#### **CURRICULUM VITAE**

## SUSAN L. SANTOS, Ph.D., M.S.

29 Welgate Road Medford, MA 02155 (781) 483-3054

#### **EDUCATION**

B.S./Chemistry, 1976, Boston College

M.S./Civil Engineering and Public Health, 1981, Tufts University

MBA Program, Graduate School of Management, 1981-1983, Suffolk University

Ph.D., Law, Policy and Society, Concentration in Risk Communication, June 2000, Northeastern University

#### Ph.D. DISSERTATION

Stakeholder Involvement and Environmental Decision-Making, Substance or Symbolism: The Use of Restoration Advisory Boards

## M.S. THESIS

Polychlorinated Biphenyl's in Massachusetts: An Assessment of the PCB Problem

# **APPOINTMENTS**

Institute of Medicine (IOM), Board on Population Health and Public Health Practice (2008-2011)

Institute of Medicine (IOM), National Academies of Sciences Committee on Decision Making under Uncertainty, sponsored by the Environmental Protection Agency (2007-2008)

Center for Environmental Health – Technical Advisory Committee Member, MA Department of Public Health funded by US Centers for Disease Control and Prevention (2006-2008)

National Academy of Sciences Committee Member: An Assessment of Potential Health Effects from Exposures to PAVE PAWS Low-Level Phased-Array Radio Frequency Energy (2002 – January 2005)

University of Medicine & Dentistry of New Jersey- School of Public Health- Department of Health Education & Behavioral Sciences – Assistant Professor (2001 – present)

Center for Corporate Citizenship, Boston College Carroll School of Management – Senior Faculty (1995-present)

Columbia University Center for Risk Communication (CRC) - Research Program Director (1989-1993)

Tufts University School of Engineering, Hazardous Materials Management Program - Instructor and Advisory Board Committee Member (1988-1996)

National Academy of Sciences- Food Forum, invited Symposium Speaker (June 1999)

Commissioned paper for the President's Commission on Risk Assessment, - "Comparative Risk: The Role of Scientists, Policy Makers and the Public" (1995)

New Jersey Institute of Technology (NJIT), Hazardous Substance Management Research Center - Advisory Board Member, Health Assessment and Public Policy/Risk Communication (1987-1989)

# **AWARDS**

NASA Glenn Research Center Women Owned Business of the Year Award - 2005

NASA Group Achievement Award - 2001

Phi Kappa Phi National Honor Society -2000

NASA Gold Medal - Group Achievement Award - 1991

German Marshall Fund Fellowship for Comparative Study of Risk Assessment and Risk Communication Practices in Western Europe - 1989

EPA Sustained Superior Performance Award - 1984

EPA Bronze Medal – 1981

1985-1986

Project Manager 1977-1985

# **PROFESSIONAL AFFILIATIONS**

Society of Public Health Education
Society for Risk Analysis, National and Boston Chapter
American Public Health Association - Sections on Environment and Epidemiology
The International Association of Public Participation Professionals
Public Relations Society of America
Massachusetts Public Health Association

#### **CREDITS**

WGBH Environmental Risk Television Special aired April 3, 1991.

#### PRINCIPAL FIELDS OF INTEREST

- Application of public health science, communication theory, social marketing and social science principals to conduct research and provide education on communicating complex health, safety and environmental risk information to the public
- The importance of risk communication in emergency preparedness and public health emergencies and how communication influences behavioral and psychological responses
- The development and facilitation of multi-directional communication strategies and empowering stakeholders in decision-making processes through advocacy, education and coalition building
- Understanding public knowledge, perceptions and concerns on health and environmental issues and analyzing the role of trust and credibility amongst various information sources
- The evaluation and communication of deployment related health risks
- The evaluation of risk communication and stakeholder involvement programs

# PROFESSIONAL EXPERIENCE FOCUS GROUP Risk Communication and Environmental Management Consultants ......Owner/President 1990-Present East Orange New Jersey VA War Related Illness and Injury Study Center ...... Risk Communication Specialist Director of Risk Communication and Education 2001-Present University of Medicine & Dentistry of New Jersey-School of Public Health-Department of Heath Assistant Professor 2001-Present Education & Behavioral Sciences Boston College School of Management .......Senior Faculty Member 1995-Present 1989-1993 ABB Environmental Services, Inc. Director, Corporate Risk Assessment Services **Division Manager** 1986-1991 GCA Technology, Inc. ..... Health Sciences Section Manager

U.S. Environmental Protection Agency .......Environmental Engineer

# **EXPERIENCE**

FOCUS GROUP RISK COMMUNICATION AND ENVIRONMENTAL MANAGEMENT **CONSULTANTS-**Principal/Owner. 1990-Present -- Dr. Santos is principal and sole proprietor of FOCUS GROUP, a women owned small business consulting firm specializing in risk and strategic communication and environmental management services. Dr. Santos provides risk communication planning, strategic intervention assistance and training and facilitation services. Dr. Santos has developed numerous risk communication plans and provided strategic assistance to various federal and state agencies, private clients and citizen groups internationally and throughout the U.S. Her work encompasses risk and crisis communications for such issues as hazardous waste sites, the risk associated with various industrial processes and facilities, worst-case accident scenarios, pesticide and food safety risks, responding to chemical and biological terrorism, and pandemic influenza. Dr. Santos has conducted research on a variety of public health education and environmental programs including: vaccine risk and benefits, risks and benefits of prescription drugs and medical devices, unregulated contaminants and the relationship between breast cancer and the environment. Dr. Santos has extensive experience in the design and facilitation of risk and crisis communication training programs for public health and environmental related issues for providers, emergency responders, local and state health officials, hospital staff and private sector management and staff. She also has experience in public meeting and speaker training and media spokesperson training.

Dr. Santos has extensive hazardous waste management experience having provided assistance in site evaluation; risk assessments and site clean-up strategies for various federal facilities and private sector clients. For NASA's Jet Propulsion Laboratory, Dr. Santos has developed a comprehensive outreach strategy and Community Involvement Plan. She provides ongoing strategic assistance including public meeting support, spokesperson preparation and facilitating Community Information Sessions. She has also developed numerous print and multimedia materials. Dr. Santos has also been involved in designing and implementing communication and public involvement strategies for the decommissioning of a nuclear reactor facility. For NASA Glenn's closed Plum Brook Reactor Facility, Dr. Santos developed and implements the Community Relations/Involvement Plan preparing a variety of multimedia materials. She also oversees a Community Workgroup which serves as a vehicle for two-way communication between NASA and the community. These efforts have been critical to NASA's ability to explain the project to the public and various regulators including addressing the discovery of offsite contamination.

For NASA Headquarters Dr. Santos developed a Risk Communication Handbook for CERCLA and RCRA related issues and recently revised the handbook to apply to all of NASA's environmental management programs including NEPA and the need for agencies Environmental Management Systems to provide for more proactive outreach. Dr. Santos also provides training to NASA management and Center environmental staff across the country and has provided risk communication support to seven NASA Centers.

Dr. Santos develops risk communication management strategic plans and provides regulatory assistance and negotiation support for a wide variety of public and private sector clients including NASA, DoD, USDA and FDA and a number of state agencies. In support of these plans, Dr. Santos develops and implements research including: focus groups, direct mail and telephone surveys, and one-on-one interviews. Dr. Santos provides public meeting planning and facilitation assistance and training in public meeting preparation skills. Dr. Santos is also a trained facilitator and has successfully designed conflict resolution processes and facilitated conflicts between various stakeholder groups. Dr. Santos also facilitates collaborative stakeholder groups such as Community Advisory Panels, Restoration Advisory Boards (RABS) and Community Workgroups.

