

## KATHRYN E. KELLY, DR.P.H., M.ED.

### Fields of Expertise:

Environmental Toxicology; Health Risk Assessment; Risk Communication

### Education:

Doctor of Public Health (Dr.P.H.), Columbia University, New York, 1985. Concentration: Environmental Toxicology. Dissertation: *Health Risk Assessment of Hazardous Waste Incinerator Stack Emissions*.

Master of Public Health (M.P.H.), Columbia University, New York, 1982. Concentration: Environmental Toxicology. Additional courses in biochemical and environmental toxicology taken at the New York University Institute of Environmental Medicine, New York, 1981-1982.

Master of Education in Learning & Technology, Western Governors University, Salt Lake City, 2014.

Bachelor of Arts (A.B.), Human Biology, Stanford University, California, 1979.

### Current and Previous Positions:

**Founder & President** (1996-present), **Delta Toxicology**, Inc, Crystal Bay, NV. Provide strategic planning and studies in environmental toxicology, health risk assessment, and risk communication. Past and current clients include: private sector (e.g., pharmaceutical, chemical, mining, cement, paper, waste management), government agencies (U.S. Centers for Disease Control and Prevention, U.S. Environmental Protection Agency, U.S. Department of Justice, U.S. Department of Energy, U.S. military branches, and state and local agencies), federal advisory committees, citizen groups, and international clients on five continents.

Concurrently **President & CEO** (2001-present), **Motion Knowledge Systems, Inc.**, Crystal Bay, NV, a medical device company. Supervised two randomized, controlled clinical trials funded by NIH. Commercialization in process.

**Founder & President** (1985-1995), **Environmental Toxicology International**, Inc., Seattle, WA. Conducted and supervised toxicological and health risk assessments of environmental contamination problems involving air, water, soil, pesticides and solid, hazardous, medical and radioactive waste. Finalist, INC. Entrepreneur of the Year Awards, Northwest Region, 1992.

**Founder & President** (1988-1994), **Alden Analytical Laboratories**, Inc. An analytical laboratory that provided high-quality analyses of organic and inorganic contaminants in water, soil, and tissue samples. Largest WBE-certified lab in Washington and the first state-accredited analytical lab.

**Technical Consultant** (1983-1985). Provided toxicological assessments of environmental pollutants from industrial facilities and hazardous waste sites.

**Environmental Scientist and Environmental Toxicologist** (1979-1982), **Dames & Moore**, Cranford, New Jersey, and White Plains, New York. Provided toxicological and environmental science support on hazardous and radioactive waste site cleanups and other environmental projects.

## *Selected Experience:*

### *Toxic Substances*

- Provided technical support to the CDC in support of developing criteria for exposure to mustard gas and nerve agents for chemical weapons stockpile demilitarization.
- Evaluated the extent of chemical contamination in consumer products affected by the largest industrial chemical explosion on record (Tianjin 2015) and devised a protocol for their decontamination.
- Provided technical support to the EPA in support of developing criteria for exposure to formaldehyde.
- Evaluated the strength of toxicology tests used by the federal and state government for deriving acceptable chromium exposure standards in California, and provided the scientific basis for their modification.
- Testified with regard to the individual and combined effects of various prescribed and illegal drugs in criminal cases.
- Assessed the adverse health effects that could occur in surrounding populations as a result of a variety of spills, fires, and other accidents at two proposed hazardous waste incineration facilities and provided expert witness testimony.
- Assessed the degree of hazard posed by contaminants leaching from a hazardous waste landfill and evaluated the potential health effects on nearby residents.
- Provided lead expert witness support for defense in toxic tort litigation contending anencephaly resulting from exposure to facility emissions.
- Provided expert witness opinions with regard to exposure to “toxic mold.”
- Developed health effects criteria for compounds for which no federal or state criteria exist, such as high levels of arsenic-containing arsenopyrite at a children's playground in Alaska.
- Taught introductory courses in toxicology (University of California, Los Angeles), environmental sciences (Columbia University), risk assessment (professional groups and U.S. Environmental Protection Agency).
- Supervised the assessment of toxicity of ingredients in consumer products, including biodegradable plastics, pens made from recycled tires, and rubber-stamp ink pads.

