett, K.A., B.L. Finley, P.K. Scott and **D.J. Paustenbach**. 2013. Speciation of Chromium Released from Metal-on-Metal Hip Implants. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 12, 2013. Metals I; 9:00 A.M. to 12:30 P.M.; Exhibit Halls C&D. Abstract number 1166/Poster Board 618.

45) Tvermoes, B.E., B.L. Finley, J.M. Otani, K.M. Unice, **D.J. Paustenbach** and D.A. Galbraith. 2013. Effects of Cobalt Dietary Supplementation on Cobalt Body Burden, Steady-State Levels and Selected Biochemical Parameters. Presented at the Society of Toxicology's (SOT) 52nd Annual Meeting, March 10-14, 2013, at the Henry B. Gonzalez Convention Center in San Antonio, Texas. March 14, 2013. Late-Breaking Abstract Session; 8:30 A.M. to 12:00 P.M.: Exhibit Hall A. Abstract number 2555/Poster Board 143.

46) Barlow, C.A., J. Sahmel, A.K. Madl, B. Donovan, S. Gaffney, J. Henshaw, R.J. Lee, D. Van Orden, and **D.J. Paustenbach**. Evaluation of Chrysotile Fiber Adherence to Clothing Exposed to Known Airborne Asbestos Concentrations Before and After Handling and Shaking Out of the Clothing. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

47) Sahmel, J., C.A. Barlow, B. Donovan, S.H. Gaffney, A.K. Madl, J.L. Henshaw, R.J. Lee, D. Van Orden, and **D.J. Paustenbach**. Evaluation of Potential Take Home Exposure during Laundering Activities: A Simulation Study of Airborne Chrysotile Concentrations Associated with Handling Clothing Exposed to Known Levels of Airborne Asbestos. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

48) Tvermoes, B.E., J. Otani, K.M. Unice, B.L. Finley, **D.J. Paustenbach**, D.A. Galbraith. Investigation of Cobalt Steady-State Levels in Five Healthy Adult Volunteers Taking 14-Days of a Cobalt Supplement. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

49) Monnot, A.D., S.H. Gaffney, **D.J. Paustenbach**, and B.L. Finley. Derivation of a Chronic Oral Reference Dose for Cobalt. Presented at the 2012 Society for Risk Analysis (SRA) Annual Meeting; December 9-12, 2012; San Francisco, CA.

50) Hollins, D.M., M.J. Jacobsen, **D.J. Paustenbach**, D.A. Galbraith and C.J. Ronk. Comparing Pulmonary Function Data in Flavorings Manufacturing Workers. Submitted to the 45th Society for Epidemiological Research (SER) Annual Meeting. June 27 - 30, 2012, in Minneapolis, MN.

51) Avens, H.A., K.M. Unice, J. Sahmel, S.A. Gross, J.J. Keenan and **D.J. Paustenbach**. Analysis and Modeling of Airborne BTEX Concentrations from the Deepwater Horizon Oil Spill. Submitted to the "Assessing Exposure During Disaster Response: The Gulf Oil Spill Experience" roundtable. Presented at 2012 American Industrial Hygiene Conference & Expo (AIHce), June 16-21, 2012, in Indianapolis, IN.

52) Lew, M.G. R.M. Novick, J.J. Keenan and **D.J. Paustenbach**. Is dermal sensitization for 1,2-benzisothiazolin-3-one [BIT] in consumer products a cause for concern? Submitted to Society of Toxicology's 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California.

53) Phelka A., Finley, B.L., Pierce, J.S., Adams, R.E., **Paustenbach, D.J.**, Thuett, K.A. and Barlow, C.A. Tremolite Asbestos Exposures Associated with the Use of Commercial Products. Presented at Society of Toxicology's (SOT) 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California. March 14, 2012. Exposure Assessment: Case-Specific Characterizations; 9:00 AM - 12:30 PM; Exhibit Hall; 2115 Poster Board -539.

54) Novick, R.M., J.J. Keenan and **D.J. Paustenbach**. An Analysis of Historical Exposures of Pressmen to Airborne Benzene (1930s to 2006). Submitted to Society of Toxicology's 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California.

55) Adams R.E., Finley, B.L., Pierce, J.S., Phelka, A., **Paustenbach, D.J.**, Thuett, K.A. and Barlow, C.A. Derivation of LOAEL and NOAEL for Tremolite Asbestos. Presented at Society of Toxicology's (SOT) 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California. March 14, 2012. Exposure Assessment: Case-Specific Characterizations; 9:00 AM - 12:30 PM; Exhibit Hall; 2114 Poster Board -538.

56) Knutsen, J.S., B.D. Kerger, B.L. Finley, and **D.J. Paustenbach**. Human PBPK Modeling of Benzene Inhalation Based Chinese Worker Urinary Metabolite Data: Comparison of Human and Mouse Metabolism. Submitted to Society of Toxicology's 51st Annual Meeting, March 11–15, 2012, at the Moscone Convention Center in San Francisco, California.

57) Cowan, D.M., M. Anderle de Sylor, L.J. Lievense, A.J. Slocombe, M.G. Fromowitz, and **D.J. Paustenbach**. Product sustainability: The role of chemical watch lists in chemical deselection from products manufacturing processes. Society of Toxicology (SOT) Annual Meeting, March 6-10, 2011. Washington, D.C.

58) Gross, S. A., R.D. Irons, D. Galbraith and **D.J. Paustenbach**. A Case Control Study of Chronic Myelomonocytic Leukemia in Shanghai, China. Society of Toxicology (SOT) Annual Meeting, March 6-10, 2011. Abstract #1210, Poster Board #713. Washington, D.C. (Epidemiology and Exposure Evaluations)

59) Keenan, J., H. Avens, K. Unice and **D.J. Paustenbach**. Evaluation of Airborne Toxicant Concentrations from the Deepwater Horizon Oil Spill. Society of Toxicology (SOT) Annual Meeting, Tuesday, March 8, 2011. Abstract #1262, Poster Board #834. Washington, D.C. (Exposure Assessments and Biomonitoring Applications)

60) Kerger, B.D., P.K. Scott, M. Pavuk, M. Gough, and **D.J. Paustenbach**. Reverse Causation of Dioxin Dose-Response Trends for Risk of Diabetes Mellitus Type 2 Among Operation Ranch Hand Vietnam Veterans. Society of Toxicology (SOT) Annual Meeting, March 6-10, 2011. Abstract #2255, Poster Board #359. Washington, D.C. (Persistent Organic Compounds (POPs)

61) Tvermoes, B., Anderle de Sylor, M., Sahmel, J., Cyrs, W. and **D.J. Paustenbach**. An assessment of the bioavailability of cadmium in thin-film PV modules. Society of Toxicology (SOT) Annual Meeting, Thursday March 10, 2011. Abstract #2909, Poster Board #155. Exhibit Hall, Convention Center. Washington, D.C. (Grace Period Abstracts - Session IV)

62) Gaffney, S., J. Sahmel, J. Knutsen, **D.J. Paustenbach**. Determinants of Deathly Carbon Monoxide Exposure inside a Recreational Vehicle. American Industrial Hygiene Conference and Expo (AIHce), May 14 – May 19, 2011, Portland, Oregon. PO 109-3.

63) Sahmel, J., K. Devlin, **D.J. Paustenbach**, D.M. Hollins, S.H. Gaffney. Exposure Reconstruction in Occupational Human Health Risk Assessment: Current Methods and a Recommended Framework. American Industrial Hygiene Conference and Expo (AIHce), May 14 – May 19, 2011, Portland, Oregon. PO 126-4.

64) Sahmel, J., K. Devlin, A.M. Burns, T. Ferracini, M. Ground, and **D.J. Paustenbach**. Analysis of Historical Industrial Hygiene Data: A Case Study Involving Benzene Exposures at a Petrochemical Manufacturing Facility (1974-1999). American Industrial Hygiene Conference and Expo (AIHce), May 14 – May 19, 2011, Portland, Oregon. PS 402-18.

65) Le, M.H. and **D.J. Paustenbach**. The impact of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) on the changing regulatory landscape of hazard communication. Presented at the Society for Risk Analysis (SRA) Annual Meeting, December 5-8, 2010. Abstract #M3-C.3, Salt Lake City, UT.

66) **Paustenbach, D.J.** Reflections on the role of risk assessment at OSHA over the 40-year journey: Has it been a big disappointment? Presented at the Society for Risk Analysis (SRA) Annual Meeting, December 5-8, 2010. Abstract #M3-A.4. Salt Lake City, UT.

67) Sahmel, J., K. Devlin, **D.J. Paustenbach**, D. Hollins, and S.H. Gaffney. The role of exposure reconstruction in occupational human health risk assessment: Current methods and recommended framework. Presented at the Society for Risk Analysis (SRA) Annual Meeting, December 5-8, 2010. Abstract #M3-E.2, Salt Lake City, UT

68) Unice, K.M., P.K. Scott, and **D.J. Paustenbach**. Review of exposure models assessing outdoor use of volatile consumer and industrial products. Presented at the Society for Risk Analysis (SRA) Annual Meeting, December 5-8, 2010. Abstract #T4-E.2, Salt Lake City, UT.

69) Avens, H.J., J.J. Keenan, K.M. Unice, and **D.J. Paustenbach**. Estimating the airborne concentrations of benzene and other relevant volatiles in boats operating in or near oil spills: A comparison between the Exxon-Valdez and Deepwater Horizon incidents. Presented at the Society for Risk Analysis (SRA) Annual Meeting, December 5-8, 2010. Abstract #W3-E.1, Salt Lake City, UT.

70) Donovan, E.P., B.L. Donovan, P. Chowdhary and **D.J. Paustenbach**. Possible Risks Associated with Coalbed Methane-Produced Water. Presented at 2010 Society of Environmental Toxicology and Chemistry (SETAC) Conference, Portland, OR. Monday November 8th, 2010, Exhibit Hall.

71) **Paustenbach, D.J.** 2010 Reflections on thirty years in chemical risk assessment…. and thoughts about the next ten years. Presented at the Conference on Environmental Decisions: Risks and Uncertainties – Switzerland. April 25-29, 2010, Centro Stefano Franscini, Monte Verità, Switzerland

72) Keenan, J.J., S.H. Gaffney, D.A. Galbraith, P. Beatty and **D.J. Paustenbach**. 2010. Gasoline: A complex mixture or a dangerous vehicle for benzene exposure? Chem-Biol Interact. 184(1-2):293-295.

73) **Paustenbach, D.J.**, J.S. Knutsen, D.M. Hollins, J.E. Sahmel, and A.K. Madl. 2010. Comparison of modeled and measured concentrations of airborne benzene from the use of petroleum-based solvents spiked with low levels of benzene. Chem-Biol Interact. 184(1-2):296-298.

74) Cowan, D.M., J. Sahmel, K. Unice, P. Scott, and **D.J. Paustenbach**. Potential for Occupational Exposures of Hairdressers to Vinyl Chloride in Hairspray (1967-1974). Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Abstract #833. Baltimore, MD.

75) Gaffney, S.H., A.K. Madl, J.L. Balzer, and **D.J. Paustenbach**. Mechanic and Bystander Chrysotile Exposures During Heavy Equipment Brake Removal. Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Abstract #1196. Baltimore, MD.

76) Keenan, J., M.H. Le, **D.J. Paustenbach**, and S.H. Gaffney. Lead Testing Wipes Contain Measurable Background Levels of Lead. Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Abstract #1477. Baltimore, MD.

77) Kerger, B.D., J.S. Knutsen, J.R. Kuykendall, and **D.J. Paustenbach**. PBPK Modeling of Benzene Metabolites in Bone Marrow of Humans with Varied Workplace Exposure Patterns and CYP2E1 Activity. Presented at the 48th Annual Society of Toxicology's Meeting and ToxExpo, March 15-19, 2009. Abstract #1265. Baltimore, MD.