V. A. WAR RELATED ILLNESS AND INJURY STUDY CENTER, East Orange, NJ - Risk Communication Specialist and Director of Risk Communication and Education. 2001 to Present - Dr. Santos is an Assistant Professor in the Department of Health Education and Behavioral Sciences at the UMDNJ-School of Public Health. Concurrent with her appointment, she serves as the Risk Communication Specialist for the War Related Illness and Injury Study Center in East Orange, New Jersey. The Center was established to respond to health concerns of veterans related to service in conflict and improve the care of active duty and veterans with war related or medically unexplained illnesses. For the Center, Dr. Santos conducts research on communication of deployment related risks and unexplained illness in veterans to various stakeholder groups. Dr. Santos develops materials and conducts training sessions for healthcare providers designed to transmit knowledge about medically unexplained illnesses and deployment related environmental exposures and appropriate risk communication strategies. Dr Santos has also given a number of Medical Ground Rounds and

seminars to physicians at several hospitals in New Jersey and New York and provides risk communication and multiple training sessions on Communicating in Difficult Situations to VA NJHCS staff.

Dr. Santos is involved in a number of research projects. She is currently serving as a co-investigator on an NIH grant that involves using a mental models approach to develop materials on health and risk assessments for low literate populations. In addition, Dr. Santos is working on a grant with the Bronx VA to develop a decision support intervention tool that includes drug regimen reconciliation to help providers make effective prescribing decisions at the time of transfer between VA sites of care. Dr. Santos has been involved in doing cognitive task analysis interviews of pharmacists and providers using the reconciliation system. She is also conducting a series of focus groups with physicians and pharmacists that explore barriers and facilitates medications reconciliation and ways to enhance the current system. Dr. Santos is also working on a pilot study of reintegration and service needs for women veterans to explore issues related to employment, child care and other reintegration concerns. Finally, Dr. Santos is working on a clinical study of Mild Traumatic Brain Injury (MTBI) in returning veterans and developing appropriate survey instruments to better assess veterans potential exposure to blasts and the possibility of MTBI.

As part of a multi-site research team, Dr. Santos was involved in developing and evaluating an educational campaign aimed at reducing veteran's concerns and current anxiety over a possible future bio-terrorism occurrence and minimizing the psychological consequences of any such a disaster should one occur. The educational campaign involved developing information on three specific bio-terrorism agents as well as information on mental health coping strategies. educational materials were developed based on the results of six focus groups held nationwide with various subgroups of interest - including veterans with severe mental illness and post-traumatic stress syndrome. Dr. Santos was in charge of the design, facilitation and analysis of the focus groups. She also worked on the development of the materials which she subsequently pre-tested in a series of three focus groups. The materials were evaluated based on the ability to increase knowledge, coping mechanisms and confidence in the VA, as well as decreasing anxiety over a future occurrence. Other research projects include exploring how risk communication about a potentially threatening vaccine affects risk perceptions in distressed versus non-distressed individuals and how a perceived threat at the time of vaccination affects health-related consequences of a vaccination in these two subgroups. Dr. Santos conducted a series of focus groups that explore veteran and general population knowledge, perceptions and concerns regarding the influenza vaccine and a novel "bio-flu" vaccine and subsequently developed educational materials used as part of the study protocol. She was the Principal Investigator of a pilot project to explore Veteran's perceptions regarding potential deployment related environmental exposures and adverse health effects through use of one-on-one interviews, and focus groups to develop a survey instrument Dr. Santos was involved in evaluating process and outcome related measures associated with Army Restoration Advisory Boards as a means of public involvement. Depth interviews along with observation and content analysis results were used to provide recommendations to the Army, community groups, and individual citizens on how to improve the RAB process. As part of a grant from the US EPA, she and researchers from two other organizations evaluated three different methods (survey methodology, focus group methodology and the Q methodology) for obtaining feedback on the community outreach and public participation programs for Superfund sites in New Jersey and Waukegan, Illinois. Each tool was implemented at both sites and the strengths and limitations of the tools explored in terms of the utility to both the EPA and to empower community members in the community involvement and clean up process. Guidance documents were developed for the evaluation of public involvement programs at contaminated sites, specifically how to use focus groups and the Q methodology. Dr. Santos also worked on a grant from the NIEHS examining the differing expectations and understandings among practitioners and community members regarding health studies and what they can provide to communities who often request such studies to evaluate potentially threatening toxic exposures. As a result of the study, tools were developed to facilitate community member and activist group engagement in the health study process and to facilitate communication among researchers, health officials and citizen groups.

**COLUMBIA UNIVERSITY - CENTER FOR RISK COMMUNICATION - Research Program Director - June 1989 to 1993.** The Center for Risk Communication was established in 1988 to provide education and conduct research on the complex issue of communicating information about health, safety and environmental risks to the public.

Through the Center, Dr. Santos researched and disseminated risk communication information on various issues, such as pollution prevention, health and environmental education for adults and school-aged children, environmental risks of chemicals and toxic wastes and the risks and benefits of medical devices and prescription drugs. Through its activities,

the Center seeks to understand the public's perception of risk, the media's translation of this information, and how government and industry can better relate risk information.

As Research Program Director for the Center, Dr. Santos provided expert consultation in the areas of risk communication, risk assessment and risk management strategies. Dr. Santos conducted qualitative research such as focus groups, case studies and quantitative research including opinion polls, telephone and direct mail surveys. Dr. Santos also developed and conducted quantitative and qualitative evaluation programs to assess risk communication intervention strategies and programs. Dr. Santos developed and served as the primary trainer/facilitator for a wide variety of Risk Assessment, Risk Management and Risk Communication training programs.

Dr. Santos' researched projects in the communication of risk focuses on several issues including: how to facilitate two-way communication and decision-making among various players with different objectives; how to assist practitioners in understanding the role of risk perception in communication; how to explain risk information to various audiences; the use of risk communication as an environmental management strategy, and how to build trust and credibility. Dr. Santos focused on risk assessment and risk communication strategies from catastrophic events. From an international perspective, Dr. Santos also worked on understanding and facilitating cross-cultural differences in risk communication. Dr. Santos provided expert consultation to industry and state and federal government agencies in the design of risk communication programs, public meeting facilitation skills, and strategic communication assistance for a wide variety of health and environmental risks.

**TUFTS UNIVERSITY, Medford, MA** - *Instructor*. June 1988 to 1996 - Dr. Santos develops and teaches courses for the Tufts Center for Environmental Management Summer Institute and Department of Civil Engineering, Masters Program in Hazardous Materials Management. Courses include: Risk Communication, Environmental Regulations, Hazardous Materials Management, and Risk Management and Environmental Decision Making. Dr. Santos is also a faculty advisor for graduate student thesis' and Capstone Masters Program projects.

ABB ENVIRONMENTAL SERVICES, INC., WAKEFIELD, MASSACHUSETTS - Director of Corporate Risk Assessment Services, Senior Technical Consultant, Division Manager. 1986 to December 1991 - As Director of Corporate Risk Assessment Services, Dr. Santos coordinated and oversaw business development activities and professional services to federal, state and local governments and the private sector in the areas of public health and ecological risk assessment, air toxic assessments, regulatory assistance, risk communication and risk management services. Dr. Santos was responsible for assuring the technical quality of work and facilitating client and staff interaction to ensure high quality, and solution oriented work products. Dr. Santos coordinated risk assessment services, company wide. Dr. Santos also facilitated information dissemination/transfer among operating units and other service areas. Through the technology development process, Dr. Santos was responsible for the development of new services to respond to changing client needs.

Dr. Santos was also responsible for international activities in the areas of safety analysis, risk assessment, soil pollution assessment and regulatory analysis. She served as a member of the Corporate Technology Development Committee and was the corporate liaison for University Research Affiliate Programs at NJIT, MIT, and Tufts.

Dr. Santos' Senior Technical Consultant activities included technical review and oversight for the preparation of environmental and human health risk assessments and feasibility studies for a number of industrial facilities and hazardous waste sites, including remedial action technology evaluation and establishing air, water, and soil clean-up levels; RCRA Corrective Action Studies, training on hazardous waste management; SARA Title III, and air toxic risk assessment and risk communication; environmental regulatory analysis and regulation development/implementation support; risk communication strategic planning, implementation and training; and the use of risk and exposure information for waste minimization and pollution prevention.

As former Division Manager for the Southern New England Division (formerly C-E Environmental and E.C. Jordan Co.), responsibilities included: office administrative and technical management; Business Plan development and implementation; preparation of operating budgets; cost center profitability goals; staffing; technical oversight and QA/QC; contract negotiation; project and contract management; client contact and marketing. Grew operation from a 10 person staff to self-sufficient Regional Office with 35+ professional staff in four departments. Exceeded sales and revenue goals for two consecutive years.