### *Air*

- Compiled comprehensive summary of approximately 7,000 chemical analyses of 165 chemical compounds taken over 22 months in the vicinity of two cement kilns burning hazardous waste and assessed likely health effects at those concentrations.
- Reviewed and ranked toxicity of 18 potential Hazardous Air Pollutants emitted from an Arizona manufacturing facility for compliance with pending state clean air legislation.
- On behalf of a national scientific organization, reviewed proposed exposure criteria for air contaminants in space stations.

- Assessed the potential for adverse human health effects to adjacent residents due to exposure to airborne contaminants from wastewater treatment ponds at a paper mill.
- Evaluated the potential for adverse public health and environmental impacts of air toxics from a variety of point sources, including incinerators, smelters, mills, and cement kilns.

### Pesticides

- Developed a successful strategy to prove through exposure simulation that a pesticide product would not cause birth defects under California state law, thus avoiding extensive animal sacrifice and allowing the product manufacturer to recover its registration by proving product safety for the first time in California.
- Supervised an evaluation of the extent of health risk posed by high levels of DDT and other pesticides in soil, and recommendations on remedial actions necessary to reduce the hazard to an acceptable level.
- Supervised the assessment of human health and environmental impacts of high levels of wood-treatment pesticides affecting a major estuary.
- Ranked the toxicity of the raw materials used to make agricultural chemicals at a pesticide manufacturing plant in Australia.

### Solid and Hazardous Waste

- Supervised life cycle analysis of cement made using coal vs. waste fuels.
- Instigated, researched, and co-authored the first major publication on the subject of burning hazardous waste in cement kilns and associated health effects (*All Fired Up: Burning Hazardous Waste in Cement Kilns*). Over 12,000 copies were sold; now available for download on Google Books.
- RCRA Activities: Provided scientific and technical support for the assessment of health effects, siting and permitting of proposed and existing hazardous, municipal, radioactive, and pathogen waste incineration facilities, cement kilns, smelters, manufacturing facilities, landfills, and other sources of chemical and radioactive exposure. Technical support has included extensive assessment of onsite and offsite exposure concentrations and consequent impacts to public health and the environment due to both normal operations and accidents; several public presentations of the findings to concerned citizens, media, and regulatory authorities; and expert witness support.
- CERCLA Activities: Evaluated adverse health effects due to ingestion and inhalation of high levels of lead in a residential community in California, assessed risks of adverse health effects to residents living in existing and proposed units built over extensive contamination at an abandoned naval shipyard in California, extensively reviewed impacts of an abandoned waste oil refining facility in Australia, and many other sources of exposure to environmental contaminants.
- Prepared comprehensive health risk assessment of PCB and priority pollutant contamination at utility site in Oregon being remediated for public and recreational use, now the Oregon Museum of Science and Industry.
- Supervised a life cycle analysis of cement made with coal vs. hazardous waste, from raw materials mining through ultimate disposal of the finished product.
- Assessed the scientific basis and potential market size of various environmental remediation technologies on behalf of investment firms.

- Devised a means of evaluating hazardous waste management facilities for potential and long-term liability problems.
- Conceived and supervised successful development of computer-based model (ETI Risk Manager) to streamline assessment of risks at combustion facilities.

### Water

- Assessed the likely human and ecological impacts of emissions from a pulp mill to adjacent surface waters in defense of a class-action lawsuit against the mill.
- Developed a methodology for assessing the potential for and significance of groundwater contamination at industrial sites.
- Evaluated impact of copper- and arsenic-bearing slag leaching into water supply.
- Testified on behalf of a Texas citizen group against a proposed hazardous waste incineration facility due to the potential for considerable surface water contamination.
- Assessed the potential for adverse human health impacts due to ground and surface water contamination from log yard runoff.

### Radiation

- Compiled a comprehensive report for the U.S. Nuclear Regulatory Commission on site operations at low-level radioactive waste disposal facilities. This document was used by existing and planned sites to establish policy and procedures in the areas of site management, occupational health and safety, training, monitoring, emergency planning and response, operational procedures, maintenance, design, and planning.
- Evaluated the radiological aspects of the selection and permitting of a pathogenic waste incinerator for the toxicology laboratory of a major oil company.
- Compared the long-term confinement capabilities of humid vs. arid radioactive waste disposal sites.
- On behalf of the U.S. Environmental Protection Agency, extensively reviewed draft technical documents regarding the health effects of mixed radioactive and hazardous waste incineration facilities.
- Supervised the preparation of a permit application for radionuclide emissions from a major cancer research facility.