78) Murbach, D.M., K.D. Devlin, K.S. Franke, and **D.J. Paustenbach**. A Review of Historical Ambient Airborne Asbestos Concentrations in Cities and Buildings: 1950s to the Present Day. Presented at the International Society for Environmental Epidemiology and International Society of Exposure Analysis Joint Annual Conference (ISEE/ISEA), October 12-16, 2008. Abstract #1274. Pasadena, CA.

79) Donovan, B.L., E.P. Donovan, J. Sahmel, B. Epstein, and **D.J. Paustenbach**. Evaluation of Bystander Exposure to Asbestos: Review of the Literature (1950s – Present). Presented at the International Society for Environmental Epidemiology and International Society of Exposure Analysis Joint Annual Conference (ISEE/ISEA), October 12-16, 2008. Abstract #1011. Pasadena, CA.

80) Sahmel, J., P.K. Scott, K.M. Unice, and **D.J. Paustenbach**. Potential Occupational Exposures of Hairdressers to Vinyl Chloride in Hairspray (1962-1973). Presented at the International Society for Environmental Epidemiology and International Society of Exposure Analysis Joint Annual Conference (ISEE/ISEA), October 12-16, 2008. Abstract #1150. Pasadena, CA.

81) Sweet, L., K.M. Unice, J. Panko, and **D.J. Paustenbach**. Conducting Risk Assessments of Chemicals in Consumer Products. Presented at the International Society for Environmental Epidemiology and International Society of Exposure Analysis Joint Annual Conference (ISEE/ISEA), October 12-16, 2008. Abstract #922. Pasadena, CA.

82) Gaffney, S.H., M.L. Kreider, K.M. Unice, A.M. Burns, **D.J. Paustenbach**, L.E. Booher, R.H. Gelatt, and J.M. Panko. Benzene Exposure in Refinery Workers (1976-2006). Presented at the International Society for Environmental Epidemiology and International Society of Exposure Analysis Joint Annual Conference (ISEE/ISEA), October 12-16, 2008. Abstract #864. Pasadena, CA.

83) Knutsen, J., J. Kuykendall, **D.J. Paustenbach**. Comparing Equal Delivered Doses of Airborne Benzene for 8 hr/day Steady Exposure vs. Peak Exposure Regimens Using a PBPK Model. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Abstract #14. Minneapolis, MN.

84) Knutsen, J., D. Murbach, **D.J. Paustenbach**, A. Madl. Comparison of Modeled and Measured Concentrations of Airborne Benzene from the Use of Petroleum-Based Solvents Spiked with Low Levels of Benzene. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Abstract #53. Minneapolis, MN.

85) Gaffney, S., M. McKinley, A. Madl, **D.J. Paustenbach**, J. Knutsen. Validation of Two Different Exposure Models Using the Results of a Simulation Study Involving Exposures to Methanol Vapors During the Cleaning of Semiconductor Wafers. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Abstract #55. Minneapolis, MN.

86) Panko, J., A. Burns, K. Unice, M. Kreider, S. Gaffney, **D.J. Paustenbach**. Benzene Exposure in Refinery Workers: Baytown, TX (1978-2006). Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Abstract # 191. Minneapolis, MN.

87) Shay, E., P. Scott, **D.J. Paustenbach**. Residential and Occupational Indoor Surface Dust Criteria for and PAHs and PCDD/PCDF. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Abstract #261. Minneapolis, MN.

88) Gaffney, S., E. Donovan, J. Clarke, **D.J. Paustenbach**. Analysis of Historical Air Monitoring Data for Copper Beryllium at a Manufacturing Plant (1964-2000). Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Abstract # 298. Minneapolis, MN.

89) Shay, E., K. Unice, J. Knutsen, J. Panko, **D.J. Paustenbach**. Groundwater Vapor Intrusion into a School – Modeled Concentrations vs. Monitoring Results. Presented at the American Industrial Hygiene Conference & Exposition (AIHce), May 31-June 5, 2008. Abstract #300. Minneapolis, MN.

90) Harris, M., J.A. Tachovsky, E.S. Williams, **D.J. Paustenbach**, L.C. Haws. Assessment of the Health Risks Posed by Benzene in Certain Soft Drinks. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Abstract #697. Seattle, WA.

91) Phelka, A.D., J.A. Clarke, **D.J. Paustenbach**, B.L. Finley. The Importance of Asbestos Fiber Length as a Predictor of Potency for Asbestos-Related Disease. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Abstract #1185. Seattle, WA.

92) Kreider, M.L., K.M. Unice, J.M. Panko, T.E. Widner, **D.J. Paustenbach**, L.E. Booher, R.H. Gelatt. S.H. Gaffney. Occupational Exposure to Benzene the ExxonMobil Refinery in Joliet, Illinois (1977-2006). Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Abstract #1471. Seattle, WA.

93) Finley, B.L., A.K. Madl, D.M. Murbach, K.A. Fehling, **D.J. Paustenbach**, G.C. Jiang. A Study of Airborne Chrysotile Concentrations Associated with Handling, Unpacking, and Repacking Boxes of Automobile Clutch Discs (circa 1950-1980). Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Abstract #1458. Seattle, WA.

94) Jiang, G.C., A.K. Madl, **D.J. Paustenbach**, B.L. Finley. Detailed Asbestos Fiber Size and Morphology Analyses of Automobile Clutch Discs, Brake Pads, and Brake Shoes. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Abstract #1468. Seattle, WA.

95) Kerger, B.D., W.J. Butler, **D.J. Paustenbach**, J. Zhang, S. Li. Cancer Mortality in Chinese Populations Surrounding an Alloy Plant with Chromium Smelting Operations (1960-1978). Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Abstract #1472. Seattle, WA.

96) Fehling, K., J.R. Kuykendall, S. Shaw, **D.J. Paustenbach**, D. Collins. The Possible Community Health Hazards Posed by Emissions from Automobile Traffic Tunnels: A Review of the Literature. Presented at the 47th Annual Society of Toxicology's Meeting and ToxExpo, March 16-20, 2008. Abstract #1794. Seattle, WA.

97) Chapman, P., P.R. Williams, J. Kuykendall, M.A. McKinley, K. Franke, D.M. Murbach, A. Tachovsky, **D.J. Paustenbach**. Meta-Analysis of Asbestos-Related Disease Among Skilled Craftsmen in Various Occupational Settings, October 14-18, 2007. Abstract #300. Durham/Research Triangle Park, NC.

98) Flack, S.M., T.E. Widner and **D.J. Paustenbach**. Potential Radiation Exposures to Residents of New Mexico from the World's First Test of a Nuclear Device (Trinity Site, July 16, 1945), October 14-18, 2007. Abstract #390. Durham/Research Triangle Park, NC.

99) Gaffney, S.H., E.C. Moody, M.A. McKinley, J.S. Knutsen, A.K. Madl, **D.J. Paustenbach**. Worker Exposure to Methanol Vapors During Cleaning of Semiconductor Wafers in a Manufacturing Setting: Results of a Simulation Study, October 14-18, 2007. Abstract #301. Durham/Research Triangle Park, NC.

100) Jiang, G.C.-T., A.K. Madl, D.M. Murbach, K.A. Fehling, B.L. Finley, **D.J. Paustenbach** 2007. Exposure to Chrysotile Asbestos Associated with Handling, Unpacking, and Repacking Boxes of Automobile Clutch Discs, October 14-18, 2007. Abstract #94. Durham/Research Triangle Park, NC.

101) Murbach, D.M., C.M. English, J.S. Knutsen, **D.J. Paustenbach**, A.K. Madl. Reconstruction of Airborne Benzene Exposures Associated with the Use of Commercial Products Containing Solvents, October 14-18, 2007. Abstract #357. Durham/Research Triangle Park, NC.

102) Robinson, K.D., **D.J. Paustenbach**, A.D. Phelka, A.K. Madl. 2007. Factors Influencing the Development of Warnings on Regulated and Non-Regulated Consumer Products, October 14-18, 2007. Abstract #359. Durham/Research Triangle Park, NC.

103) Widner, T.E., S.H. Gaffney, A.F. Javier, J.M. Panko, M.L. Kreider, J.R. Marshall, L.E. Booher, **D.J. Paustenbach** Benzene Exposures of Dock Facility Workers Serving a Refinery and Chemical Plant: 1977-2005, October 14-18, 2007. Abstract #320. Durham/Research Triangle Park, NC.

104) Widner, T.E., K.D. Robinson, S.M. Flack and **D.J. Paustenbach**. Residential Are Development and Potential for Public Exposures around the Manhattan Project and Early AEC Sites, October 14-18, 2007. Abstract #298. Durham/Research Triangle Park, NC.

105) Flack, S.M., T.E. Widner and **D.J. Paustenbach**. A Review of the World's First Test of a Nuclear Device (Trinity Site, July 16, 1945) and Potential Radiation Exposuresto Residents of New Mexico, July 8-12, 2007. Portland, OR.

106) Widner, T.E., K. Robinson, S.M. Flack and **D.J. Paustenbach**. A Review of Residential Areas Developed around Manhattan Project and Early AEC Sites and Potential Pathways for Public Exposures, July 8-12, 2007. Portland, OR.

107) Chapman, P., P.R. Williams, J. Kuykendall, **D.J. Paustenbach** Meta-Analysis of Asbestos-Related Disease Among Skilled Craftsmen in Various Occupational Settings, March 25-29, 2007. Abstract #1991-210. Charlotte, NC.

108) Ferriby, L., M. Harris, K. Unice, P. Scott, L. Haws, **D.J. Paustenbach** Development of PCDD/F and Dioxin-Like PCB Serum Concentration Reference Values for the General U.S. Population Using the 2005-WHO TEFs and the 2001-2002 NHANES Data. Abstract #425-320. Charlotte, NC.

109) Williams, E.S., L. Ferriby, L.C. Haws, **D.J. Paustenbach**, M.A. Harris. Assessment of Potential Human Health Risks Posed by Benzene in a Commercial Beverage, Abstract #1446-217. Charlotte, NC.

110) Nguyen, L., D. Staskal, E.S. Williams, W. Luksemburg, L. Haws, L. Birnbaum, **D.J. Paustenbach**, M. Harris. Dietary Intake of PBDEs Based on Consumption of Catfish in Southern Mississippi, Abstract #712. Charlotte, NC.

111) Williams, P.R., J. Panko, K. Unice, J. Brown, **D.J. Paustenbach** Occupational Exposures Associated with Petroleum-Derived Solvents Containing Trace Levels of Benzene, Abstract #715. Charlotte, NC.

112) Gaffney, S., **D.J. Paustenbach** Reliability of Spot Urine Samples. Abstract# P-144 Presented at the International Conference on Environmental Epidemiology and Exposure, September 3-4, 2006. Paris, France.

113) Williams, P., J. Knutsen, C. Atkinson, A. Madl, **D.J. Paustenbach** Airborne Concentrations of Benzene Associated with the Historical Use of Liquid Wrench. Abstract# MAB2-PD-08 Presented at the International Conference on Environmental Epidemiology and Exposure, September 4, 2006. Paris, France.

114) **Paustenbach, D.J.**, J.R. Kuykendall, J.M. Warmerdam, P. Moy, B. Finley. Factors Affecting the Bioaccessibility and Bioavailability of Hexavalent Chromium and Dioxin Contaminants in Soil, and Their Relative Risk Assessment. Abstract# MSI-05 Presented at the International Conference on Environmental Epidemiology and Exposure, September 4, 2006. Paris, France.

115) Murbach, D., P. Chapman, A. Madl, J. Brown, **D.J. Paustenbach**. Evaluation of Bricklayer Exposures to Airborne Asbestos in Steel Mills (1972-1981). Abstract# P-609 Presented at the International Conference on Environmental Epidemiology and Exposure, September 5-6, 2006. Paris, France.

116) Murbach, D., P. Chapman, A. Madl, **D.J. Paustenbach**. Evaluation of Background Exposures to Airborne Asbestos on Maritime Shipping Vessels (1972-1992). Abstract# P-608 Presented at the International Conference on Environmental Epidemiology and Exposure, September 5-6, 2006. Paris, France.