GCA TECHNOLOGY DIVISION, INC., Bedford, MA - Manager, Health Sciences and Toxicology. March 1985 to October 1986 -- Dr. Santos was responsible for preparation of health risk/endangerment assessments and remedial investigation/feasibility studies. Dr. Santos directed twelve professionals who worked primarily on RCRA- and CERCLA-related projects. Dr. Santos directed and prepared risk assessments for sites involving PCBs, dioxins, volatile and extractable organic compounds, and mercury for a variety of clients, including the USEPA Regions 1, 4, 5, 7, 9, and 10, numerous state environmental agencies and private industrial clients. Dr. Santos provided a variety of hazardous waste management services including: methodology development for conducting risk and exposure assessments for hazardous waste sites; development of alternate concentration limits (ACLs) for groundwater protection standards at CERCLA sites, and case study evaluation studies for RCRA ACL guidance development; evaluation of potential releases from RCRA facilities; assessing information on exposure potential to assess the need for RCRA corrective action; preparation of guidance manuals to characterize and assess exposure from contaminant releases to soil. Management responsibilities included program and project management, proposal coordination, staff and technical oversight, client contact and business development.

**U.S. ENVIRONMENTAL PROTECTION AGENCY, BOSTON, MA -** *State Coordinator/Site Manager, Superfund Branch.* **June 1977 to March 1985 --** Dr. Santos was responsible for implementing and ensuring compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA "Superfund") and the National Contingency Plan (NCP). She served as State Coordinator for Superfund activities in Rhode Island and acted as Site Manager for assigned sites in Rhode Island, Maine, and Massachusetts.

Specific responsibilities included: administered program guidance and policy and aided the state in implementing program requirements. Assisted state in developing field investigations and provided on-site supervision of site activities. Provided technical expertise on conducting Risk/Endangerment assessments and RI/FS'. Prepared Record of Decisions for several sites. Served as Regional Risk Assessment Coordinator. Developed contractor activities for federal-lead sites; assured contractor adherence to budget, remedy and funding thereof. Supervised Corps of Engineers activities for remedial design. In addition, oversaw preparation of preliminary assessments (PAs), site inspections (SIs), and hazard ranking for sites. Served as primary contact to state and local officials, congressional, industry, news media and general public on Superfund sites in Rhode Island and Maine. Developed and implemented community relations plans at sites. Developed risk assessment workshop used as a prototype by EPA Headquarters. Assisted HQs' workgroups on preparation of guidance manuals on RI/FS preparation, conducting risk assessment and CERCLA compliance with other environmental laws.

Site Manager/Vermont State Coordinator, State Waste Programs Branch. May 1981 to May 1983 -- Dr. Santos implemented provisions of Resource, Conservation and Recovery Act (RCRA). Responsible for authorizing the Vermont state hazardous waste permitting program and oversight of delegated program for identification, generation and transport of hazardous waste and interim status treatment, storage and disposal (TSD) facilities. Also responsible for activities relative to the implementation of Superfund.

Performed RCRA oversight compliance inspections of TSD facilities, generators and transporters to ensure compliance with RCRA and performance of state authorized programs in VT, NH, and MA. Worked with states to develop enforcement orders for facilities found to be not in compliance. Inspected facilities to determine closure states and assisted in site closure. Assisted state of Vermont in development of hazardous waste management regulations. Served as Permit Engineer for MA, NH, and VT RCRA facility permit applications. Provided technical assistance in the areas of industrial waste exchange, hazardous waste reuse/recovery and risk assessment. Provided public involvement, education and communication support. Conducted public meetings, and served as industry, public and media contact.

Dr. Santos also managed seven uncontrolled waste sites. Determined extent of site contamination and impact on human health and environment; recommended strategies to mitigate or eliminate contamination found; prepared work assignment, monitored efforts and reviewed reports of EPA contractors. Prioritized sites for cleanup and assistance. Implemented and administered the Technical Assistance Panels Program to provide technical assistance to state, federal, and local governments for solving complex hazardous and solid waste management problems. Projects focused on waste reduction, reuse/recovery and waste management.

Environmental Engineer, Waste Management Branch. July 1979 to February 1981 -- Dr. Santos served as Project Manager for the Urban Grant and Technical Assistance Panels solid waste management programs. Provided technical assistance on resource recovery feasibility analyses and system procurement, and solid and hazardous waste

management practices such as waste handling, storage, collection, processing and disposal. Nominated for the EPA Gold Medal Award in 1980 and received the Bronze Medal Award in 1981.

**Project Engineer, Environmental and Economic Impact Office.** May 1978 to June 1979 -- Dr. Santos was responsible for the preparation of Environmental Impact Statements (EIS') as required by the National Environmental Policy Act (NEPA) for "new source" permits and EPA's construction grant program. Served as Project Manager for the Boston Harbor Secondary Treatment Sludge Management EIS. Coordinated administrative requirements such as document publication, public, federal, and state reviews, conducted numerous public hearings and meetings.

**Environmental Protection Technologist, Pesticides and Toxic Substances Branch.** June 1977 to May 1978 -- Dr. Santos was responsible for implementation of the Toxic Substance Control Act (TSCA). Dr. Santos surveyed and documented the scope and extent of toxic substances manufactured, processed and disposed within New England, and implemented the TSCA requirements for the manufacture, distribution, use, storage, disposal and marking of PCBs.

# PUBLICATIONS/PRESENTATIONS

# **PUBLICATIONS**

Tuler, S, Chess, C., Santos, S.L., Danielson, S., Webler, T. "Selecting the Right Tool for Evaluations: Guidance for Community Involvement Practitioners" <u>EPA Public Involvement Network News (online edition)</u> Winter, 2008 <a href="http://www.epa.gov/publicinvolvement/Tulerarticle.pdf">http://www.epa.gov/publicinvolvement/Tulerarticle.pdf</a>

Danielson, S., Santos, S.L., Webler, T., Tuler, S.P. "Building and Breaking a Bridge of Trust in a Superfund Site Remediation", <u>International Journal of Global Environmental Issue</u>, Vol. 8, NOS. 1/2 2008.

Santos, S.L., Danielson, S., Chess, C. "Guidance on the Use of Focus Groups for Evaluation of Public Involvement Programs at Contaminated Sites", Social and Environmental Research Institute, Greenfield, MA, December, 2007.

Santos, S.L. "Risk Communication", <u>Environmental Health Risk Assessment.</u> M. Robson & W. Toscano eds.(pp.463-486) Association of Schools of Public Health (Sponsor) Josey-Bass, San Francisco, CA 2007.

Santos, S.L., Helmer, D., Fotiades J. Copeland, L. and Simon, J., "Developing a Bio-Terrorism Preparedness Campaign for Veterans- Using Focus Groups to Inform Materials Development", <u>Health Promotion Practice Journal</u>, Vol. 8 No. 1, 31-40 January 2007.

Santos, S.L.., Task Force member, "Using Risk Analysis to Inform Microbial Food Safety Decisions", Council for Agricultural Science and Technology Issue paper #31, June 2006.

Santos, S.L. and Harrington, S. "NASA Glenn Research Center Plum Brook Station Reactor Facility Decommissioning Community Relations Program", Paper presented at American Nuclear Society's Decommissioning, Decontamination, & Reutilization Conference, August, 2005 Denver, CO

Santos, S.L. and Chess, Caron, "Evaluating Citizen Advisory Boards: The Importance of Theory and Participant Based Criteria and Practical Implications", Risk Analysis, Vol. 23, No.2, 2003.