### International

- Clients include private companies, government agencies and citizens groups on five continents.
- Keynote and invited speaker on environmental issues at several international conferences and seminars in Australia, Belgium, Brazil, Canada, Czechoslovakia, Denmark, Germany, Malta, Mexico, New Zealand, Switzerland, Taiwan, The Netherlands, and other countries.
- Presented an overview of the health effects of burning hazardous waste to academic groups, the European Parliament, and environmental regulatory agencies in Mexico, Brazil, and Nicaragua in connection with their development of regulations for managing hazardous wastes in cement kilns.

- Assisted with the siting of a hazardous waste treatment facility in Australia, provided health risk assessments of several hazardous waste sites in that country, and participated in many policy discussions regarding Australia's development of environmental regulations and policy positions on hazardous waste management.
- Provided toxicity labeling for a Japanese maker of consumer inks and pigments.
- Presented a talk (in German) to 120 engineers and scientists at a German chemical company on how to better convey toxicity information to non-technical personnel.
- Translated German and French technical articles on hazardous waste incineration for a corporate seminar.
- Prepared a briefing paper on dioxins for a Spanish municipality.
- Testified at a Welsh National Inquiry on burning hazardous waste and tires in cement kilns.

#### Environmental Policy

- Established environmental policy and management program specifications for various manufacturing units worldwide to ensure regulatory compliance with environmental legislation.
- Appointed by the Governor of Washington to assist the Washington Department of Ecology as a member of the first Washington State Science Advisory Board for Superfund matters.
- Member of the Texas Air Control Board (TACB) Task Force on Waste-Derived Fuels for Cement Kilns, appointed by the Chairman of the TACB to develop recommendations to the Texas State Legislature on the subject of burning hazardous waste and other alternate fuels in cement kilns.
- Participated in two Environment Canada workshops on the establishment of national criteria for soil cleanup levels.
- Researched and wrote a paper challenging the validity of  $10^{-6}$ , the "one-in-a-million" basis of many of our hazardous waste and pesticide health effects criteria.

#### Risk Communication and Public Affairs

- Participated in many media briefings on environmental issues, including experience in television, radio, newspapers, and publication in popular and technical journals, to help encourage effective interpretation and communication of controversial issues, particularly the health effects of toxic substances.
- Work with citizen advisory groups to interpret scientific and technical information.
- Taught courses in risk communication for technical personnel, plant managers, professional societies, and government employees.
- Published several papers on the subject of risk communication.
- Provided testimony to the state legislatures of Texas, Montana and Maryland on the subject of siting criteria and health effects of facilities combusting hazardous waste.
- Serve as resource to the national and international media regarding miscellaneous subjects (the health effects of incineration facilities, children sniffing glue in Guatemala, use of perchloroethylene among drycleaners, adverse effects of chemical weapons, etc.).

### Regulatory Compliance and Enforcement

- Devised a survey of unit processes, materials, and effluents to establish the degree of unit compliance with major environmental laws. Developed unit audit procedures and prepared compliance manuals.
- Experienced in developing siting criteria, completing permit applications, compiling waste surveys, ensuring regulatory compliance, conducting site audits, and participating in public hearings.
- Devised generic decision trees and checklists to be used in surveying hazardous waste facilities for compliance with RCRA standards. Prepared site-specific compliance plans and manuals to ensure RCRA compliance at various petrochemical, steel, and paper manufacturers nationwide.
- Developed cleanup levels under U.S. EPA consent order for several sites.
- Provided ongoing support to the U.S. Environmental Protection Agency on a five-year contract for Technical Support in 14 western states.
- Developed toxicity information for Material Safety Data Sheets, packaging guidelines, handling instructions, personal protection recommendations for a variety of compounds.
- Participated in negotiations on scientific basis for cleanup levels between U.S. EPA, state environmental authorities, and industrial clients.
- Extensively reviewed and revised a comprehensive health and safety plan to clean up hazardous waste sites at several military installations.

### Expert Witness Testimony

Judged “qualified” to provide expert witness testimony in criminal court. Affidavits and testimony transcripts are posted at [www.dauberttracker.com](http://www.dauberttracker.com).