117) Williams, P., **D.J. Paustenbach**. Retrospective Exposure Assessment of Asbestos Related to Skilled Craftsmen at a Petroleum Refinery in Beaumont, Texas (1940-2005). Abstract# Mab3-PD-06 Presented at the International Conference on Environmental Epidemiology and Exposure, September 4, 2006. Paris, France.

118) Gaffney, S., **D.J. Paustenbach**. The Challenge of Setting Occupational Exposure Limits (OELs) for Odorants and Irritants. Abstract# MAB3-PD-02 Presented at the International Conference on Environmental Epidemiology and Exposure, September 4, 2006. Paris, France.

119) Morinello, E., M. Kolantz, E. Donovan, P. Chapman, D. Galbraith, **D.J. Paustenbach**. Assessment of the Beryllium Lymphocyte Proliferation Test: Lessons Learned From a Long-Term Occupational Surveillance Program. Abstract# P-744 Presented at the International Conference on Environmental Epidemiology and Exposure, September 5-6, 2006. Paris, France.

120) **Paustenbach, D.J.**, M.A. Harris, L.L. Ferriby, E.S. Williams, L.C. Haws, K.M. Unice and P.K. Scott. Development of PCDD/F TEQ serum reference values for the U.S. Population for use in evaluating biomonitoring results. Abstract# O-125. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

121) Ferriby, L.L., E.S. Williams, W.J. Luksemburg, **D.J. Paustenbach**, L.C. Haws, L.S. Birnbaum and M.A. Harris. Comparing polychlorinated biphenyls in farm-raised and wild-caught catfish from Southern Mississippi. Abstract# P-410. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

122) Ferriby, L.L., E.S. Williams, W.J. Luksemburg, **D.J. Paustenbach**. Comparing PCDDs, PCDFs, and Dioxin-Like PCBs in Farm-Raised and Wild-Caught Catfish from Southern Mississippi. Presented at the 26th International Symposium on Halogenated Persistent Organic Pollutants, August 21-25, 2006. Oslo, Norway.

123) Staskal, D.F., L.L. Ferriby, E.S. Williams, W.J. Luksemburg, L.C. Haws, L.S. Birnbaum, **D.J. Paustenbach** and M.A. Harris. Polybrominated diphenyl ethers in southern Mississippi catfish. Abstract# P-228. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

124) Haws, L.C., P.K. Scott, K.M. Unice, M. Gough, M.A. Harris, D.S. Staskal, **D.J. Paustenbach** and M. Pavuk. Are dioxin body burdens surrogates for other risk factors in associations between dioxin and diabetes? Abstract# O-071. Presented at the 26th International Symposium on Halogenated Environmental Organic Pollutants and POPs, August 21-25, 2006. Oslo, Norway.

125) Gaffney, S.H. and **D.J. Paustenbach**. Total phenol and t,t-muconic acid as biomarkers for individual exposure to benzene: evidence of high background concentrations in some persons. Abstract #218. *Reaching New Heights:* Abstract Book AIHce & Vent. May 13-18, 2006. Chicago, IL.

126) Williams, P., **D.J. Paustenbach**. Reconstruction of Exposure of Skilled Craftsmen to Asbestos at the Beaumont, Texas Refinery (1946-2004). Abstract #128 Presented at the American Industrial Hygiene Conference & Expo (AIHce), May 13-18, 2006. Chicago, IL.

127) Williams, P., J. Knutsen, **D.J. Paustenbach**. Reconstruction of Benzene Exposures During the Simulated Use of a Penetrating and De-Rusting Agent. Abstract #131 Presented at the American Industrial Hygiene Conference & Expo (AIHce), May 13-18, 2006. Chicago, IL.

128) Madl, A., E. Donovan, **D.J. Paustenbach**, M. Kelsh. Assessment of Exposure-Response Patterns for Beryllium Sensitization and Chronic Beryllium Disease. Abstract #275 Presented at the American Industrial Hygiene Conference & Expo (AIHce), May 13-18, 2006. Chicago, IL.

129) Leung, H., B.D. Kerger, P. Scott, **D.J. Paustenbach**. An Integrated Toxicokinetic Model for Estimating Childhood Body Burdens of Dioxins Based on Various Studies. Abstract # 561 Presented at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

130) Richter, R.O., B.D. Kerger, H. Leung, **D.J. Paustenbach**. Implications of Age-Dependent Half Lives of Dioxins on Assessment of Breast Milk Dose and Body Burden. Abstract #570 Presented at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

131) Gough, M., **D.J. Paustenbach**, B.D. Kerger, H. Leung, P. Scott, M. Harris. Dioxin and Diabetes: Does the Current Weight of Evidence Demonstrate a Relationship? Abstract #1536 Presented at the Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

132) Mellinger, K.N., K.L. Miller, J.R. Kuykendall, A.V. Cain, M.A. Harris, B. Finley, **D.J. Paustenbach**. DNA-Protein Crosslinks as a Potential Biomonitor of Hexavalent Chromium Exposure in Rainbow Trout. Abstract #1264. Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

133) Perry, M.W., J.R. Kuykendall, K.L. Miller, K.N. Mellinger, M.A. Harris, B. Finley, **D.J. Paustenbach**. Persistence of DNA-Protein Crosslinks in Erythrocytes of Channel Catfish after Acute Hexavalent Chromium Exposure. Abstract #1266. Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

134) Donovan, E.P., A.K. Madl, M.A. Kelsh, **D.J. Paustenbach**. Beryllium Exposure and the Prevalence of Chronic Beryllium Disease and Beryllium Sensitization. Abstract #848. Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

135) **Paustenbach, D.J.**, S.H. Gaffney, P.K. Scott, J.L. Brown, J.M. Panko. High Background Levels of Urinary Benzene Metabolites Found in Volunteer Study. Abstract #1253. Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

136) Harris, M., L. Ferriby, J. Knutsen, P. Nony, K. Unice, **D.J. Paustenbach**, P. Scott. Evaluation of PCDD/F and Dioxin-like PCB Serum Concentration Data from the 2001-2002 National Health and Nutrition Survey in the United States. Abstract #1254. Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

137) Williams, P.R.D., J. Knutsen, **D.J. Paustenbach**. Reconstruction of Benzene Exposures during the Simulated Use of a Penetrating and De-Rusting Agent. Abstract #851. Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

138) Williams, P.R.D., **D.J. Paustenbach**. Reconstruction of Exposure of Skilled Craftsmen to Asbestos at the Beaumont, Texas Refinery (1946-2004). Abstract #852. Society of Toxicology's 45th Annual Meeting, March 5-9, 2006. San Diego, CA.

139) Williams, P.R.D., K.D. Robinson, **D.J. Paustenbach**. Exposures associated withtasks performed on marine vessels. Abstract #M-28p. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

140) Williams, P.R.D., **D.J. Paustenbach**. A historical review of asbestos exposures among skilled craftsmen. Abstract #M-30p. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

141) Madl, A.K., M.A. Kelsh, **D.J. Paustenbach**. Exposure and the prevalence of chronic beryllium disease and beryllium sensitization. Abstract #M-31p. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

142) Shay, E.C., K.M. Unice, **D.J. Paustenbach**. Estimation of inhalation exposures to the OFF! Mosquito Coil III following indoor use. Abstract #T-24p. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

143) Madl, A.K., Clark, K., **D.J. Paustenbach**. Airborne benzene exposure of mechanics and gasoline service station attendants. Abstract # W-30p. Annual International Society of Exposure Analysis Conference (ISEA), October 30-November 3, 2005. Tucson, AZ.

144) **Paustenbach, D.J.** Incorporating the hormesis into the risk assessment paradigm. Abstract #21. 9th International Conference on Environmental Mutagens & 36th Annual Meeting of the Environmental Mutagen Society, September 3-8, 2005. San Francisco, CA.

145) Kerger, B., H. Leung, **D.J. Paustenbach**, L. Needleham, D. Patterson, P.M. Gerthoux, P. Mocarelli. Age and concentration dependent TCDD elimination half-life in Seveso children. Abstract #1581. 25th International Symposium on Halogenated Environmental Organic Pollutants and POPs, 20th International Symposium on Polycyclic Aromatic Compounds, August 21-26, 2005. Toronto, Canada.

146) Leung, H., Kerger, B., **D.J. Paustenbach**, J. Ryan, Y. Masuda. Age and concentration-dependent elimination half-lives of chlorinated dibenzofurans in Yusho and Yucheng patients. Abstract #1662. 25th International Symposium on Halogenated Environmental Organic Pollutants and POPs, 20th International Symposium on Polycyclic Aromatic Compounds, August 21-26, 2005. Toronto, Canada.

147) **Paustenbach, D.J.,** K. Fehling, M. Harris, P. Scott, B. Kerger. Identifying a soil clean-up criteria for dioxin in residential soils: How has 20 years of research and risk assessment experience impacted the analysis? Abstract #1922. 25th International Symposium on Halogenated Environmental Organic Pollutants and POPs, 20th International Symposium on Polycyclic Aromatic Compounds, August 21-26, 2005. Toronto, Canada.

148) **Paustenbach, D.J.**, J.M. Panko, P. Scott, K. Unice. Retrospective modeling of potential residential exposure to perfluorooctanic acid (PFOA) releases from a manufacturing facility. Abstract #ENV019. International Symposium on Fluorinated Alkyl Organics in the Environment, August 18-20, 2005. Toronto, Canada.

149) Kerger, B., H. Leung, P. Scott, **D.J. Paustenbach**. An Age-Dependent Half-Life Model for Estimating Childhood Body Burdens of Dibenzodioxins and Dibenzofurans. Abstract #257. Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

150) **Paustenbach, D.J.,** A. Madl, K. Clark, K. Fehling, T. Lee. Chrysotile Asbestos Exposure Associated with Removal of Automobile Exhaust Systems (Circa 1946-1970) Abstract #410. Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

151) Madl, A., K. Unice, P. Scott, K. Robinson, P. Scaramella, D. Pyatt, **D.J. Paustenbach**. Exposure Reconstruction of Historical Airborne Benzene Concentrations: Case study of a Deck Crewman on board Crude Oil and Chemical Tankers. Abstract #411. Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

152) Juberg, D., **D.J. Paustenbach**. Current Regulatory and Scientific Views Regarding Chemical Hazards to Children. Abstract #1338. Society of Toxicology's 44th Annual Meeting, March 6-10, 2005. New Orleans, LA.

153) **Paustenbach, D.J.**, R.O. Richter, B.L. Finley, P.R.D. Williams, and P.J. Sheehan. Evaluating Asbestos Exposures Associated with Vehicle Brake Cleaning and Machining Activities using Short-Term and TWA Measurements. Abstract #T6.3. Annual Meeting of the Society for Risk Analysis (SRA), Dec. 5-8, 2004. Palm springs, CA.

154) Fontaine D., **D.J. Paustenbach**, B. Landenberger, R. Budinsky, T.B. Starr. An Evaluation of the Toxic Equivalency Factor (TEF) for 2,3,4,7,8-PCDF (4-PCDF) using Data from the Recent NTP Dioxin Bioassays. Abstract #W8.7. Annual Meeting of the Society for Risk Analysis (SRA) Conference, December 5-8, 2004. Palm springs, CA.

155) B.L. Finley, R.O. Richter, F.S. Mowat, S. Mlynarek, **D.J. Paustenbach**, J.L. Warmerdam, and P.J. Sheehan. Cumulative Occupational Asbestos Exposures of U.S. Brake Repair Mechanics. Abstract T6.2. Annual Meeting of the Society for Risk Analysis (SRA) Conference, December 5-8, 2004. Palm springs, CA.

156) E. Shay, **D.J. Paustenbach**. A Review of Recent Surface Dust Sampling Methodologies and Their Usefulness for Exposure Assessment of Residences. Abstract #W2Bp-06 Presented at the International Society of Exposure Analysis' 14th Annual Meeting, October 17-21, 2004. Philadelphia, PA.

157) **Paustenbach, D.J.** Analysis of Endogenous and Exogenous Sources of Acetone Exposure in Children. Presented at the International Society of Exposure Analysis' 14th Annual Meeting, October 17-21, 2004. Philadelphia, PA.