Santos, S.L., "Risk Communication: Defining a Tolerable Level of Risk", Institute of Medicine Workshop Proceedings, National Academy Press, Washington DC, 2001

Santos, S.L. and McCallum, David B., "Communicating to the Public: Using Risk Comparisons", <u>Human and Ecological Risk Assessment Journal</u>, CRC Press, Vol. 3, No 6, December 1997

McCallum, David B. and Santos, Susan L., "Comparative Risk Analysis for Priority Setting", <u>Human and Ecological Risk</u> Assessment Journal, CRC Press, Vol. 3, No 6, December 1997

- S.L., and McGurn, G.T., "Developing a Risk Communication Strategy", Energy and Transportation Network News, fall 1996
- Santos, S.L., Covello, V.T., McCallum, D.B., "Industry Response to SARA Title III: Pollution Prevention, Risk Reduction and Risk Communication", Columbia University, Center for Risk Communication, <u>Risk Analysis</u>, Vol. 16, No. 1, February 1996
- Santos, S.L., "The Importance of the Media as a Channel for Informing the Public on the Environment", UNESCO, December 1995.
- Child, W.L., Santos, S.L., McCallum, D.B., & Fisher, L., <u>Final Report of Findings: Focus Groups and Telephone Survey Research</u>, US Army Non-Stockpile Chemical Materiel Programmatic Environmental Impact Statement, Report for Caliber, Inc., October, 1995
- McCallum, D.B., Santos, S.L., "Participation and Persuasion: A Communication Perspective on Risk Management", <u>Risk Assessment and Management Handbook for Environmental, Health, and Safety Professionals</u>, McGraw-Hill, New York, NY, 1995
- Santos, S.L., McCallum, D.B., & Child, W.L., <u>Cape Cod Breast Cancer and the Environment: Focus Groups With Women Residents of the Cape and Physicians, Final Report of Findings</u>, Report for Silent Spring Institute, Inc. and Massachusetts Department of Public Health, June 1995
- McCallum, D.B., Santos, S.L., "Comparing Risk: The Role of Scientists, Policy Makers and the Public", paper commissioned by the President's Commission on Risk Assessment, May 1995.
- Santos, S.L., McCallum, D.B., <u>The Kanawha Valley Risk Communication Research Project A Case Study</u>, Report for National Institute for Chemical Studies and US EPA, Office of Policy, Planning and Evaluation, November, 1994
- Santos, S.L., "The Role of Risk Communication in Environmental Decision-Making", <u>Central European Journal of Public Health</u>, Vol. 2 (Jhemi Vol. 38), October 1994
- Santos, S.L., <u>Summary and Analysis of Findings: Focus Groups with Rocketdyne Community Residents and Employees</u>, Report for Rocketdyne Division of Rockwell International Corporation, August 1994
- Santos, S.L., McCallum, D.B., Hammond, S.L. <u>Kanawha Valley Health Effects Study Risk Communication Research Project, Evaluation Report, Results of Telephone Survey,</u> Report for National Institute for Chemical Studies and US EPA, Office of Policy, Planning and Evaluation, August 1994
- Santos, S.L., Covello, V.T., McCallum, D.B., <u>Industry Response to SARA Title III: Pollution Prevention, Risk Reduction and Risk Communication</u>, Columbia University, Center for Risk Communication, May 1994
- McCallum, D.B., Santos, S.L., <u>Public Knowledge and Perceptions of Chemical Risks in Six Communities, Follow Up</u> Survey Results, US EPA, Office of Policy, Planning and Evaluation, May, 1994
- Santos, Susan L., "The Importance of Risk Communication in Comparative Risk Projects", Published in the <u>Conference Proceedings Of Fourth U.S.-Dutch International Symposium Comparative Risk Analysis and Priority Setting for Air Pollution Issues</u>, AWMA, Keystone Colorado, June 1993
- Santos, S.L., McCallum, D.B., <u>Kanawha Valley Health Effects Study Risk Communication Research Project: Focus Groups and Key Interviews Evaluation Report</u>; Report for National Institute For Chemical Studies and US EPA OPPE, April 1993
- McCallum, D.B., Santos, S.L., Arkin, E., McNeil, C. Communication About the Risk and Benefits of Medical Devices, US FDA, March 1993
- Santos, S.L., Folwarkow, S., "Are You at Risk", Petroleum Today, Volume 2, Nov. 1, 1991.

- Santos, S.L., "Developing a Risk Communication Strategy for your Utility"; <u>American Waterworks Association Journal</u>; November 1990.
- "Managing Uncertainty of Environmental Risks Communication Implications"; Presentation and Conference Proceedings, International Symposium, Hazardous Materials/Wastes: Social Aspects of Facility Planning and Management, Toronto, Canada; October 1990.
- Santos, S.L., Edwards, S., <u>Comparative Study of Risk Assessment and Risk Communication Practices in Western Europe</u>; a report prepared for the German Marshall Fund of the United States; May 1990.
- Santos, S.L., "RCRA Corrective Action Risk Management Implications"; Paper and Presentation; HAZTECH International Conference; September 1989.
- Santos, S.L., E. Ryan, Magee, B., "Assessing Risk from Dermal Absorption at Hazardous Waste Sites"; <u>Conference Proceedings-Superfund 1987</u>; HMCRI; November 1987.
- Santos, S.L., Edwards, S., "Risk Communication: A Critical Part of the Public Participation Process"; <u>Conference Proceedings Superfund</u>, 1987; HMCRI; November 1987.
- Santos, S.L., "Risk Assessment A Tool for Risk Management"; Environmental Science and Technology; March 1987.
- Santos, S.L., Leonard, A.C., Clemes, R., "Cost-Effective Approach to ACL Development"; <u>Conference Proceedings</u>, <u>Fourth National RCRA Hazardous Wastes and Materials Conference</u>; March 1987.
- Santos, S.L., "Using Risk Assessment for Hazardous Waste Management"; <u>AIPE Facilities Management Operations and Engineering</u>; January/February 1987.
- Santos, S.L., E. Hawkins, Ryan, E., "Assessing Risk from Dermal Exposure at Hazardous Waste Sites"; Presentation at the Society for Risk Analysis Conference; November 1986.
- Santos, S.L., Prince, J., "Assessing PCB Contamination in New Bedford Harbor Putting the Problem in Perspective"; Conference Proceedings American Institute of Chemical Engineers; August 1986.
- Santos, S.L., "The Use of Risk Assessment as a Tool in Risk Management Decision-making"; Conference Proceedings Fourth Annual Hazardous Materials Conference; June 1986.
- Santos, S.L., Bertuglia, L., "Garbage: A Fuel for the Future"; Conference Proceedings of a Symposium on the Future Society of Women Engineers Convention; June 1981.
- Santos, S.L., Klein, I., Koch, C., Minnich, K., "A Sludge Management Plan for Boston"; Conference Proceedings of the ASCE Environmental Engineering Conference; July 1979.
- Santos, S.L., PCBs in New England; Report for USEPA, Boston, MA; May 1978.

#### **PRESENTATIONS**

Extensive experience in public speaking to a wide variety of audiences including: media, environment groups, state and local government officials, federal agency management officials (EPA, DOD – Army, Air Force and Corps of Engineers, NASA, DOE and ASTDR) and senior industry management. In addition, Dr. Santos has planned and participated in over 400 public meetings or other citizen forums and has designed and facilitated over 250 training seminars and presentations on risk communication and media relations to state and federal government agency staff, and private industry staff and senior management teams.