### Professional Advisory Boards and Activities:

Member, American Council on Science and Health, Board of Scientific and Policy Advisors (2000-present)

Member, Lake Tahoe Basin Federal Advisory Commission (1998-2000)

Member, National Research Council/National Academy of Sciences Committee on Review and Evaluation of the Army Chemical Stockpile Disposal Program (Chemical Weapons “Stockpile Committee”) (1997-2000)

Reviewer, National Research Council (NRC) Board of Environmental Studies and Toxicology (1991-2000)

Reviewer, Agency for Toxic Substances and Disease Registry (ATSDR) (1999-present)

### Other:

“Highly qualified” license to teach secondary biology, health education, and environmental sciences, Nevada, expires August 2016

Private Pilot Certificate #549197890, 1997

National Ski Patroller #F080 191812, 1996

Advanced Open Water SCUBA Certificate #9608295706, 1996

Fluent in German; knowledge of technical French

### **Selected Presentations:**

**2010.** Invited Speaker. *Effective Use of Risk Assessment in OIG Program Evaluations.* EPA Office of the Inspector General Leadership Conference. Shepherdstown, WV. June-July.

**2009.** Invited Speaker. *Hexavalent Chromium and Cement Plants.* IEEE Cement Industry Committee West Coast Technical Conference. Victorville, CA. October.

**2007.** Invited Speaker. *Nanotechnology: How Do We Determine What's Acceptable If We Don't Know the Risks?* I.A. Bernstein Symposium on "Nanotechnology and Health: Evidence and Impact." University of Michigan School of Public Health. Ann Arbor. October.

**2005.** *Using Human Experimental Data to Derive Acute Exposure Concentrations for HD, GB and VX.* 8th International Chemical Weapons Demilitarization Conference, Edinburgh, Scotland. April.

**2004.** *Use of Categorical Regression in Analysis of Human Acute Experimental Data for the Nerve Agent Sarin (GB).* Session W19: Modeling for Rare Events and Terrorism. Annual Meeting of the Society for Risk Analysis. Palm Springs, CA.

**2004.** *Using Experimental Data to Derive Acute Exposure Levels for Chemical Weapons Agents.* XXXII Medichem International Congress, Paris, France. September 1-3.

**2002.** *Application of Human Experimental Data and Categorical Regression Modeling to the Development of Exposure Criteria for Chemical Warfare Agents.* EPA Workshop on Dose-Response Modeling. EPA National Center for Environmental Assessment, Research Triangle Park, NC. July 30-31.

**1999.** Invited Speaker. *From Sputnik to Superfund: The Role of Junk Science in Shaping Environmental Priorities.* First I.A. Bernstein Symposium on "Environmental Health Policy: Whither the Science?" University of Michigan School of Public Health. Ann Arbor. March.

**1999.** Invited Speaker. *Particulate Matter Regulations and the Cement Industry – Do the Risks Justify the Rules?* Canadian Portland Cement Association. Montreal. March.

**1998.** Invited Speaker. *Five Years, One Permit – Risk Assessments and Part B Permits in the Cement Industry.* Annual Rock Products Meeting. Salt Lake City. December.

**1997.** Invited Speaker. *The Role of Signal Factors in the Perception and Communication of Risk.* American College of Occupational and Environmental Medicine. Nashville, TN. October.

**1997.** Session Chair, *Risk Assessment.* Sixteenth International Conference on Incineration and Thermal Treatment Technologies. San Francisco, CA. May.

**1996.** Invited Speaker. *International Approaches to Assessing Risk: Multipathway Risk Assessment, Life Cycle Analysis, Biomonitoring, and Other Methods.* 6th International Symposium on Operating European Hazardous Waste Management Facilities. Odense, Denmark. September.

**1996.** Invited Speaker. "Hazard Assessment" section of course entitled *Risk-Based Cleanups: What's Acceptable?* University of California Davis Environmental Management Program. Davis, CA. June 3.