158) **Paustenbach, D.J.**, A.K. Madl, K.A. Clark, K.A. Fehling, T. L. Carolina. Chrysotile Asbestos Exposure Associated with Removal of Automobile Exhaust Systems (Circa 1950-1974): Preliminary Findings of a Simulation Study. Abstract #W2D-03. International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

159) **Paustenbach, D.J.**, K.A. Clark, A.K. Madl, C. A. Mangold. Occupational Exposure to Airborne Asbestos During Installation and Removal of Asbestos-Containing Gaskets and Packings: A Review and Interpretation of Published and Unpublished Studies. Abstract #W2Dp-02. International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

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162) Mowat, F.S., M. Bono, **D.J. Paustenbach**. Occupational Exposure to Airborne Chrysotile Asbestos During Normal Use and Removal of Mastics, Coatings, and Adhesives. Abstract #W2D-02. International Society of Exposure Analysis 2004 Conference, October 17-21, 2004. Philadelphia, PA.

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164) **Paustenbach, D. J**., H.W. Leung, P. Scott and B. Kerger. An Approach to Calculating Childhood Body Burdens of Dioxin Using Age-Dependent Half Lives. International Dioxin Meeting. September 6-10, 2004. Abstract #541. Berlin, Germany.

165) Greene, J., G. Brorby, J.M. Warmerdam, **D.J. Paustenbach**. Surface Dust Criteria for Dioxin and Dioxin-like Compounds for Re-entry to Buildings. Abstract# 589. International Dioxin Meeting. September 6-10, 2004. Berlin, Germany.

166) Budinsky, R., T.B. Starr, **D.J. Paustenbach**, B. Landenberger, and D. Fontaine. A Preliminary Evaluation of the Toxic Equivalency Factor (TEF) for 2,3,4,7,8-PCDF (4-PCDF) Using Data from the Recent NTP Dioxin Bioassays. Abstract #595. International Dioxin Meeting. September 6-10, 2004. Berlin, Germany.

167) **Paustenbach, D.J.** Our Future is Tied to Updating Exposure Limits. Presented at the American Industrial Hygiene Association's 2004 Annual Meeting, June 2004. Oakland, CA.

168) Mowat, F., M. Bono, and **D.J. Paustenbach**. Occupational Exposure to Airborne Chrysotile Asbestos during Use and Removal of Mastics, Coating, and Adhesives (circa 1940's-present day). Abstract #525. Presentation at the Society of Toxicology's 43rd Annual Meeting, March 22-25, 2004. Baltimore, MD.

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171) **Paustenbach, D. J.**, G. Brorby, and B.L. Finley. Environmental and Occupational Health Hazards Associated with the Presence of Asbestos in Brake Linings and Pads (1900 to Present). Abstract #T14.6. Presentation at the Society for Risk Analysis Annual Meeting, December 7-10, 2003. Baltimore, MD.

172) **Paustenbach, D.J.,** P.R.D. Williams, G. Brorby, and P.J. Sheehan. Residential Exposures to Elemental Mercury Due to Releases from the Removal of Gas Pressure Regulators. Abstract #P2.6. Presentation at the Society for Risk Analysis Annual Meeting, December 7-10, 2003. Baltimore, MD.

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175) **Paustenbach, D.J.,** P. Williams. The Evolution of Dose Reconstruction Analyses Over time. Presented at the International Society of Exposure Analysis' 13th Annual Meeting, September 22-25, 2003. Stresa, Italy.

176) Williams, P., G. Brorby, P. Sheehan, **D.J. Paustenbach**. Elemental Mercury Releases Associated with the Removal of Gas Pressure Regulators in Homes. Presented at the International Society of Exposure Analysis' 13th Annual Meeting, September 22-25, 2003. Stresa, Italy.

177) Williams, P., **D.J. Paustenbach**. Characterizing Benzene Air Concentrations at an Industrial Chemical Plant. Presented at the International Society of Exposure Analysis' 13th Annual Meeting, September 22-25, 2003. Stresa, Italy.

178) Hays, S.M., Cushing, C. Pratt, D. Holiday, K. **D.J. Paustenbach**. Exposure of Infants and Children in the U.S. to the Flame Retardant Decabromodiphenyl Oxide (DBDPO). Presented at the 23rd International Symposium of Halogenated Organic & Persistent Organic Pollutants, August 24-29, 2003. Boston, MA.

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180) Duffy, J.S., J. Fessler, T. Gauthier, J. Greene, S. Medhekar, R. Mongia, B. Murphy, and **D.J. Paustenbach**. Evaluating the threat of chemical and biological warfare via mail or drinking water delivery systems. Abstract #799. Presentation at the Society of Toxicology 42nd Annual Meeting, March 9-13, 2003. Salt Lake City, UT.

181) **Paustenbach, D.J.** Assessing the hazard to children of low-level environmental exposures. Abstract #1088. Presentation at the Society of Toxicology 42nd Annual Meeting, March 9-13, 2003. Salt Lake City, UT.

182) Cushing, C.A., K.C. Holicky, D.W. Pyatt, D. Staskal, B.L. Finley, **D.J. Paustenbach**, and S.M. Hays. Estimated children's exposure to decabromodiphenyl oxide in the U.S. Abstract #1906. Presentation at the Society of Toxicology 42nd Annual Meeting, March 9-13, 2003. Salt Lake City, UT.

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194) Luippold, R.S., K.A. Mundt, J.M. Panko, E.W. Liebig, C. Crump, K.S. Crump, **D.J. Paustenbach**, and D.M. Proctor. Lung cancer mortality among workers exposed to airborne hexavalent chromium. Abstract #773. Final Program and Abstracts. 41st Annual Meeting of Society of Toxicology, March 17-21, 2002, Nashville, TN.

195) Proctor, D.M., S.M. Hays, M.V. Ruby, S. Liu, A. Sjong, M. Goodman and **D.J. Paustenbach** Rate of hexavalent chromium reduction by human gastric fluid. Abstract #1700. Final Program and Abstracts. 41st Annual Meeting of Society of Toxicology, March 17-21, 2002, Nashville, TN.

196) Tsuji, J.S., P.R. Williams, M.R. Edwards, K.P. Avadhanam and **D.J. Paustenbach**. Is mercury in urine indicative of exposure to low levels of mercury vapor? Abstract #979. Final Program and Abstracts. 41st Annual Meeting of Society of Toxicology, March 17-21, 2002, Nashville, TN.

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202) Madl, A.K., B. Finley, J. Warmerdam, R. Richter, and **D.J. Paustenbach**. Contribution of individual truck operations to ambient diesel particulate matter (DPM) concentrations: Implications for risk assessment and management. Abstract #2063. Final Program and Abstracts. 40th Annual Meeting of Society of Toxicology, March 25-29, 2001, San Francisco, CA.

203) Proctor, D.M., B.L. Finley, and **D.J. Paustenbach**. Is hexavalent chromium carcinogenic via the oral route of exposure an evaluation of the state of the science and implications for drinking water regulations. Abstract #1499. Final Program and Abstracts. 40th Annual Meeting of Society of Toxicology, March 25-29, 2001, San Francisco, CA.

204) Williams, P.R., P.J. Sheehan, and **D.J. Paustenbach**. A probabilistic assessment of household exposures to MTBE from drinking water. Abstract #105. Final Program and Abstracts. 40th Annual Meeting of Society of Toxicology, March 25-29, 2001, San Francisco, CA.

205) Wilson, N.D., V.A. Craven, P.S. Price, and **D.J. Paustenbach**. Event by event probabilistic methodology for assessing health risks of persistent chemicals in fish: A case study. Abstract #1211. Final Program and Abstracts. 40th Annual Meeting of Society of Toxicology, March 25-29, 2001, San Francisco, CA.

206) Williams, P.R.D. and **D.J. Paustenbach**. A case study of MTBE exposures and risk in California. Abstract #M26.04. Platform Presentation at the Society for Risk Analysis Annual Conference, December 3-6, 2000, Arlington, VA.

207) Sheehan, P.J., P.R.D. Williams, and **D.J. Paustenbach**. MTBE in California drinking water: A probabilistic assessment of exposures. Abstract #5A-10P. Presentation at the International Society of Exposure Analysis Annual Conference, October 24-27, 2000, Monterey, CA.

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210) Hays, S.M., M. Butcher, G.C. Hook, Y. Lowney, C.R. Kirman, and **D.J. Paustenbach** 2000. Probabilistic distributions for PBPK model parameters. Abstract #423. 39th Annual Meeting of the Society of Toxicology, Philadelphia, PA.

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214) Madl, A.K., R.M. Kalmes, and **D.J. Paustenbach** 1999. Community one-hour inhalation exposure limits for chemical irritants among five agencies in the United States. American Industrial Hygiene Conference. Toronto, Canada.

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216) **Paustenbach, D.J.** and G. Dodge. 1998. Significant up-coming changes in the application and practice of risk assessment. Abstract #51.01. Final Program and abstracts. Society for Risk Analysis Annual Meeting and Exposition, Phoenix, AZ.

217) Kirman, C.R., S.M. Hays, L. Aylward, N.J. Karch, and **D.J. Paustenbach**. 1998. Is TCDD a threshold carcinogen? A quantitative analysis of the epidemiological data. Abstract #1.02. Final Program and Abstracts. Society for Risk Analysis Annual Meeting and Exposition, Phoenix, AZ.

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251) Dodge, D.G., J.J.J. Clark, B.D. Kerger, R.O. Richter, B.L. Finley, and **D.J. Paustenbach**. 1996. Assessment of airborne hexavalent chromium in the home following use of contaminated tap water. Abstract #19618. In: The Toxicologist 30(1):251. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

252) Finley, B.L., B.D. Kerger, G.E. Corbett, and **D.J. Paustenbach**. 1996. Pharmacokinetics of drinking water exposure to selected chromium (III and VI) compounds in human volunteers. Abstract #18224. In: The Toxicologist 30(1):14. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

253) Fries, G., **D.J. Paustenbach**, R. Wenning, D. Mathur, and B. Luxemburg. 1996. Transport of chlorinated dioxin and furan contaminants in pentachlorophenol-treated wood to milk and adipose tissue of dairy cattle. 16th International Symposium on Chlorinated Dioxins and Related Compounds, Amsterdam, The Netherlands. Organohalogen Compounds Journal 26: 447-452.

254) Kerger, B.D., B.L. Finley, **D.J. Paustenbach**, and E. O'Flaherty. 1996. A physiologically-based pharmacokinetics model for ingestion of chromium (III and VI) in drinking water: validation with human studies. Abstract #13014. In: The Toxicologist 30(1):14. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

255) Kerger, B.D., D.G. Dodge, G.E. Corbett, and **D.J. Paustenbach**. 1996. Fostering USEPA's use of biologically based models in risk assessment and regulation. Abstract #A2.06. Annual Meeting of the Society for Risk Analysis, New Orleans, LA.

256) Kuykendall, J., S.K. Overman, B.D. Kerger, B.L. Finley, and **D.J. Paustenbach**. 1996. Testing for DNA-protein after drinking water exposure to chromium (III and VI) in human volunteers. Abstract #19616. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

257) **Paustenbach, D.J.**, S. Hays, B.D. Kerger, and B.L. Finley. 1996. An analysis of interindividual variability in uptake and elimination of chromium from human volunteers. Abstract #4301. In: The Toxicologist 30(1):35. 35th Annual Meeting of the Society of Toxicology, Anaheim, CA.

258) **Paustenbach, D.J.**, Rick Wenning, D. Mathur, and B. Luxemburg. 1996. PCDD/PCDFs in urban stormwater discharged to San Francisco Bay, California USA. 16th International Symposium on Chlorinated Dioxins and Related Compounds, Amsterdam, The Netherlands. Organohalogen Compounds Journal 28:111-116.

259) **Paustenbach, D.J.** 1995. Assessing the risks of sites of contaminated soils. Abstract #1. 2nd Workshop on Contaminated Soils, Melbourne, Australia.