# **Examples Include:**

- Four Advanced Risk Communication Training Sessions, MA. Department of Public Health, Local Public Health Institute, May – June, 2008
- The Importance of Risk Communication and Community Involvement at Complex Hazardous Waste Sites, Sixth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA, May 20, 2008
- Risk Communication Training, NASA Jet Propulsion Lab, Pasadena, CA April 22, 2008
- Risk Communication, War Related Illness and Injury Center (WRIISC), Newark, NJ April 15, 2008
- Evaluation and Measurement, The Center for Corporate Citizenship at Boston College, Scottsdale, AZ, March 5-6, 2008
- Communication for Community Involvement Managers, The Center for Corporate Citizenship at Boston College, Beverly Hills, CA. December 5-7, 2007
- Risk Communication Training, MADEP Northeast Region, Wilmington, MA. November 8 & 28, 2007
- Improving Regulatory Communication, MADEP, Bureau of Waste Prevention, Boston, MA. November 7, 2007
- Communicating in Difficult Situations, War Related Illness and Injury Center, Newark, NJ, October 11, 12, 2007
- Evaluation and Measurement, The Center for Corporate Citizenship at Boston College, Atlanta, GA.
   September 25-26, 2007
- Primer on Use of Focus Groups, Environmental Protection Agency (EPA), Chicago, IL, September 19, 2007
- Advanced Risk Communication Training, Boston Public Health Commission, Boston, MA., June 4, 2007
- The Importance of Risk Communication, Textron, Providence, RI, May 18, 2007
- Basic Risk Communication Training, Boston Public Health Commission, Boston, MA, May 15, 2007
- Qualitative Research Methods and the use of Focus Groups, War Related Illness and Injury Center (WRIISC),
   Newark, NJ, part of the post-doc seminar series "Research Methods in Practice" March 29, 2007
- Risk Communication and Patient Provider Communications: Addressing Exposure Concerns, War Related Illness and Injury Center (WRIISC), Newark, NJ, March 29, 2007
- Crisis Risk Communication & Management, Massachusetts Municipal Management Association, N. Andover, MA, March 15, 2007
- Effective Risk Communication Strategies, Public Health Confronts the Mosquito, A New England Regional Conference, Massachusetts Department of Public Health, Shrewsbury, MA, March 1, 2007
- Risk Communication Training, Massachusetts Department of Environmental Protection, Boston, MA, February 28, 2007
- Evaluation and Measurement, The Center for Corporate Citizenship at Boston College, San Diego, CA,
   February 7-9, 2007
- Risk Communication Training, Massachusetts Department of Environmental Protection(CERO), Worcester, MA
   January 12, 2007
- Risk Communication Training, Veterans Administration NEHC, Bedford, MA. December 11, 2006

- Risk Communication Training, Massachusetts Department of Environmental Protection(CERO), Worcester, MA
   December 1, 2006
- Outreach Training, Air Products, Allentown, PA, November 7-8, 2006
- Public Health Risk Communication Training, First Intergovernmental Pandemic Risk Communication Workshop,
   Greenbelt, MD, November 1-3, 2006
- Risk Communication Training, Town of Arlington, MA, September 21, 2006
- Addressing Exposure Concerns from the Perspective of Patients and Providers, Caring for Veterans Returning from Recent Conflicts – Conference Series sponsored by the War Related Injury Center, Washington, DC September 20, 2006
- Risk Communication and Environmental Health, Yankee Conference of Environmental Health Professionals,
   Portsmouth, NH September 15, 2006
- One-on-One Spokesperson Training, Rhode Island Department of Health, August 7, 2006
- Risk Communication Training, Rhode Island Department of Health, August 1, 2006
- Risk Communication and Community Involvement at NASA's CERCLA site at the Jet Propulsion Lab, EPA's Conference on Community Involvement June 26, 2006
- Basic Risk Communication Training, Boston Public Health Commission, Massachusetts Department of Public Health and The Local Public Health Institute June, 19, 2006
- Two one day sessions, Advanced Risk Communication Training, Boston Public Health Commission,
   Massachusetts Department of Public Health, Boston MA, June 14. 2006, June 21, 2006
- Four talks, The Importance of Risk Communication in Preparedness Planning, Massachusetts Regional Pandemic Influenza Planning Conferences, MA DPH May – June, 2006
- Two One Day Basic Risk Communication Training, Boston Public Health Commission Massachusetts
   Department of Public Health, Boston MA, April 19, 2006 & May 15, 2006
- Risk Communication for Pandemic Preparedness and Continuity of Operations, State Street Bank, Quincy, MA, May 11, 2006
- Three-Day Evaluation and Measurement, Training, The Center for Corporate Citizenship at Boston College, San Diego, February 7-9, 2006
- Diffusing Anger, Building Trust: Communication Skills for Challenging Situations, PacifiCorp, Portland, Oregon.
   Coordinated through The Center for Corporate Citizenship at Boston College, October 4-5, 2005
- One-Day Advanced/ Managers Risk Communication Training, Massachusetts Department of Public Health,
   Wellesley, August 12 and August 19, 2005
- One-Day Advanced Risk Communication Training, Massachusetts Department of Public Health, Tewksbury, MA,
   July 27, 2005
- Risk Communication and Remediation Opportunities and Challenges, NASA RPM Conference, Washington DC,
   June 29, 2005
- One-Day Basic/Advanced Risk Communication Training, Massachusetts Department of Public Health, Northampton MA, June 24, 2005

- Risk Communication Training, Arlington Board of Health, Arlington MA, June 23, 2005
- One-Day Advanced Risk Communication Training, Massachusetts Department of Public Health, Newton MA,
   June 22, 2005
- One-Day Risk Communication Training, with Special Populations, Massachusetts Department of Public Health,
   Wellesley MA, June 20, 2005
- Three-Day Program Evaluation and Measurement, The Center for Corporate Citizenship at Boston College, Denver CO, June 8-10, 2005
- One-Day Risk Communication Training, with Special Populations, Massachusetts Department of Public Health,
   Wellesley MA, June 3, 2005
- "Communicating to a Nervous Public", Conference on Communicating with the Media, Boston Public Health Commission, Boston MA, May 19, 2005
- One-Day Risk Communication Training, Massachusetts Department of Public Health Regional Training,
   Worcester MA, May 17, 2005
- One-Day Risk Communication Training, Massachusetts Department of Public Health Southeast Regional Training, Middleboro MA, May 11, 2005
- In-Service Risk Communication Training, Veteran Affairs War Related Illnesses and Injury Study Center, East Orange NJ, May 10, 2005
- Risk Communication Training, Massachusetts Public Health Nursing Association, Milford MA, May 5, 2005
- Rick Communication Training, Massachusetts Department of Public Health Regional Training, Martha's Vineyard
   MA, April 29, 2005
- Two-Day Community Outreach Training, Air Products Inc, Houston TX, April 26-27, 2005
- Three-Day Diffusing Anger, Building Trust: Communicating with Key Publics, The Center for Corporate Citizenship at Boston College, Boston MA, April 6-8, 2005
- Three-Day Evaluation and Measurement, Training, The Center for Corporate Citizenship at Boston College, Phoenix AZ, February 8-11, 2005
- One-Day Risk Communication Training Communication with Special Populations, Massachusetts Department of Public Health, Wellesley MA, February 2, 2005
- Risk Communication Training Seminar, Massachusetts Health Officers Association, Lowell, MA. November 4,
   2004
- Three-Day Evaluation and Measurement Training, The Center for Corporate Citizenship at Boston College,
   September 2004
- One Day Advanced Risk Communication Training, Boston Public Health Commission, Boston, MA. August 19, 2004
- Risk Communication/Public Meeting Training, NASA White Sands Test Facility, El Paso TX. August 9, 2004
- Basic Public Health Risk Communication Training, Boston Public Health Commission, Boston, MA. June 22,
   2004

- One Day Advanced Risk Communication Training, Massachusetts Department of Public Health, Boston, MA.
   June 16, 2004
- Risk Communication Training Seminar for State Senior Managers, Massachusetts Department of Public Health,
   Boston, MA. June 14, 2004
- Advanced Risk Communication Training, Massachusetts Department of Public Health, Boston, MA. June 10,
   2004
- Evaluation and Measurement Training, The Center for Corporate Citizenship at Boston College, May 12-13, 2004
- Risk Communication Training and Public Meeting Presentation, NASA Jet Propulsion Laboratory (JPL)
   Pasadena CA. April 13, 2004
- One Day Basic Risk Communication Training, Massachusetts Department of Public Health, Wellesley, MA.
   March 9, 2004
- One Day Basic Risk Communication Training, Massachusetts Department of Public Health, Tewksbury, MA.
   March 2, 2004
- Public Meeting Training and Presentation, NASA JPL, Pasadena, CA. January 20, 2004
- Diffusing Anger, Building Trust: Communication Skills for Challenging Situations, The Center for Corporate Citizenship at Boston College, February 4-6, 2004
- Tough Question Public Meeting Training, NASA JPL, Pasadena, CA. January 8, 2004
- Risk Communication Training, Bronx VA Bioterrorism Grant, Atlanta, Georgia January 6-7, 2004
- Media Training, NASA Glenn, Cleveland, Ohio October 21, 2003
- Basic Risk Communication Training, Massachusetts Department of Public Health, Wellesley, MA. October 1,
   2003
- Crisis Communication Training, Osram Sylvania, Danvers, MA. September 30, 2003
- Basic Risk Perception Training, Massachusetts Department of Public Health, Boston, MA. July 29, 2003
- National Academy of Sciences, July 16, 2003
- Media Training, NASA Glenn, Sandusky, Ohio, June 25, 2003
- Short-Term Risk Communication Strategy, NASA JPL, Washington, DC, April 11, 2003
- One Day Media and Crisis Training for NASA Stennis Space Center Senior Management, Mississippi, March 25,
   2003
- Communication Skills in Difficult Situations, War Related Illness and Injury Study Center Seminar N.J., March 5,
   2003
- "EOHSI Risk Communication and Perception" Occupational Medical Residents Seminar N.J., March 4, 2003
- Medical Grand Rounds, University of Medicine & Dentistry of New Jersey Preventative Medicine, Newark, N.J.,
   January 14, 2003
- Three Day Evaluating Community Relations Programs and Strategies for Santa Clara Corporate Leaders, Boston Collage Center for Corporate Citizenship, Santa Clara, California, January 6, 2003