- 1996.** Invited Speaker. *The US Environmental Protection Agency and Dioxin: A Review and Update.* The Fraser Institute. Vancouver, B.C., Canada. January 26.
- 1995.** Invited Panelist. Risk Assessment Panel. "Risk Assessment As a Tool in Environmental Management -- Practical Implications For Regulatory Policy." American Bar Association Section of Natural Resources, Energy, and Environmental Law. Orlando. September.
- 1995.** Invited Speaker. *The Role of Signal Factors in the Perception of Risk.* Paper presented at the XXII Medichem Conference. Boston. September 21.
- 1995.** Invited Panelist. Risk Analysis Session. National Environmental Conference. Public Relations Society of America. Chicago. June 12.
- 1995.** Keynote Address. *Risk and the Environmental Industry.* 6th Annual Seattle HAZMAT Environmental Expo. Bellevue. May 24.
- 1995.** *Health Effects of Dioxins: An Update.* International Incineration Conference. Bellevue. May 8-12.
- 1995.** *Health Effects Criteria For Metals: How Applicable Are They To Continuous Emissions Monitoring of Combustion Sources?* International Incineration Conference. Bellevue. May 8-12.
- 1995.** *The Role of Odor and Color in the Perception of Toxic Effects.* International Incineration Conference. Bellevue. May 8-12.
- 1995.** Invited Speaker. International Environmental Entrepreneurship. Environmental Management Program Speaker Series. University of Washington. April 18.
- 1995.** Panel Participant, Town Meeting. Lessons Without Borders: Local Problems, Global Solutions. US Agency for International Development. Seattle. April 20.
- 1995.** Co-Instructor. *Risk Assessment and Risk Communication: Strategic Tools.* Course offered in association with the Air & Waste Management Association Conference on Waste Combustion in Boilers and Industrial Furnaces. Kansas City, MO. March 27.
- 1995.** Session Chair. Risk Assessment and Communication. Air & Waste Management Association Conference on Waste Combustion in Boilers and Industrial Furnaces. Kansas City, MO. March 27.
- 1994.** Invited Speaker. *Multipathway Risk Assessment.* Presentation to the 30th International Cement Seminar. Miami Beach. November 29.
- 1994.** *Comparative Life Cycle Analysis of Cement Made With Coal vs. Hazardous Waste as Fuel.* Poster presented at the 15th Annual Meeting of the Society of Environmental Toxicology and Chemistry. October 30-November 3. Denver.
- 1994.** Keynote Address. *Health Effects and Risk Assessment of Hazardous Waste Incineration.* Paper presented at Clean Air '94. 12th International Conference of the Clean Air Society of Australia and New Zealand. Perth, Australia. October 23-28.
- 1994.** *Exposure Assessment of Metals and PM<sub>10</sub> Measured in Ambient Air Near Cement Kilns Burning Hazardous Waste.* Paper presented at Clean Air '94. 12th International Conference of the Clean Air Society of Australia and New Zealand. Perth, Australia. October 23-28.
- 1994.** Invited Speaker. *Health Effects of Waste Incineration.* Paper presented at the XXI Medichem Conference. Melbourne, Australia. October 18-21.

- 1994.** Governor's Conference on Small Business. Moderator, Environment and Hazardous Waste Session. Seattle. May.
- 1994.** *Comparative Life Cycle Analysis of Cement Made With Coal vs. Hazardous Waste as Fuel.* Paper presented at Incineration '94. Houston, TX. May.
- 1994.** *Multipathway Risk Assessment and the Incinerator/BIF Permitting Process.* Paper presented at Incineration '94. Houston, TX. May.
- 1994.** *Health Effects of Hazardous Waste Incineration...More of the Rest of the Story.* Paper presented at Incineration '94. Houston, TX. May.
- 1994.** Current Challenges in the US Environmental Industry. Presentation to the 1993-1994 Commerce Science and Technology Fellowship Program. Seattle. April 11.
- 1994.** *Controlling Costs in Multipathway Risk Assessment.* Paper presented at the Air and Waste Management Association Specialty Conference on "Cost-Efficient Acquisition and Utilization of Data in the Management of Hazardous Waste Sites." Washington, D.C. March 22-25.
- 1994.** *Comparison of US and European Methods for Determining Site Cleanup Levels.* Paper presented at the Air and Waste Management Association Specialty Conference on "Cost-Efficient Acquisition and Utilization of Data in the Management of Hazardous Waste Sites." Washington, D.C. March 22-25.
- 1994.** *The Role of Ecological Risk Assessment in Reducing Uncertainties and Remedial Costs at Hazardous Waste Sites.* Paper presented at the Air and Waste Management Association Specialty Conference on "Cost-Efficient Acquisition and Utilization of Data in the Management of Hazardous Waste Sites." Washington, D.C. March 22-25.
- 1994.** *Exposure Assessment of Metals and PM<sub>10</sub> in Ambient Air Near Cement Kilns Burning Hazardous Waste.* Poster presented at the annual meeting of the Society of Toxicology. Dallas, TX. March.
- 1994.** *Comparative Life Cycle Analysis of Cement Made With Coal Vs. Hazardous Waste As Fuel.* Paper presented at AWMA Specialty Conference on Boilers and Industrial Furnaces. Kansas City, MO. March.
- 1993.** *Indirect Risk Assessment: What Is It, What Are Its Effects, and How Can Costs Be Controlled?* Paper presented at annual Rock Products conference, San Francisco, California. December 6-9.
- 1993.** *Identifying the Species of Metal Air Toxics of Greatest Concern to Human Health and the Environment.* Paper presented at Current Issues in Air Toxics: AWMA Specialty Conference. Sacramento, California. November 15-16.
- 1993.** Panelist, Health Hazards in the Workplace. 42nd Governor's Industrial Safety and Health Conference. Seattle. October 14-15.
- 1993.** Panelist and Speaker at the U.S. Representative Dunn's Conference on "Technology and Our Economic Future." Seattle, WA. June 21.
- 1993.** *Comparative Assessment of Estimated Vs. Actual Emissions and Associated Health Risks From a Modern Municipal Waste Combustor.* Paper presented at the 1993 Incineration Conference. Knoxville, Tennessee. May 3-7.
- 1993.** *The Technical Issues of Siting Temporary and Permanent Hazardous Waste Incinerators.* Panel Member, U.S. EPA 19th Annual Risk Reduction Engineering Laboratory, Hazardous Waste Research Symposium. Cincinnati, Ohio. April.
- 1993.** Invited Plenary Speaker. *The Technical Issues of Siting Temporary and Permanent Hazardous Waste Incinerators.* U.S. Environmental Protection Agency 19th Annual Hazardous Waste Research Symposium.