260) Finley, B. and **D.J. Paustenbach**. 1995. Human vs. animal sensitivity to the immunological effects of TCDD: a preliminary comparison. Abstract #C. 15th International Symposium on Chlorinated Dioxins and Related Compounds, Edmonton, Canada.

261) Kerger, B.D., B.L., Finley, and **D.J. Paustenbach**. 1995. Cost-benefit analysis of California policy on cancer risk: a case study of chromium (VI). Abstract #203. In: The Toxicologist 15(1):37. 34th Annual Meeting of the Society of Toxicology, Baltimore, MD.

262) Kerger, B.D., G.E. Corbett, S. El-Sururi, R. Reitz, and **D.J. Paustenbach**. 1995. Validating dermal exposure assessment techniques for dioxin using body burden data and pharmacokinetics modeling. Abstract #D-1, Annual Meeting of the Society for Risk Analysis, Honolulu, HI, and Abstract #A, 15th International Symposium on Chlorinated Dioxins and Related Compounds, Edmonton, Canada.

263) Nethercott, J.R., R.M. Adams, J. Fowler, J.G. Marks, C. Morgan, J.S. Taylor, B. Finley, S. Horowitz, and **D.J. Paustenbach**. 1995. Response to topical challenge with hexavalent and trivalent chromium in human volunteers. Abstract #18. International Conference on Contact Dermatitis, Barcelona, Spain.

264) **Paustenbach, D.J.**, N. Karch, R. Golden, H.W. Leung, and B. Kerger. 1995. The relative susceptibility of animals and humans to the carcinogenic hazard posed by exposure to 2,3,7,8-TCDD: an evaluation of different dosimetric measures. Abstract #B. 15th International Symposium on Chlorinated Dioxins and Related Compounds, Edmonton, Canada.

265) Richter, R.O., B.D. Kerger, J. Cunningham, and **D.J. Paustenbach.** 1995. Exposure modeling and validation studies for aerosols a case study of dioxin exposure during roadside weed abatement with 2,4,5-Trichlorophenoxyacetic Acid. Abstract #332. 34th Annual Meeting of the Society of Toxicology, Baltimore, MD.

266) **Paustenbach, D.J.** and R.J. Wenning. 1994. The cost of identifying and evaluating airborne toxicants. Abstract #4. 1st East Asian Regional Air Toxics Conference, Hong Kong.

267) Finley, B.L., M.J. Kangas, **D.J. Paustenbach**, and P.K. Scott. 1994. A comparison of generic human health and ecological risk-based soil remediation criteria in Canada and the United States. Abstract #STP-1262 4th Annual ASTM Symposia on Environmental Toxicology and Risk Assessment, Montreal, Canada.

268) Gargas, M.L., B.L. Finley, R.L. Norton, D.M. Proctor, and **D.J. Paustenbach**. 1994. Biomonitoring of chromium (Cr) exposure by urinary excretion: bioavailability and sampling design. Abstract #383. In: The Toxicologist 14:383. 33rd Annual Meeting of the Society of Toxicology, Dallas, TX.

269) Kerger, B.D., L.B. Walker, M.J. Gargas, **D.J. Paustenbach**, and R.H. Reitz. 1994. Perspective on risks of chloroform in tap water: implications of physiologically based pharmacokinetics modeling (PBPK) on regulatory toxicity criteria. Abstract #542. 33rd Annual Meeting of the Society of Toxicology, Dallas, TX.

270) Walker, L.B., B.D. Kerger, and **D.J. Paustenbach**. 1994. Integrating critical scientific data into regulatory exposure limits: a case study with hydrogen sulfide. Abstract #794. 33rd Annual Meeting of the Society of Toxicology, Dallas, TX.

271) Wong, A., W. Luxemburg, and **D.J. Paustenbach**. 1994. Analytical chemistry and air toxics. Abstract #2. 1st East Asian Regional Air Toxics Conference, Hong Kong.

272) Wenning, R.J. and **D.J. Paustenbach**. 1993. Sources of PCDD/Fs in Newark Bay sediments. Abstract #13520. 13th Annual Meeting of SETAC, Cincinnati, OH.

273) Finley, B.L., D.M. Proctor, and **D.J. Paustenbach**. 1993. An alternative to the USEPA's proposed inhalation reference concentrations for hexavalent chromium. Abstract #1643. 32nd Annual Meeting of the Society of Toxicology, New Orleans, LA.

274) Gargas, M.L., P.K. Scott, B.L. Finley, and **D.J. Paustenbach**. 1993. Approaches to assessing human exposure to soil contaminants at wood preserving facilities. Abstract #1045. In: The Toxicologist 13:1045. 32nd Annual Meeting of the Society of Toxicology, New Orleans, LA.

275) Michaud, J., and **D.J. Paustenbach**. 1992. Development of a risk-based re-entry levels for PCB's, dioxins and furans following a PCB fire. Abstract #686. 31st Annual Meeting of the Society of Toxicology, Seattle, WA.

276) **Paustenbach, D.J.** and P.S. Price. 1992. Historical reconstruction of benzene exposure for an occupational cohort of rubber workers. Abstract #4I-1. Annual Meeting of the Society of Risk Analysis, San Diego, CA.

277) Wenning, R.J. and **D.J. Paustenbach**. 1992. Chemometric of potential sources of PCDD/PCDF in surficial sediments from Newark Bay. Abstract #ANA-9. 12th International Symposium on Chlorinated Dioxins and Related Compounds, Tampere, Finland.

278) Connor, K.M., T.L. Copeland, A.M. Holbrow, and **D.J. Paustenbach**. 1992. Quantitative uncertainty analysis of AB-2588 default exposure parameters. Abstract #1170. 31st Annual Meeting of the Society of Toxicology, Seattle, WA.

279) Copeland, T, **D.J. Paustenbach**, M.A. Harris, and V. Lau. 1992. Comparing the results of a Monte Carlo analysis with USEPA's reasonable maximum exposed individual (RMEI): a case study of a former wood treatment site. Abstract #4PS-8. Annual Meeting of the Society of Risk Analysis, San Diego, CA.

280) **Paustenbach, D.J.**, R. Wenning, and V. Lau. 1992. A Monte Carlo analysis of exposures and cancer risks from 2,3,7,8-TCDD in soil at residential and industrial sites. Abstract #RSK-29. 12th International Symposium on Chlorinated Dioxins and Related Compounds, Tampere, Finland.

281) Wenning, R.J., **Paustenbach, D.J.**, M.A. Harris, and H. Bedbury. 1992. Sources of PCDDs and PCDFs in Newark Bay sediments. Abstract #683 Annual Meeting of the Society of Environmental Toxicology and Chemistry.

282) Finley, B., M. Harris, and **D.J. Paustenbach**. 1991. Recent changes in regulatory toxicity rankings for wood-treating chemicals and their impact on risk assessment and remediation at wood-treating site. Abstract #16. Annual Meeting of the American Wood Preservers Institute, Scottsdale, AZ.

283) Harris, M.A., R.J. Wenning, M.J. Ungs, and **D.J. Paustenbach**. 1991. Comparisons of PCDD and PCDF fingerprint patterns in Lower Passaic and Newark Bay sediments and known environmental sources using multivariate statistics. Abstract #447, Annual Meeting of the Society of Toxicology and Environmental Chemistry, Seattle, WA, and Session P125, 11th International Symposium on Chlorinated Dioxins and Related Compounds, Research Triangle Park, NC.

284) Harris, M., B. Finley, R. Wenning, and **D.J. Paustenbach**. 1991. Evaluation of potential sources of 1,2,8,9-TCDD in aquatic biota from Newark Bay. Abstract #729. In: The Toxicologist 11(1):198. 30th Annual Meeting of the Society of Toxicology, Dallas, TX.

285) Huntley, S.L., R.J. Wenning, N.L. Bonnevie, R.E. Keenan, and **D.J. Paustenbach**. 1991. Scientific evaluation of natural resource damage claims associated with PCDD and PCDF contamination in the aquatic environment. Session #36-3. 1991 Environmental Conference, San Antonio, TX.

286) **Paustenbach, D.J.**, R. Keenan, and M. Layard. 1991. A new look at the dioxin RSD using a biologically based model. Abstract #42. Technical Association of the Paper and Pulp Industry.

287) **Paustenbach, D.J.**, R.J. Wenning, V. Lau, N.W. Harrington, D.K. Rennix, and A.H. Parsons. 1991. Recent developments on the hazards posed by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin in soil: implications for setting risk-based clean-up levels at residential and industrial sites. Session #P154. 11th International Symposium on Chlorinated Dioxins and Related Compounds, Research Triangle Park, NC.

288) **Paustenbach, D.J.**, R.J. Wenning, R.E. Keenan, and M.W. Layard. 1991. Risk estimates for 2,3,7,8-TCDD 1978 and 1990 histopathology interpretations of the Kociba et al. bioassay using a biologically based cancer model. Session #33-4. 1991 Environmental Conference, San Antonio, TX.

289) Wenning, R.J., M.J. Ungs, and **D.J. Paustenbach**. 1991. Comparisons of PCDD and PCDF fingerprint patterns in sediments from Newark Bay and other industrialized waterways using principal components and cluster analyses. Abstract #448. Annual Meeting of the Society of Toxicology and Environmental Chemistry, Seattle, WA.

290) Wenning, R.J., M.J. Ungs, and **D.J. Paustenbach**. 1991. PCDD and PCDF fingerprint patterns in sediments from Newark Bay and other industrialized waterways using principal components and cluster analyses. Session #P129. 11th International Symposium on Chlorinated Dioxins and Related Compounds, Research Triangle Park, NC.

291) Wenning, R.J., M. Harris, M.J. Ungs, B.L. Finley, and **D.J. Paustenbach**. 1991. PCDD and PCDF fingerprint patterns in surficial sediments from the lower Passaic River and Newark Bay using multivariate statistics. Abstract #446. Annual Meeting of the Society of Toxicology and Environmental Chemistry, Seattle, WA.

292) **Paustenbach, D.J.** 1990. Criteria for using substitution as a control measure. 5th Annual Meeting of the Semiconductor Safety Association, Phoenix, AZ.

293) **Paustenbach, D.J.** 1990. Setting rational, health-based water quality standards for dioxin-risk assessment for the Columbia River. Abstract #38-2. TAPPI Annual Meeting, Seattle, WA.

294) **Paustenbach, D.J.** and P. Sheehan. 1990. Development and field validation of a sampling and analytical method for airborne hexavalent chromium. Air Pollution and Waste Management Association Annual Meeting, Raleigh, NC.

295) Finley, B.L., R.J. Wenning, M.J. Ungs, S. Huntley, and **D.J. Paustenbach**. 1990. PCDDs and PCDFs in surficial sediments from the lower Passaic River and Newark Bay. Organohal. Comp. 1:409-414. 10th International Dioxin Meeting, Bayreuth, Germany.

296) Keenan, R.E., R.J. Wenning, A.H. Parsons, and **D.J. Paustenbach**. 1990. A reevaluation of the tumor histopathology of Kociba et al (1978): Using 1990 criteria: implications for the risk assessment of 2,7,8-TCDD using the linearized multistage model. 10th International Dioxin Meeting, Bayreuth, Germany 1:549-554.

297) Keenan, R.E., A.H. Parsons, R.J. Wenning, E.J. Ebert, and **D.J. Paustenbach**. 1990. Dioxin risk assessment of the Columbia River. 10th International Dioxin Meeting, Bayreuth, Germany. 1:541-546.

298) Keenan, R.E., A.H. Parsons, R.J. Wenning, E.S. Ebert, and **D.J. Paustenbach**. 1990. Setting rational health-based standards for dioxin--risk assessment for the Columbia River. pp. 801-811, Book 2. TAPPI Environmental Conference, Seattle, WA.

299) Layard, M., **D.J. Paustenbach**, R.J. Wenning, and R.E. Keenan. 1990. Risk assessment of 2,3,7,8-TCDD using a biologically based cancer model: a reevaluation of the Kociba et al. (1978) bioassay. 10th International Dioxin Meeting, Bayreuth, Germany. 1:561-566.