- Medical Grand Rounds presentation on "Risk Communication and Medicine" for East Orange VA Hospital, East Orange, NJ, October 2002
- Presentation on Evaluating Community Relations Efforts Decommissioning Community Workgroup for NASA
   Plum Brook Station Sandusky, Ohio, October 16, 2002
- Three Day Training, "Evaluating Community Relations" for Boston College, Center for Corporate Citizenship, Boston, MA, October 2002
- Two One Day Training's for Senior Management on "Communicating in Difficult Situations" for Osram Sylvania Danvers, MA, October 2002
- Three Day Training "Institute" for Boston College, Center for Corporate Citizenship, Boston, MA, September
   2002
- One Day Training for Senior Management on "Crisis and Media Communications" for Osram Sylvania, Portland,
   ME, September 2002
- One Day Risk Communication Seminar on "Risk Perception and Unexplained Illness" for the War Related Illness and Injury Study Center, East Orange, NJ, June 2002
- One Day "Media Training" for General Motors Corporation, Detroit, MI, June 2002
- One Day "Risk Communication and Media Training" for NASA Glenn, Cleveland, OH, June 2002
- Three Day Training "Evaluating Community Relations Programs" for Boston College Center for Corporate Citizenship, Boston, MA, May 2002
- Three Day Training "Communicating with Key Publics" for Boston College Center for Corporate Citizenship,
   Boston, MA, May 2002
- Presentation "Risk Communication and Chemical and Bioterrorism" for Environmental and Occupational Health Sciences Institute, University of Medicine & Dentistry of New Jersey and Rutgers University, Piscataway, NJ, May 2002
- One Day Training "Risk Communication" for Environmental Protection Agency Senior Leadership, Washington DC, April 2002
- Half-Day Training "Crisis Communication" for Osram Sylvania Senior Management, Danvers, MA, April 2002.
- One Day Training "Risk Communication and Dealing with the Media" for Silent Spring Institute, Newton, MA, April 2002
- One Day "Center of Expertise on Diversity/Growth Markets Media Training" for General Motors Senior
   Management and Diversity Marketing Initiative Staff, Detroit, MI, March 2002
- Presentation "Preparing for a Crisis Beyond Media Relations" for Boston College Center for Corporate Citizenship, Miami, FL, March 2002
- One Day Training "Risk Communication" for Center Study for War Related Illnesses at East Orange VA and University of Medicine & Dentistry of New Jersey, East Orange, NJ, January 2002
- Invited speaker, United Nations Johannesburg Summit 2002, Second Preparatory Conference, "Using a Risk Communication Paradigm", New York, January 2002

- Three Day Training "Evaluating Community Relations" for Boston College Center for Corporate Citizenship,
   Tempe, AZ, January 2002
- Three Day Training "Evaluating Community Relations" for Verizon, Waltham, MA, December 2001, Washington DC, June 2001, New York, May 2001
- One Day Training "Risk Communication" for US Army Corp of Engineers, Baltimore District, November 2001
- Three Day Training "Evaluating Community Relations" for Boston College Center for Corporate Citizenship,
   November 2001
- One Day Training "Risk Communication and Media Training" for NASA Glenn Research Center, May 2001
- One Day Training "Crisis Communication Training" for Osram Sylvania, April 2001
- Two and One Half Day Training "Key Publics: The Good, Bad and Ugly" for Boston College Center for Corporate Citizenship, April 2001
- Two Day Training "Evaluating Community Relations Programs" for Boston College Center for Corporate Citizenship, Boston, MA, March 2001
- Four Day Training "Operational Risk Communication and Management Course" for US Navy, November 2000
- Three Day "Program Evaluation Course" for Boston College Center for Corporate Citizenship, October 2000
- Two Day "Introductory Risk Communication Training" for FDA, Center for Food Safety and Nutrition and Center for Veterinary Medicine, September and May 2000
- One Day Training "Crisis Communication Training" for Osram Sylvania, May 2000
- Two Day Training "Advanced Risk Communication" for USCHPPM, April 2000
- Two Day Training "Evaluating Community Relations" for Boston College Center for Corporate Citizenship, March 2000
- Boston College Leaders Conference "Environmental Sustainability", San Diego, March 2000
- One Day "Risk Management Plan Training" for Osram Sylvania, December 1999
- One Day "Basic Risk Communication" for FDA, Center for Food Safety and Nutrition, Senior Managers,
   November 1999
- One Day "Basic Risk Communication Training" for Merck, Hawthorne, November 1999
- One Day Training "Risk/Crisis Communication Seminar" for Gelatin Manufacturers Association, September 1999
- One Day Media Training for NASA Glenn Research Center, August 1999
- One Day Media Training for Silent Spring Institute, July 1999
- Invited Presentation "Defining a Tolerable Level of Risk", National Academy of Sciences, July 1999
- One Day Media Training for NASA Glenn Research Center Media Relations Staff, June 1999
- Two Day Training "Advanced Risk Communicating" for MA DEP, June 1999
- Two Day Training "Advanced Risk Communication" for Ft.Ord, May 1999
- One Day Training, "Public Involvement and ISO 13000", Illinois EPA, May 1999
- Two Day Training "Communicating Health Risks Information and TRI Information", Southern Company, May
   1999

- Three Day Training "Evaluating the Neighbor of Choice Program" for Merck, April 1999
- Two Day Training "Program Evaluation", GPU, April 1999
- Two Day and a Half Day Training "Program Evaluation", The Center for Corporate Community Relations at Boston College, April and October 1999
- One Day Training "Communicating Risk Management Plans", Hampshire Chemical, April 1999
- Two Day Training "Communicating RMP Information" for Merck, Flint River, GA., Plant, March 1999
- One Day "Effective Communication Training", NASA Headquarters, March 1999
- Two Day Basic Risk Communication Training for Ft.Ord, February 1999
- One Day "Crisis Communication Training", Osram Sylvania, Hillsborough Plant, February 1999
- One Day Risk Communication Training for NASA Lewis Research Center Media Relations Staff, January 1999
- One Day Training "Developing Health Care Messages" USACHPPM, January 1999
- Two Day Training "Communicating Risk Management Plans", Merck, Elton, VA, October 1998
- One Day "Crisis Media Training", Merck, Danville, Pa, Plant, September 1998
- One Day Training, "Message Development and Profiling Communities", USACHPPM, January, March, September
   1998
- One Day Training "Public Meetings & Responding to Tough Questions", Harvard University Center for Risk Analysis, September 1998
- Two Day Training "Facilitation Training" for MA DEP, May 1998
- Two Day Basic Risk Communication Training for Gila River Indian Community, April 1998
- One Day Risk Communication Training for USDA, March, 1998
- Two Day Risk Communication Training for Kentucky Department of Environmental Protection, February 1998
- Two Day Risk Communication Training for Chem-Nuclear, October 1997
- Two Day Training "Public Meeting Skills- Dealing with Stakeholders", Chem-Nuclear, November 1997
- One Day Advance Profiling Training, CHPPM, October 1997
- Two Day Training "Answer to Tough Questions", Chem-Nuclear, September 1997
- Two Day Training "Preparation & Critique of Written Materials", Chem-Nuclear, June 1997
- One Day Basic Risk Communication Training, Chem-Nuclear, April 1997
- Two and Half Day Training "Communicating with Key Publics", The Center for Corporate Community Relations at Boston College, June 1998, June and October 1997, June and November 1996
- One Day Training for US Army Center for Health Promotion and Preventative Medicine on Profiling Audiences and Evaluation, Baltimore, MD, November 1996
- One Day Training for Navy Environmental Health Center on Profiling and Evaluation Techniques in Charleston,
   South Carolina, October 1996.
- Two Day Risk Communication Training for NASA/Lockheed to Support the X-33 Environmental Impact Statement Scoping Process, Palmdale, California, September 1996.