- 1993.** Invited Speaker. *Recent Developments in Researching the Health Effects of Hazardous Waste Combustion.* European Parliament, Environmental Committee. Brussels, Belgium. January 26.
- 1993.** Invited Speaker. *Risikokommunikation mit der Öffentlichkeit -- Erfahrungen und Ergebnisse aus den Vereinigten Staaten.* (Risk Communication with the Public -- Experiences and Results from the USA.) BAYER AG, Germany. January.
- 1992.** *The Myth of 10<sup>-6</sup> as a Definition of Acceptable Risk.* Poster presentation. Society of Risk Analysis annual conference. San Diego, CA. December.
- 1992.** *Interpreting and Presenting Technical Information.* National Association of Professional Environmental Communicators Second Annual Conference. Co-sponsored by Sierra Club. Chicago, IL. October.
- 1992.** *Burning Hazardous Waste in Cement Kilns: A study of emissions, offsite concentrations, and health effects in Midlothian, Texas.* Kilnburn '92: An International Conference on the Role of Cement Kilns in Waste Management. Brisbane, Queensland, Australia. September.
- 1992.** *Results of Extensive Ambient Air Monitoring Near Cement Kilns Burning Hazardous Waste.* Air & Waste Management Association 85th Annual Meeting. Kansas City, June.
- 1992.** Plenary Speaker. *Effective Risk Communication.* 1992 International Incineration Conference. Albuquerque, NM. May.
- 1992.** *Health Effects of Burning Hazardous Waste in Cement Kilns.* National Association of Chemical Recyclers Spring Meeting. Washington, D.C. April.
- 1992.** *How to Use Risk Assessment in Decisionmaking.* Technology Integration Management Meeting, U.S. Department of Energy, Dallas, TX. April.
- 1992.** *Communicating Risk to Employees, Residents, and Regulatory Officials.* Moderator, Air & Waste Management Association Specialty Conference on New RCRA Regulations for BIFs and Incinerators. Orlando, FL. March.
- 1991.** Invited Speaker. *Risk Assessment with Respect to the Use of Waste-Derived Construction Materials: Concentration vs. Leachability.* WASCON '91: Environmental Implications of Construction with Waste Materials, Maastricht, The Netherlands. November.
- 1991.** *Health Effects of Incineration.* Invited Speaker, U.S. EPA and University of Washington, Course on Hazardous Waste Incineration. Seattle, WA. September.
- 1991.** Chair, *Recent Developments in Assessing the Health and Environmental Effects of Waste Incineration.* 84th Annual Meeting of the Air & Waste Management Association. Vancouver, B.C., Canada. June.
- 1991.** *The Myth of 10<sup>-6</sup> As a Definition of 'Acceptable Risk'.* 84th Annual Meeting of the Air & Waste Management Association. Vancouver, B.C., Canada. June.
- 1991.** Testimony to the Texas State Legislature on the Health Effects of Burning Hazardous Waste in Cement Kilns, Austin, TX. March.
- 1991.** *Reducing the 'Waste' in Hazardous Waste Site Cleanups.* Presentation to the Northwest Environmental Claims Association. Seattle, WA. April.
- 1990.** *Using Risk Assessment to Determine Site Cleanup Levels.* Environment Canada workshop speaker. Toronto, Ontario, Canada. November.