300) **Paustenbach, D.J.**, B.L. Finley, and T.T. Sarlos. 1990. An evaluation of the inhalation hazard posed by dioxin-contaminated soil. 10th International Dioxin Meeting, Bayreuth, Germany. 3:335-338.

301) **Paustenbach, D.J.**, B. Finley, R. Kalmes, and B. Fishman. 1990. Methodology for setting airborne emissions limits for chloroform, chlorine dioxide, and chlorine from paper and pulp mills. pp. 133-136, Book 1. TAPPI Environmental Conference, Seattle, WA.

302) **Paustenbach, D.J.** 1989. Conservatism in health risk assessment: suggestions for avoiding past mistakes. Abstract #MPM-F4. Annual Meeting of the Society of Risk Analysis, San Francisco, CA.

303) **Paustenbach, D.J.** 1989. Improvements in health risk assessment 1990s. 5th Annual HazTech Meeting, San Francisco, CA.

304) **Paustenbach, D.J.** 1989. Risk Assessment in the 1990s. Abstract #101. 4th Annual Hazmat West Conference, San Jose, CA.

305) Finley, B. and **D.J. Paustenbach**. 1989. Assessment of pesticide-related hazards to birds in a residential community. Abstract #P118. Annual Meeting of the Society of Environmental Toxicology and Chemistry, Toronto, Canada.

306) **Paustenbach, D.J.** and C.K. Kasunic. 1989. Dioxin emissions from incinerators. Abstract #8A. 6th International Meeting on Dioxins and Related Chemicals, Toronto, Canada.

307) **Paustenbach, D.J.** and S. Ripple. 1989. Applications of risk assessment to toxic tort litigation. Abstract #3. Annual Meeting of the American Bar Association, Honolulu, HI.

308) Leung, H.W., A.P. Poland, F.J. Murray, **D.J. Paustenbach**, and M.E. Andersen. 1989. Dose-dependent pharmacokinetics of [^{125}I]-2-IODO- 3,7,8-trichlorodibenzo-*p*-dioxin (I-TCDD) in mice. Abstract #946. 28th Annual Meeting of the Society of Toxicology, Atlanta, GA.

309) Sarlos, T., B. Fishman, and **D.J. Paustenbach**. 1989. Evaluation of emission rate and health risks of volatile gasoline components of soil. Abstract #P111. Annual Meeting of the Society of Environmental Toxicology and Chemistry, Toronto, Canada.

310) **Paustenbach, D.J.** 1987. Determining significant risk under Proposition 65. Abstract #2D. 3rd Hazmat West Conference, Long Beach, CA.

311) **Paustenbach, D.J.** 1987. Environmental and public health hazards of contaminated soil. Abstract 12. 2nd Conference on the Environmental and Public Health Effects of Petroleum Contaminated Soils, Amherst, MA.

312) Fries, G.F. and **D.J. Paustenbach.** 1987. A critical evaluation of the factors used in assessing incinerator emissions as a potential source of TCDD in foods of animal origin. Abstract #RC-05. 7th International Dioxin Symposium, Las Vegas, NV.

313) Fries, G.F. and **D.J. Paustenbach**. 1987. Evaluation of factors used to assess incinerator emissions as a potential source of TCDD in foods of animal origin. Abstract #279. 8th Annual Meeting of the Society for Environmental Toxicology and Chemistry, Pensacola, FL.

314) Leung, H.W. and **D.J. Paustenbach**. 1987. Documentation for an occupational exposure limit for 2,3,7,8-TCDD. Abstract #RC-04. 7th International Dioxin Symposium, Las Vegas, NV.

315) **Paustenbach, D.J.** and G.F. Fries. 1987. A risk assessment of incinerator emissions as a potential source of TCDD in foods of animal origin. Abstract #WAM-C4. 6th Annual Meeting of the Society of Risk Analysis, Houston, TX.

316) Leung, H.W., M.E. Anderson, R.H. Ku, and **D.J. Paustenbach**. 1987. A physiologically based pharmacokinetics model for 2,3,7,8-TCDD. Abstract #MA-02. 7th International Dioxin Symposium, Las Vegas, NV.

317) Leung, H.W., M.E. Andersen, R.H. Ku, and **D.J. Paustenbach**. 1988. A physiological pharmacokinetics description of the tissue distribution and enzyme induction of 2,3,7,8-TCDD in the rat. Abstract #618. Annual Meeting of the Society of Toxicology, Dallas, TX.

318) Shu, H., **D.J. Paustenbach**, J. Murray, L. Marple, P. Brunck, and D. Dei Rossi. 1987. Oral bioavailability in the rat of soil bound TCDD. Abstract #PS-40. 7th International Dioxin Symposium, Las Vegas, NV.

319) **Paustenbach, D.J.** 1986. An examination of critical assumptions in health risk assessments of 2,3,7,8-TCDD in contaminated soil. Abstract #1133. Society of Toxicology, New Orleans, LA.

320) **Paustenbach, D.J.** 1986. Critical assumptions in the risk assessment of TCDD in contaminated soil. Abstract #30. 191st National Meeting, American Chemical Society, New York, NY.

321) Sielken, R.L., F.W. Carlborg, **D.J. Paustenbach**, F.J. Murray, and H.S. Shu. 1986. Alternate approaches to mathematically analyzing the bioassay data for 2,3,7,8-TCDD. Abstract #1132. Society of Toxicology, New Orleans, LA.

322) **Paustenbach, D.J.** and J.T. Dufour. 1985. A critical review of cancer risk assessment methodologies. Abstract #219. American Industrial Hygiene Conference, Las Vegas, NV.

323) **Paustenbach, D.J.** and F.J. Murray. 1985. A critical examination of assessments of the health risks associated with 2,3,7,8-TCDD in soil. Abstract #135. 5th International Dioxin Symposium, Bayreuth, Germany.

324) **Paustenbach, D.J.**, et al. 1985. A physiologically based pharmacokinetics model (PBPK) for inhaled CCl_4 in the rat. Abstract #288. Society of Toxicology, San Diego, CA.

325) **Paustenbach, D.J.** 1984. Unusual work schedules: an overview. Abstract #112. American Industrial Hygiene Conference, Detroit, MI.

326) **Paustenbach, D.J.** 1983. An environmental risk assessment of an insect growth regulator for control of fire ants. Abstract #224. Society of Environmental Toxicology and Chemistry, Washington, DC.

327) **Paustenbach, D.J.** 1982. Effects of exposure duration on the severity of toxic response. Abstract #188. Society of Environmental Toxicology and Chemistry, Boston, MA.

328) **Paustenbach, D.J.** 1981. A comparative study of the pharmacokinetics and toxic effects of exposing rats to CCl_4 during a standard and normal workweek. Abstract #120. American Industrial Hygiene Conference, Portland, OR.

329) **Paustenbach, D.J.** 1981. The need to educate undergraduate engineers in occupational health and safety. Abstract #124. American Institute of Chemical Engineering, New Orleans, LA.

330) **Paustenbach, D.J.** 1980. A unit operations approach to engineering control of health hazards. Abstract #302. American Industrial Hygiene Conference, Houston, TX.

Advisory Boards to Industry

1) Member of the Alcoa Environmental Technology Board of Directors (1993-1996)
2) Member of the Savannah River Environmental Board of Directors (1997-2001)

Invited Lectures and/or Presentations at Universities

2018: Invited lecture at the University of Florida School of Public Health (Gainesville). Comparing and Contrasting the Four Career Paths Available to Toxicologists (Nov. 25 and 26, 2018)

2017: Invited lecture at the University of Kansas Medical School (Kansas City). Understanding the challenges of consulting in applied risk assessment: four case studies (Sept. 14, 2017) [The Annual John Doull Lecture]

2015: Invited lecture at the University of Washington School of Public Health. Understanding the role of professional consultants in applied risk assessment (Feb 15, 2015)

2014: Lecture at the University of Rochester Medical School. Overview of Risk Assessment and Examples of Some Applications. (Spring, 2014).

2014: Participated in the University of Rochester Toxicology Retreat by attending seminar presentations and judging graduate student/post-doc presentations. (Spring, 2014).

2013: Presented a couple lectures at the UM School of Public Health. One in the course "Advanced Topics in Risk Assessment" and another on "Famous case studies in health risk assessment" in the basic graduate level course in risk assessment (Fall Semester of 2013)

2012: Presented four different lectures at the UM School of Public Health. One in Advanced Topics in Risk Assessment (Dr. Andrew Maynard was lead professor), and lectures involving five different types of case studies (foods, sediments, medical devices, occupational hazards, and water pollution) (spring 2012) in the School of Public Health.

2011: Taught a double lecture at the University of Michigan, School of Public Health (Class 550). Current approaches to conducting simulation studies (part I) and ten case studies which convey special lessons in risk assessment (Part II) (Dr. Andrew Maynard's class) (April 10; Ann Arbor, MI) [3.0 hours].

2011: Presented two invited lectures at the University of Michigan. One in a basic toxicology course and another one in a graduate level risk assessment course (Fall of 2011).

2010: Lecture at the University of Michigan, School of Public Health (Class 550). Recent examples of complicated risk assessments which our firm conducted and later published in various journals. (Dr. Maynard's class) (April 7; Ann Arbor, MI).

2009: Lecture at the University of Michigan, School of Public Health (Class 550). An examination of five simulation studies that have changed the way science views the hazards of certain industries. (Dr. Jolliett's class) (March 27; Ann Arbor, MI). Other lectures were given that year in the risk course.

2008: Lecture at the University of Michigan, School of Public Health (Class 550). How risk assessment serves a critical role in litigation: especially with respect to Daubert and Frye hearing about the admissibility of scientific evidence. (Dr. Garabrant's class) March 12; Ann Arbor, MI).

2007: Lecture at the University of Michigan, School of Public Health (Class 550). Current approaches to conducting simulation and dose reconstruction studies. (Dr. Jolliett's class) (March 15; Ann Arbor, MI).

2007: Presented series of lectures (five or six, 3-hour lectures) at the University of Michigan which provided 50% of the teaching in the risk assessment course SPH 550 for MS and PhD students in this specialty. Was jointly responsible for teaching this course.

2007: Invited lecturer at the Rand School of Graduate studies; graduate risk assessment course). Lecture focused on "Advanced topics in health risk assessment" (Dr. Graham's class). (March 5; Santa Monica, CA).

2007: Invited lecture at the National Aeronautics and Space Administration (NASA) at Ames Research Center (national presentation via internal TV network). Lecture was on "Role of industrial hygienists in conducting simulation and dose reconstruction studies." (February 14; Mountain View, CA).

2006: Invited lecture at the University of Michigan School of Public Health Center for Risk Science and Communication Symposia. Lecture focused on seven examples of risk assessments performed by the government that could have been improved upon. (Dr. Garabrant's class) (September 15-16; Ann Arbor, MI).

2006: Invited lecture at the University of North Carolina, School of Public Health How well conducted exposure assessments can improve epidemiology studies. (Dr. Swenberg's class) (October 23; Chapel Hill, NC).

2006: What Can the Pharmaceutical Industry Learn from Applications of Risk Assessment? A lecture on "Lessons learned over the past 30 years from applying risk assessment to understanding the hazards of chemicals in the environment". Invited presentation at the Institute of Medicine Drug Forum, National Academy of Science. (May 30-31; Washington, DC).

2006: The Roles of Dose Reconstruction and Simulation Studies in Understanding Historical Exposure to Asbestos. Invited lecture at the International Conference on Chrysotile. (May 23-24; Montreal, Quebec, Canada).

2006: Achieving a Sensible Approach to the Management of Contaminated Sites: Current Practices and Issues. Presentation at the International Enviro Conference, (May 9; Melbourne, Australia).

2005: Invited speaker on "Assessing Exposure of Workers Historically Exposed to Benzene" at the Harris-Martin Course on Benzene (September 29-30; Los Angeles, CA).

2005: Invited speaker at the University of Michigan School of Public Health, first annual symposia on Risk, Center for Risk Science and Communication Symposia (September 15-16; Ann Arbor, MI).