- Two and Half Day Training on Speaker/Media Training for Chem-Nuclear Systems, Inc. Harrisburg, PA, April 1996.
- Two Day Advanced Risk Communication Training for US Army Center for Health Promotion and Preventative Medicine and Navy Environmental Health Center, Virginia Beach, VA, April 1996.
- Presentation at PAC Meeting as member of the research team for the Cape Cod Breast Cancer Study, Cape Cod, MA, July 1996
- Presentation on Risk Communication at the invitation of Silent Spring Institute at Investigator's Meeting, Boston,
   June 1996.
- Santos, S.L., Locke, P., and Desmarais, A.M., Presentation to New England Water Environment Association on Risk Management/Risk Characterization, February 1996
- Presentation at the invitation of UNESCO "The Importance of the Media as a Channel for Informing the Public on the Environment", Pretoria, South Africa, December 12-13, 1995.
- Santos, S.L., Chabot, A., "Communication of Epidemiological Information: A Case Study Review", Presented at Society for Risk Analysis Annual Meeting, Honolulu, Hawaii, December 1995.
- Santos, S.L., McCallum, D.B., Strauss, H., "Innovative Use of Focus Groups, Cape Cod Breast Cancer and Environment Study", Presented at Society for Risk Analysis Annual Meeting, Honolulu, Hawaii, December 1995.
- Lage, H. and Santos, S.L., "Risk Communication: The Brazilian Perspective", Presented at Society for Risk Analysis Annual Meeting, Honolulu, Hawaii, December 1995.
- Developed and presented workshops on Risk Communication, Comparative Risk and Risk Management, Sponsored by the University of Sao Paulo, Brazil, November 7-9, 1995.
- Presentation on the "Use of Focus Groups" for Trainer Risk Communication Training for Navy Environmental Health Center and US Army Center for Health Promotion and Preventative Medicine, Norfolk VA, October 26, 1995
- One Day Train-the-Trainer Training for Navy Environmental Health Center and US Army Center for Health Promotion and Preventative Medicine, Norfolk VA, October 25, 1995
- Presentation to The New England Electric Council on Crisis Communication, Portland, Maine, October 19, 1995.
- One and One Half Day Risk Communication Training for Kraft Foods/Atlantic Gelatin, Woburn, MA, October 18,
   1995
- One Day Risk Communication Training for UNOCAL Corporation, Los Angeles, CA November 1995
- Two Day Risk Communication Training for UNOCAL Corporation

Portland, OR
 Anchorage, Alaska
 September, 1995

Los Angeles, CA
 San Ramon, CA
 April, 1995
 San Francisco, CA
 March, 1995
 Santa Maria, CA
 February 1995

One Day Risk Communication Training for the NASA Johnson Space Flight Center, September 1, 1995

- Presentation on Risk Communication, South Carolina Department of Health and Environmental Control, Myrtle Beach, SC, September 20, 1995.
- Training Course, <u>Communicating with Key Stakeholders</u>, Public Meeting Skills and Dealing with the Media,
   Center for Corporate Community Relations at Boston College, Boston, MA, July 20, 1995
- Presentation on "Improving Risk Communication Through Community Involvement" to the Massachusetts
   Department of Public Health, Boston, MA, July 13, 1995
- Two Day Introductory Risk Communication Course for NASA Marshall Space Flight Center, June 28-29, 1995
- One Day Executive Session Risk Communication Course for NASA Marshall Space Flight Center, June 30, 1995
- Presentation on Risk Communication and Comparative Risk to the New Hampshire Comparative Risk Project,
   Concord, New Hampshire, June 12, 1995
- Four week course, "Risk Communication and Environmental Management" taught at Tufts University Center for Environmental Management, Summer Institute, June 1995
- Developed presentations for the University of Sao Paulo, Brazil on Risk Communication. In conjunction with the University, presented to industry, government, NGO and academic leaders in Sao Paulo, Curitiba and Salvadore, Brazil, May 28 - June 3, 1995.
- Advance Risk Communication Training presented to MA DEP, Boston, MA, May 16-17, 1995
- Presentation at the New England Environmental Expo Risk Communication and Decision Making, Boston World Trade Center, May 10, 1995
- Presentation on Risk Management and Communication for Chemical Week: "The Changing Chlorine Marketplace Business, Scenic and Regulations, New Orleans, Louisiana, April 11-12, 1995
- One Day Risk Communication: Strategic Planning and Management Training Massachusetts DEP March 28,
   1995 Risk Communication Training for the Air/Army National Guard Bureau Baltimore, MD March, 1995
- Developed and Facilitated Two Day Risk Communication Seminar Caliber, Inc., US Army and Air Force Anchorage, Alaska February, 1995
- Presentation at 1995 National Comparative Risk Conference for Practitioners Risk Communication Western Center for Comparative Risk, Colorado Springs, CO January, 1995
- Massachusetts Department of Environmental Protection Updated and Facilitated Introduction to Risk Communication Training January, 1995
- Presentation at Society for Risk Assessment (SRA) Conference Kanawha Valley Risk Communication Project
   Baltimore, Maryland December, 1994
- Presentation at US Army Center for Health Promotion and Preventative Medicine Conference, Towson, MD,
   November 1994
- Risk Communication Training for Air/Army National Guard Bureau, Hyannis, MA, October 1994.
- Presentation at The Institute for Postgraduate Studies in Medicine, Prague, Czech Republic, Central and Eastern European Workshop on Hazardous Waste - Exposure, Remediation and Policy, October 1994.
- Two Day Risk Communication Training for UNOCAL Corporation
  - Grand Junction, CO October 1994

Beaumont, TX October 1994
 Chicago, IL September 1994
 Los Angeles, CA September 1994

Santa Fe Springs, CA June 1994
 Los Angeles, CA January 1994
 Los Angeles, CA December 1993

- One Half Day Awareness Training for UNOCAL Corporation
  - Los Angeles, CA June 1994Los Angeles, CA April 1994.
- Crisis Media and Risk Communication Training for UNOCAL Corporation
  - Los Angeles, CA September 1994
- Presentation to UCLA Rockwell Occupational Group on the Communication of Epidemiologic Studies, August 1994.
- Presentation on Risk Communication for Society for Risk Analysis "New Horizons in Risk Assessment", Arlington,
   VA August 1994.
- Developed and implemented a Crisis Communication Strategic Plan for a confidential client, August 1994.
- Massachusetts Department of Environmental Protection Developed and facilitated Introduction to Risk
   Communication and Advanced Risk Communication Training courses, January, April, May and June, 1994.
- Moderate 8 focus groups of area residents and employees for Rocketdyne Division of Rockwell International Corp. Provide report and summary of findings, June 1994.
- Presentation at Rutgers University Center for Environmental Communication Symposium on Risk Communication, June 1994.
- Presentations and participation in Panel Discussions, Community/Public Meeting as a consultant for The
  Associated Group, Inc., a community based organization working with the Baird & McGuire Superfund site in
  Randolph, MA. Monthly Presentation at Task Force Meetings. May 1993 present.
- Washington State Department of Ecology Developed and facilitated three day Risk Communication Training and One Day Training, May 1994.
- Two Day Risk Communication Training for Rocketdyne Division of Rockwell International Corp., Los Angeles, CA, May 1994.
- Tufts University Center for Environmental Management Breakfast Seminar on Risk Communication, April 1994.
   One Day Risk Communication and Environmental Management Course, May 1994
- Developed and presented Risk Communication Training Workshop with Humanities Research Center in Sophia, Bulgaria, February 1994.
- Presentation to Region I Pesticide Inspectors Training Program, Hampton Beach, NH, February 1994.
- Presentation at Washington State Department of Ecology, Leadership Training, January 1994.
- Presentation for Society for Risk Analysis Annual Conference, South Carolina, December 1993.