- 1990.** *Health Risks of Hazardous Waste Incineration.* Presentation to the Utah Environmental Health Association. Salt Lake City, UT. November.
- 1990.** *Effective Risk Communication for Waste Management Facilities.* Invited Speaker, 4th International Symposium on Operating European Hazardous Waste Management Facilities. Odense, Denmark. October.
- 1990.** *Effective Risk Communication.* Presentation to Australian members of Responsible Care, a program sponsored by the Chemical Manufacturers Association, Sydney. Also to the University of Newcastle. New South Wales, Australia. August.
- 1990.** *The U.S. EPA Health Risk Assessment Process and U.S. EPA Methods for Organic Chemical Analysis.* World Trade Center. Taipei, Taiwan. April.
- 1990.** *International Approaches to the Development of Soil Cleanup Levels.* Invited Speaker, Fourth Seminar on Toxic Substances/Environment. Sponsored by Environment Canada. Montreal, Canada. April.
- 1990.** *Air Toxics: Challenges for the 1990s.* Keynote Speaker, 10th International Conference of the Clean Air Society of Australia and New Zealand. Auckland, New Zealand. March.
- 1990.** *Environmental Ethics in US Business.* Guest Lecturer, University of Waikato, Hamilton, New Zealand. March.
- 1990.** *Encouraging Public Participation in Siting Waste Management Facilities and Assessing the Health Effects of Waste Incineration Facilities.* Invited Speaker, Air & Waste Management Association Specialty Conference and Workshop on Municipal Solid Waste, Anchorage, AK. February.
- 1990.** *Education vs. Wisdom.* Panel discussion to commemorate the founding of the Program in Human Biology. Stanford University, Stanford, CA. February.
- 1989.** *Development of Site Specific Soil Cleanup Levels.* The 3rd National Conference on the Management of Hazardous Wastes, Melbourne, Australia. November.
- 1989.** *Assessing the Risks of Environmental Contamination: International Trends.* Invited Speaker, The Air & Waste Management Association—Specialty Conference on Hazardous Waste Management for the 90's: Moving from Remediation to Practical Preventative Strategies. Banff, Alberta, Canada. October.
- 1989.** *Blue Ribbon International Symposium on Incineration of Municipal Solid Waste.* Distinguished Participant. Sponsored by The United States Conference of Mayors. Washington, D.C. September.
- 1989.** *Comparing Risks of Hazardous Waste Treatment and Disposal Options.* Invited Speaker, Symposium on Special Wastes: Prevention, Reduction, Disposal. Sponsored by the International Environmental Bureau and Ciba-Geigy. Geneva, Switzerland. September.
- 1989.** *Fates and Impacts of Waste Chemicals.* Invited Speaker, Canadian Federation of Biological Societies. Calgary, Alberta, Canada. June.
- 1989.** *Hazardous Waste Trends in the United States.* Invited Speaker, Australian Waste Water Association, Sydney, Australia. June.
- 1989.** *Health Effects of Incineration.* Invited Speaker, U.S. EPA Hazardous Waste Incineration Short Course. Seattle, WA. February.
- 1988.** *Practical Applications of Toxicology.* Panel Participant, Pacific Northwest Association of Toxicologists Annual Meeting. Moscow, ID. September.

**1988.** *Risk Assessment and How It Fits Into the NSR Process.* Invited Speaker, U.S. EPA Incineration Permit Writer's Workshop. Seattle, Washington, July.

**1988.** *Fundamentals of Risk Assessment.* Instructor, International Conference on Incineration of Hazardous and Radioactive Wastes. San Francisco, CA. May.

**1987.** *Assessing the Risks of High-Temperature Incineration.* Keynote Speaker, Second National Hazardous Waste Management Conference. Sydney, Australia. November.