2004-5: Presented guest lectures in the School of Medicine at UC Irvine as a clinical adjunct professor in clinical medicine on the topic of (a) rare occupational disease new to the late 20th Century, (b) occupational diseases which have captured the imagination in 2002-2005 (or where we have better characterized the risks). Double lectures were given in 2004 and 2005 in the classes ran by Dr. Fedoruk and Dr. Dean Baker.

2005: Invited participant on "Faculty Demonstration of the Direct and Cross Examination of the Defense Toxicologist" at the International Association of Defense Counsel 33rd Annual Trial Academy at Stanford Law School (August 5; Palo Alto, CA).

2005: Invited speaker on "A State-of-the Art Review of the Health Hazards Posed by Asbestos and Brake Dust" at a joint meeting of the Chrysotile Association and Russian Institute for Occupational Medicine (June 18; Moscow, Russia).

2005: Invited speaker on "Incorporating Hormesis into Regulatory Decision-Making: Possible Implications to the Water Industry" at the AWWA Research Foundation conference (June 13th; San Francisco, CA).

2005: Chaired a symposium at the national meeting of the Society of Toxicology entitled "Evolving knowledge regarding understanding the health risks to children posed by chemicals in our environment" (March, New Orleans, LA).

2004: Invited speaker on "Evaluation of Chemosensory Effects Due to Occupational Exposures" Round Table Discussion at the "Adversity Workshop" sponsored by the German MAK committee (November 16; Cologne, Germany).

2004: Served on the review committee for a peer-review report from the Environmental Carcinogenesis Division and the National Health and Environmental Effects Research Laboratory, Office of Research and Development, US Environmental Protection Agency (May 10-12).

2004: Invited speaker on "The Theory and Methods of Retrospective Exposure Assessment: An Industrial Hygienist's Point of View" at the Defense Research Institute's Toxic Torts and Environmental Law Seminar (March 18; New Orleans, LA).

2003: Invited speaker on "How the industrial hygiene profession can update the Occupational Exposure Limits" at the Professional Conference on Industrial Hygiene (September 14; Palm springs, CA).

2003: Chaired and presented a short course entitled "Fundamentals of Risk Assessment and Applications of Recent Methodologies to Difficult Problems" at the Society of Toxicology 42nd Annual Meeting (March 9-13; Salt Lake City, UT).

2003: Served as an expert for the National Academy of Sciences for Workshop on USEPA Assessment Factors for Data Quality (January 21; Washington, DC).

2002: Served as an expert on the USEPA Oversight Panel on World Trade Center (October 22-23; New York, NY).

2002: Continuing Professional Education Course at the 17th Annual Conference on Industrial Hygiene, AIHA Academy of Industrial Hygiene, "Dose Reconstruction in the Occupational Setting" (October 1; Cincinnati, OH).

2002: Chaired a one-half day symposium on "Risk Assessment of Dioxins" US-Vietnam Scientific Conference on Human Health and Environmental Effects of Agent Orange/Dioxin (March 3-6; Hanoi, Vietnam).

2001: Chaired a one-day symposium on "Current and future international trends regarding dioxins in foods" 21st Annual International Dioxin Meeting (September 10; Kyongju, South Korea).

2001: Served on Strategic Environmental Research and Development Program (SERDP) and Environmental Security Technology Certification Program of the Department of Defense (August 6-7; Washington, DC).

2000: Served on Governor's task force to evaluate health hazard posed by chromium (VI) in soils (June-August; Sacramento, CA). Resigned prior to public meeting.

2000: Chaired a one-day symposium on current and future international trends regarding dioxins in foods and its impact on trade 20th Annual International Dioxin Meeting (September; Monterey, CA).

2000: EPA Science Advisory Board member on the dioxin reassessment (December 2-3; Washington, DC).

2000: EPA Science Advisory Board member in the role of cost-benefit analysis in environmental decision-making (November 7-8; Washington, DC).

1996: Chaired a one-day national symposium on "Toxicologic and Environmental Hazards Posed by chromium (VI) in the Environment". Sponsored by the University of Massachusetts (March; Newport Beach, CA).

1996: Presented a four-hour professional development short course at the 30th Annual meeting of the Society of Toxicology entitled "Monte Carlo Techniques and Risk Assessment" (March; San Diego, CA).

1995: Expert panel member at the Symposia on Evaluation of the Human Health Components of the Life Cycle Assessment sponsored by the International Life Sciences Institute (May 4-6 and June 6-8; Washington, DC).

1995: Member of the CDC expert panel to evaluate ways to assess bioavailability of mercury in soil (August 29-30; Atlanta, GA).

1995: Presented professional development short course at the annual meeting of the Society of Toxicology entitled "Fundamentals of Health Risk Assessment." 250 members attended (March 4; Baltimore, MD).

1994: Invited peer-reviewer of the new National Academy of Sciences book entitled "Risk Assessment: Science and Policy" (January).

1994: Invited participant in Symposia "The Proper Role of Epidemiology in Regulatory Risk Assessment" at Harvard School of Public Health (October 13-14; Boston, MA).

1994: Member of the CDC Science Advisory Board assigned to review and comment on the toxicological profile for dioxin (August 10; Atlanta, GA).

1993: Invited peer-reviewer of the proposed Canadian Guidelines for Assessing Contaminated Soil (December).

1993: Invited peer-reviewer of the National Academy of Science document regarding their evaluation of the "Role of the National Health Effects Research Institute" (January 2; Washington, DC).

1993: Invited speaker on "State-of-the-Art in Risk Assessment" at the Professional Conference on Industrial Hygiene (October 23; Cincinnati, Ohio).

1993: Invited peer-reviewer of the risk assessment report of the committee assigned to evaluate the Great Lakes Initiatives (July).

1993: Keynote speaker and the only invited representative of U.S. to the 1st International Conference on Ecotoxicology; Melbourne, Australia (October 6-8).

1993: Keynote speaker at the first USEPA workshop on physiologically based pharmacokinetic (PBPK) models and cancer risk assessment (October 18-20; North Carolina).

1993: Presented a professional development course (4-hours) at the annual meeting of the Society of Toxicology entitled "Fundamentals of Health Risk Assessment" (March 4).

1992: Invited participant in USEPA's workshop on environmental exposure assessment (January 21-23; Virginia Beach, VA).

1992: Invited peer-reviewer of Congress' Office of Technology Assessment document "Risk Assessment Research Needs in the 1990s" (December 28; Washington, DC).

1992: Invited speaker and participant at the National Academy of Science symposia on state-of-the-art approaches to exposure assessment held as part of USEPA's Committee on Risk Assessment Methods (February 10 and 11; Washington, DC).

1992: Invited participant in the National Academy of Science workshop on developing ecological risk assessment guidelines (February 26-28; Fairfax, VA).

1992: Invited participant at a meeting of experts who discussed how to prioritize the national environmental agenda using risk assessment (November 10-11; Resources for the Future, Annapolis, MD).

1990: Selected as a charter member of the Council for the Health and Environmental Safety of Soils that operated under the auspices of the International Society for Regulatory Pharmacology and Toxicology (September 1987-1993). Objective of this group was to set national clean-up guidelines/limits for chemically contaminated soils. From 1989-1992, was the co-chairman of the Health Effects Group with Dr. Renate Kimbrough.

1989: Presented a professional development short course (four hours) at the annual meeting of the Society of Toxicology entitled "Fundamentals of Human and Ecological Risk Assessment."

1987: Invited peer-reviewer of USEPA's proposed risk-specific dose for dioxin (December).

1987: Selected as a member of the steering committee for the ACGIH Community Air Guidelines Committee. The objective of the group was to set community air standards for airborne toxics (dissolved in 1988).

1985: Presented a number of lectures at Stanford University as part of one of the first PhD level courses on risk assessment. Several other notable instructors team taught this course (including Warner North, Don Kennedy and Bill Lowrance).

1984: Member of the American Industrial Health Council's Scientific Committee and the Quantitative Risk Assessment Sub-Committee (1982-1984).

1983: A principal reviewer of the 1983 DOHS California Cancer Policy. Represented Chemical Industry Council of California in public hearing dealing with the proposed cancer policy.

1981: President of Indiana Section—American Industrial Hygiene Association (Indianapolis).

Presentations at Legal Conferences (and some professional meetings) [incomplete]

2019 (Nov. 6). A toxicologist's reflections on 35 years of assessing contaminated properties; and what to expect in the coming years. Surplus Property Roundtable (SPR). San Francisco, CA

2019 (Sept. 22). A toxicologist's reflections on 40 years of work within the pharmaceutical industry. Meeting of the Occupational Toxicology Roundtable (OTC). This is a gathering of 120 toxicologists who work within the pharmaceutical community. Napa, CA.

2019 (September 19). Estimating exposure to talc due to use in cosmetics: Is it really as complicated as court cases seem to indicate? Presentation at joint ISRTP and DRI scientific seminar on talc litigation. Sept. 19 and 20. Washington, DC.

2019 (Sept. 9). Carbon monoxide poisonings related to keyless ignitions: A changing landscape. Presentation with Emma Jacobson and Natalie Holden. Presentation at the DRI annual seminar on litigation and science associated with automotives. Columbus, OH.

2018. (September 7). Ten Fallacies Regarding the Science of Plaintiff's Cases involving Cosmetic Talc. Presentation at the Defense Asbestos Litigation Seminar Conference. Sept. 7, 2017. Austin, TX.

2018. (September 6). Overview of Monticello Meeting of Asbestos Experts (Oct. 15-20, 2017). Presentation at the Defense Asbestos Litigation Seminar Conference. Sept. 6, 2017. Austin, TX.

2017. (June) Asbestos Fiber Transport to Communities: Theory and Practice. DALS meeting. June 6, 2017. Orlando, FL.

2017. (June). Community exposure to trace concentrations of amphibole fibers: Next generation of asbestos claims. Presentation at the Defense Asbestos Litigation Seminar Conference. June 7, 2017. Orlando, FL.

2017. (January). Asbestos, Smoking, Lung Cancer and Synergy: Shortcomings In Plaintiff's Claims. Presentation at the National Forum on Asbestos Claims & Litigation Conference. January 12, 2017. Philadelphia, PA.

2016. (November). Overcoming Unjustified Fear: Attempts to Bring More Science to The Courtroom. Annual meeting of the DRI. Paustenbach and Rasmussen. Nov. 10. New Orleans, LA.

2016. (November). A Very Brief Historical Overview on The Toxicity of Talc. Presentation at the Defense Research Institute Annual Meeting. November 9, 2016. New Orleans, LA.

2016. (February). Some Suggestion About Derailments that Result in a Fire or Contamination of a Waterbody: Some Aspects Which Can Influence Possible Future Litigation. Annual meeting of railroad litigators. Feb. 20. Sun Valley, ID.

2016. (October). Looking into the crystal ball regarding science and litigation….with a focus on the railroad industry. Meeting of railroad litigators. Oct. 17, 2016. Kansas City, MS.

2015. (June). Scientific Testimony "that seems to stick" In Asbestos Litigation. Presentation at the Defense Asbestos Litigation Seminar Conference. June 4, 2015. Las Vegas.

2014. (Sept). Asbestos take-home, fiber settling, and bystander research data. Presentation at Perrin Conference on Sept. 10. San Francisco.

2014. (June). Scientific Testimony "that seems to stick" In Recent Lung Cancer Cases. Presentation at the Defense Asbestos Litigation Seminar. June 4, 2014. Las Vegas.

2013. (November). Factors Which Influence Take Home Exposure Of Asbestos. Presentation at the Perrin Asbestos Defense Strategic Summit. November 5, 2013. New Orleans.

2013. (November) Understanding Take Home exposure: Recent advances. Presentation to the Union Pacific Railroads. Nov. 6, 2013) New Orleans, La.

2011. (March). Personal Reflections on Friction Litigation. Presentation at the American Bar Association Meeting. March 31, 2011. Phoenix.

2009 (March). Toxicogenetics and Toxicogenomics: Science Fiction, or the Future of Toxic Torts. DRI Toxic Torts Seminar. March 20, 2009. Phoenix, Ariz.

2009. (March). Manufacturing Doubt and Science: Two fabricated Side Shows that have changed the landscape. DRI Toxic Torts and Env Law Seminar. March 20, 2009. Phoenix.

2009. (March). Clever deception: Judging science by popularity of funding source instead of intellectual content. DRI Toxic Torts and Env Law Seminar. March 20 2009. Phoenix.

2006 (May). What can the Pharmaceutical Industry learn from the History of Health Risk Assessment? Drs. Paustenbach and Galbraith. Institute of Medicine Drug Forum. May 30- 31, 2006. By invitation. Washington, DC

2003 (March). Invited presentation. Science vs. Politics and Influence: Fact or Fiction. American Bar Association. March 22. Phoenix.

Editorship

- Associate Editor; *Journal of Toxicological Sciences* (1998-2001)
- Editor-in-Chief; *Journal of Children's Health* (first issue published March 2003)

Editorial Review Boards

- *Risk Analysis* (1992-2004)
- *Journal of Toxicology and Environmental Health A* (1994-2011; 2015-Present)
- *Soil and Sediment Contamination (*formerly *Journal of Soil Contamination)* (1995-2011; 2015-Present)
- *Human and Experimental Toxicology* (England) (1995-2005)
- *Human and Ecological Risk Assessment* (1995-2008)
- *Regulatory Toxicology and Pharmacology* (1993-2011; 2015-Present)
- *Occupational and Environmental Medicine* (1998-2001)
- *Toxicology and Industrial Health (2002-2011)*

University Advisory Boards

2005-08: Served on the Dean's Advisory Board for Purdue University (semi-annual meetings in West Lafayette).

2002-14: Served on the Dean's Advisory Board for the University of Michigan, School of Public Health (semi-annual meetings in Ann Arbor). Remained an advisor to the board through 2014.

1996-98: Member of the Center Director's advisory board for the Harvard School of Public Health, Center for Risk Analysis (Boston, MA) (annual meetings).

Research and Professional Interests

- Quantitative Risk Assessment
- Risk Assessment of Carcinogenic and Non-carcinogenic Chemicals
- Fate and transport of types of chemicals in the environment
- Risk Communication
- Cost-Benefit Analyses
- Toxicology of Medical Devices
- Understanding the health risks of various industrial chemicals and metals
- Fate and transport of Airborne Particulates
- Pharmacokinetics of environmental contaminants
- Carcinogenicity of Industrial Chemicals
- Industrial Toxicology
- Environmental Toxicology
- Industrial Hygiene Engineering
- Setting Occupational and Environmental Exposure Limits
- Radon
- Chemical and Environmental Engineering
- Business Ethics
- Indoor Air Pollution
- Industrial Ventilation
- Occupational Health
- Unusual Work shifts.

Community Service

2017-2024: Co-Chairman of Committee to Establish a Foundation for Permanent Maintenance and Support of the Shakers. Sabbathday Lake, Maine

2014-2022: Served on the Board of Directors of the Jackson Laboratory (Bar Harbor, Maine). This was an internationally recognized research group who has developed thousands of strains of mice which are used in cancer and other research programs around the world. Assist chair to development committee.

2004-2014: Served as the co-chair of the fund-raising committee for the Center for Risk Analysis and Communication for the University of Michigan School of Public Health (Ann Arbor, Michigan). We raised approximately $10M.

2008-2012: Served as advisor with respect to fundraising to the Executive Director (Grainger) of the Peninsula Bridge Program (San Mateo County, CA). This organization is dedicated to providing supplemental educational training to dedicated and gifted minorities between grades 5-8 so as to enhance their opportunities to attend first rate high schools and colleges (when only about 30-50% of their peers even graduate from high school).

2005-2008: Financial supporter and lecturer at the Center for the Study of the American South at University of North Carolina, Chapel Hill. This is the first center based at a major university devoted to preserving the material and musical culture of the South. Harry Watson is Director.

2005-2008: Fundraising advisor and interim executive director to the Web History Center (Museum) which is dedicated to preserving the history of the evolution of the World WideWeb. Mountain View, California.

2003-2007: Fundraising advisor to the Dean for the University of Michigan Center for Risk Analysis and Communication (Ann Arbor, MI).

2003-2014: Served as an active member of Dean's Advisory Board for School of Public Health at Univ of Michigan (Ann Arbor, MI)

1997-2000: Member of the Bellarmine High School Board to identify the "vision" for the next 30 years. Part of the team responsible for raising $80M to revitalize the entire campus.

1995: Member of Bellarmine High School Board to review performance criteria for Office of the President.

1976-1977: Served as a psychologist/counselor in training (as part of MS degree requirements) at the Indiana State Institution for Juvenile Delinquents (Terre Haute, IN).

Other Activities

2003: Presented lecture at Heart of County—National Antique Show entitled "The history of the food safe in America: An updated analysis" as part of their symposia on material culture (February).

1995: Presented lecture at Heart of County—National Antique Show entitled "The history of the food safe in America" as part of their symposia on material culture (February).

Non-Peer Reviewed Publications

1) **Dennis Paustenbach** and David Brew. Speculation v. Fact: The Dangers of the Proposed EPA Risk Assessment on Chrysotile Asbestos. Asbestos Columns. Harris Martin. February 2021.

2) **Paustenbach, D**. 2016. An erosion of credibility: Embracing opinions of scientific or medical experts. For the Defense. April, pages 65-71.

3) Langard, S., B.D. Kerger, and **Paustenbach, D.J.** 1999. Cancer causation and assessment of relative contribution for known causes of human cancers: case examples involving hexavalent Chromium. Hazardous Waste Strategies Update. 10(2): 14-18.

Publications (Non-Scientific)

1) **Paustenbach, D.J.** and L. Paustenbach. 1995. Pie safes: American furniture and folk art. Part VI: Safes of the Deep South (Georgia, Alabama, Mississippi, Louisiana, and Arkansas). Antique Review. March.

2) **Paustenbach, D.J.** and L. Paustenbach. 1994. Pie safes: American furniture and folk art. Part V: Safes of Virginia, Tennessee, and Kentucky. Antique Review. January.

3) **Paustenbach, D.J.** and L. Paustenbach. 1993. Pie safes: American furniture and folk art. Part IV: Safes of the Midwestern states. Antique Review.

4) **Paustenbach, D.J.** and L. Paustenbach. 1992. Pie safes: American furniture and folk art. Part III: Geographical differences among pie safes (New England, New York, Pennsylvania, Delaware, and Maryland). Antique Review. March: 21-240.

5) **Paustenbach, D.J.** and L. Paustenbach. 1991. Pie safes: American furniture and folk art. Part II: Various food safes in America. Antique Review. November: 33-38.

6) **Paustenbach, D.J.** and L. Paustenbach. 1990. Pie safes: American furniture and folk art. Part I: The early history of food safes. Antique Review. August: 29-34.

Newspaper Articles

1) **Paustenbach, D.J.** 2005. The myth of dioxin. Editorial page. Akron Beacon Journal. December 26.

APPENDIX A

Participation in Public Meetings

GTX, Inc. (Amelia, LA): In May of 1998, gave a testimony at an evidentiary hearing regarding a permit for a large combustor. The testimony addressed how the modifications to the incinerator were intended to prevent significant quantities of airborne emissions.

Hewlett Packard; Barron Park Site (Palo Alto, CA): This job involved conducting a small risk assessment of contaminated sediment and effect on plant life in Barron Park Creek. In short, solvents had leaked from a contaminated plume into a creek that passed through a residential community in Palo Alto, CA. Upon completion of the assessment in 1992, the results were communicated in a public hearing to more than 150 residents and regulatory agency staff. Due to the poor reception that state and local regulatory agencies had received at previous public hearings, I was asked to present the data and the interpretation at this meeting, which was covered by local television and newspaper reporters.

Southern Wood Piedmont (Augusta, GA): A wood treatment facility was operated in a small town in Georgia for many years. The primary treatment chemical was pentachlorophenol, which is known to be contaminated with 2,3,7,8-TCDD. As a result of the treatment process, a groundwater plume had contaminated a creek that ran adjacent to the facility. We conducted a risk assessment on this site and presented the results at a public meeting in 1991.

Stauffer Chemical (Houston, TX): In 1989, a number of chemical plants along the Houston ship channel had had releases of hydrogen sulfide on a number of occasions. Due to the odors associated with this chemical, the local community had significant concern about the possible health effects of the emissions. Stauffer had installed a number of preventive measures as well as on-line continuous monitors for this chemical. Our job was to attend the public meetings wherein the renewal of their operating permit was discussed. As such, we needed to explain a number of scientific issues to a relatively hostile audience.

City of Detroit (world's largest municipal incinerator): In 1991, Mayor Coleman Young of Detroit had run into significant difficulty in maintaining the permits to operate Detroit's municipal incinerators. For a number of years, the Canadian government had expressed concern about the release of airborne chemicals by these incinerators and the drift of the plume toward the Canadian border. Due to dozens of questions which had been raised about the possibility that dioxins were being admitted from the incinerators, Mayor Young and the operators of the incinerators, wanted us to give presentations to the air pollution control district at their next public meeting and to answer the public's questions. I developed some teaching materials for that meeting and answered several hours of questions from the community (in early 1992). Nearly 500 people attended that meeting.

GSF Industries (Calumet City, IN): As a result of an accidental release of a scrubbing agent (selexol) from a gas recycling exhaust system, a number of cars besides this landfill had had their paint pitted. Because nearly 100 autos had been affected, local residences believed that it was likely that the particulate released during the accident would affect their health. Our client asked that we conduct a screening risk assessment and present our findings to residents in the area. In 1990, a public question/answer session took place in a largely poor-minority neighborhood outside Chicago for about 2.5 hours.

Syntex Agribusiness and Region VII USEPA (Springfield, MO): In 1978, dioxin contaminated oils were used as dust control for a number of towns in central Missouri. Most famous among these was Times Beach, Missouri. Although this site received most of the press coverage, a good deal of remediation activities was required at the two manufacturing sites from which the oils originated or were analyzed. As a result of those activities, USEPA and Syntex Agribusiness wanted to conduct remediation activities at both the Verona and the Springfield sites.

Because the townspeople had read literally hundreds of pages of information on dioxin for nearly 15 years, they were quite nervous about living near a remediation activity involving this chemical. At the request of the Region VII Administrator (Mr. Morris Kay), a public hearing was conducted in 1989 to explain the risks to humans and the environmental associated with the upcoming remediation activities. Fortunately, as a result of that meeting, the remediation process began to occur without significant resistance from either the community or local environmental action groups.

Maxus Energy (Kearny, NJ): Between 1890 and 1960 nearly three million tons of chromite-ore processing residue was used as landfills in the meadowlands outside Newark, New Jersey. In the late 1980s the New Jersey Department of Environmental Protection requested that plans be made to assess the health risks posed by the 150 sites where the residues were used as landfill, and which now were predominantly the surfaces of parking lots. After conducting nearly two years of research, Maxus requested that we conduct a public meeting wherein we would answer the questions posed by members of the community, including the Mayor and the Town Council. At least two meetings were held in 1990 - 1992 wherein our work was explained, and questions of the press and other groups were answered.

Occidental Chemical (Atlanta, IL): In the 1970s and 1980s, a pesticide formulation facility operated in a town of about 1,500 people in Illinois. During a remedial investigation of the plant site, it was concluded that persistent pesticides (cyclodienes) may have been distributed from a stack from the baghouse at the facility. The state environmental protection agency and townspeople were seriously concerned by the results of the remedial investigation and consideration was given to evacuating the town.

ChemRisk conducted a series of focused risk assessments to evaluate the potential hazard posed by the soils in the town which had elevated concentrations of several cyclodiene pesticides. Following our work, we were asked to give two town meetings, which were held in the high school gymnasium in 1989. These meetings were conducted jointly with the state environmental protection agency and the fish and game organization.