**1987.** *Current Perspectives on the Health Effects of PCDD to Humans.* The Hazardous Materials Management Canada Conference, Toronto, Ontario, Canada. September.

**1986/87.** *Toxicology.* Invited Lecturer. Certification Course for Hazardous Materials Managers, University of California Los Angeles, CA.

**1986.** *The Risks of Dioxins and Other Pollutants Posed by Hazardous Waste Incineration Facilities.* Invited Speaker, Presented at the 3rd International Symposium on Operating European Hazardous Chemical Waste Management Facilities. Odense, Denmark. September.

**1985.** *Status of Research on the Health Effects of Emissions from Hazardous Waste Incineration Facilities.* Paper presented at the 6th Annual Meeting of the Society of Environmental Toxicology and Chemistry. Arlington, VA. November 10-13.

**1985.** *Comparison of Metals Emissions Data from Hazardous Waste Incineration Facilities.* Presented at the 78th Annual Meeting of the Air Pollution Control Association. New York, NY. June 16-21.

**1984.** *Assessing the Health Risks of Hazardous Waste Incinerator Stack Emissions to Surrounding Populations.* Invited Speaker, Presented at the 2nd International Symposium on Operating European Hazardous Waste Management Facilities. Held 11-14 September in Odense, Denmark.

Also several dozen public presentations on the health effects of various environmental contaminants, including television (*60 Minutes*), radio (BBC), and videos.

#### **Selected Publications:**

Kelly KE, Minter SL, Shonkwiler JS, and Foureman GF. **2005.** Using Human Experimental Data to Derive Acute Exposure Concentrations for HD, GB and VX. *Proceedings of the Chemical Weapons Demilitarisation Conference 2005.* UK Ministry of Defence, Defence Science and Technology Laboratory (DSTL). Edinburgh, Scotland. 12-14 April.

Kelly KE and Shonkwiler JS. **2005.** *Controlled Exposure to Formaldehyde via Inhalation: A Categorical Regression Analysis of Human Exposure and Response.* Unpublished.

National Research Council, **1999.** Carbon Filtration for Reducing Emissions from Chemical Agent Incineration. (Contributing Author.) National Academy Press. Washington, D.C.

Kelly, K.E. **1999.** In-Flight Emergency. *Flight Training Magazine*, September.

Kelly, K.E., and P.H. Williams. **1997.** Five-Year Comparative Assessment of Estimated vs. Actual Emissions and Associated Health Risks From a Modern MSW Combustor. *Proceedings of the Sixteenth International Conference on Incineration and Thermal Treatment Technologies.* San Francisco, CA. May.

- Pleus, R.C., and Kelly, K.E. **1996**. Health Effects from Hazardous Waste Incineration Facilities: Five Case Studies. *Toxicology and Industrial Health*. Vol. 12, No. 2, pp. 277-287. Princeton Scientific Publishing Co.
- Kelly, K.E. **1996**. International Approaches to Risk Assessment. In *Proceedings of the International Symposium on Operating European Hazardous Chemical Waste Management Facilities*. Chemcontrol A/S. Copenhagen, Denmark. September.
- Beach, K.R., K.E. Kelly, S.L. Minter, and R.W. Wood. **1996**. Establishing Averaging Times For Metal Emissions From Hazardous Waste Combustion Facilities. *Proceedings of the Annual Conference of the Air and Waste Management Association*, Nashville, TN. June. (Subsequently approved by the American Society of Mechanical Engineering and published by ASME, Washington, D.C.)
- K.E. Kelly. **1996**. The EPA and Dioxin: Are Politics Running Risk Assessment? *Toxicology Update*. March.
- Kelly, K.E. **1995**. Cleaning Up EPA's Dioxin Mess. *Wall Street Journal*. June 29.
- Kelly, K.E. **1995**. Will EPA Face the Truth About Dangers of Dioxins? *Puget Sound Business Journal*. June 23-29.
- Kelly, K.E., and P.H. Williams, **1995**. Spinning Waste Into Gold: Use of Waste-Derived Materials in the Construction Industry. *Engineering News-Record*. April 24.
- Kelly, K.E. **1995**. In Search of 'Zero Risk.' *Wall Street Journal*. February 24.
- Kelly, K.E. **1995**. State's Environmental Industry Must Adapt or Waste Away. *Puget Sound Business Journal*. February 17-23.
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