- Presentation to UNOCAL Corporation Executive Management on Institutionalizing a Corporate Risk Communication Program, September 1993
- Moderate six focus groups in Hampton Virginia for NASA Laughingly Research Center on Superfund site designation and general Environmental Awareness/Concerns, June 1993.
- "The Importance of Risk Communication in Comparative Projects", Presentation at the Fourth Dutch- U.S.
   International Symposium: Comparative Risk Analysis and Priority Setting for Air Pollution Issues, AWMA,
   Keystone, Colorado, June 1993.
- Moderate three focus groups in Boston area on Lawn Care Chemicals and Services, Professional Lawn Care
  Association of America, May June 1993.
- Santos, Susan L., "Expanding the Dialogue: A Strategy for Risk Communication", Presentation at Washington Foundation for the Environment Conference on Risk: Creating Conflict or Building Consensus? Seattle Washington, June 1993.
- Presentation to Philip Morris Latin American Corporate Affairs Annual Meeting, Florida, May 1993.
- Risk Communication Seminar Research Findings and Implications Presentation to UNOCAL Corporation
   Corporate Risk Communication Coordinating Committee, Los Angeles, May 1993.
- Two day Risk Communication Training for Central, Northeast, Southeast and Western Regional Offices
   Massachusetts Department of Environmental Protection, April June, 1993.
- Panel Presentation on Mock Public Hearing Presented at Boston Risk Assessment Group/Boston Chapter of Society for Risk Analysis, Cambridge, MA, April 1993.
- Two-day training course on Risk Communication for FDA Medical Devices Center, Virginia, February 1993.
- Risk Communication Workshop presented to Philip Morris Industries Worldwide Conference on Environmental Tobacco Smoke, New York City, February 1993.
- Public Hearing Comments on Behalf of FAR NYANZA Superfund Site Public Hearing Ashland, Massachusetts,
   January 1993.
- Presentation on the Role of Risk Communication in Comparative Risk Projects and Public Meeting Skills, USEPA
   Using Comparative Risk: A Conference for Practitioners, Boulder, CO, January 1993.
- Three and One-half Day Training Workshop on the Use of Information in Environmental Decision-Making in Bulgaria and Slovakia, Institute for Sustainable Communities, January 1993.
- Two day Training Seminar for NASA Langley Space Center Staff and on-half day Seminar to Senior Management, Hampton, Virginia, December 1992.
- Community Meeting Facilitation and Presentation at Area Schools of UNOCAL San Francisco Refinery AB2588
   Health Risk Assessment, November/December 1992.
- Community Meeting Facilitator and Q&A on Odor and Health Concerns, Health Risk Assessment and Air Quality Monitoring results for Fort Apache/Harbor Village Residents, Huntington Beach, CA, October, November, December 1992, March, June 1993.
- Santos, S.L., P. Hill, D. Gutenson, "The Kanawha Valley Risk Communication Research Project." Presented at Society for Risk Analysis Annual Meeting, San Diego, CA, December 1992.

- Santos, S.L., D. Gutenson, Hill, P., "Risk Communication in the Kanawha Valley: Implications for Risk Reduction." Presented at Society for Risk Analysis Annual Meeting, San Diego, December 1992.
- Pesticide and Worker Right-to-Know Agricultural Risk Communication Presentation for Texas Department of Agriculture, October 1992.
- Day Training Seminar on Risk Assessment and Risk Communication for Alcoa Worldwide Health and Safety Conference, Atlanta, October 1992.
- Presentation on Risk Communication at Superfund Sites for Jet Propulsion Laboratory Senior Management,
   Pasadena, October 1992.
- Day and one-half Training Seminar on Risk Communication Implications and Community Relations for Superfund Sites for JPL Staff, Pasadena, October 1992.
- Facilitator for seven focus groups Kanawha Valley, West Virginia, October 1992.
- Public Hearing Support, RCRA Permit Public Hearing for NASA Yellowcreek Facility, Mississippi, September 1992.
- Risk Communication Presentation for North Dakota Extension Service, September 1992.
- Respond to questions and assist in community meeting facilitation on UNOCAL Los Angeles Refinery AB2588
  Health Risk Assessment Results, August 1992.
- Presentation on Risk Communication of Electromagnetic Field (EMF) Risks for Connecticut Department of Health Services Workshop on EMF, July 1992.
- Risk Communication Training Seminar, Florida Department of Health Services, Orlando, July 1992.
- Presentation to Friends and Advocates of the Sudbury River on Third Party Review of Remedial Investigation and Risk Assessment on the Sudbury River Nyanza Superfund Site, Framingham, MA, July 1992.
- Presentations on Risk Communication Principals, Public Meeting and Facilitation Skills and Dealing with the Media. Also several presentations on the results of Harvard University's Health Study of the Kanawha Valley, April 1992.
- Presentation for Monroe County Department of Health Risk Communication Seminar, February 1992.
- Public Meeting, Training and Support, Kennedy Space Center, January 1992.
- Day Training Seminar for EPA Region I Leadership Team and Senior Staff on Effective Communication, Boston,
   MA, November 1991.
- "Risk Communication and Food Safety" Presentation at American Dietetic Association Annual Conference,
   October 1991.
- "Food Safety and Risk Communication" Presentation at the 8th World International Congress of Food Science and Technology, Toronto, September 1991.
- Training Seminar and Presentation to NASA Senior Management Staff, Washington D.C., August 1991.
- Two and a half-day Training Seminar for Kennedy Space Center Staff, June 1991.

- Half-day Seminar for Kennedy Space Center Senior Management, June 1991.
- Presentation at NASA Annual Environmental Conference, San Diego, December 1991.
- Presentation to NASA HQs General Counsel and Center Chief/Patent Counsel, March 1991.
- Risk Communication Training for EPA Region I and Massachusetts DEP staff, February 1991.
- Four hour presentation to senior Olin Corporate Environmental staff on Risk Communication and using risk assessment to base environmental priorities, February 1991.
- Two and a half day Risk Communication training seminar to Brooks Air Force Base OHEL staff (engineers, scientists, public affairs and management), January 1991.
- Presentation to EPA Region VI, State of New Mexico and Navaho Nation staff on result of Prewitt Refinery Superfund Site Risk Assessment, January 1991.
- Media and Public Involvement Presentation to NASA Marshall Space Center Public Affairs staff and Yellowcreek Facility Management, January 1991.
- Public Hearing Support, NASA IUKA Air Permit Public Hearing, January 1991.
- Developing a Risk Communication Culture 4-hour presentation to Senior Management Vermont Agency Environmental Conservation, Department of Health, Fish and Wildlife and Department of Forest, Parks and Recreation, December 1990.
- Two-day training seminar on Risk Communication including effective community relations and public meeting skills and media relations to Vermont Agency of Natural Resources, Department of Health, Fish and Wildlife, Forest, Parks and Recreation, Solid and Hazardous Waste management and air staff, December, 1990.
- Risk Communication Training Seminars for EPA Region VIII and state Environmental Protection and Health staff in Utah, and Colorado, December 1990.
- Santos, S.L., Edwards, S., "Risk Communication and the Seveso Directive: The Dutch and French Experience"; Presentation at the Society for Risk Analysis Annual Meeting; October 1990.
- Risk Assessment and Risk Communication Training to Pulp & Paper Company staff TAPPI Annual Conferences,
   April 1991 and 1990.
- Public Hearing Support to NASA Stennis Space Center Senior Management staff and Contractor Team for wetlands permit and air permit, November 1990.
- Media Relations and Public Meeting Preparation presentation and Training Seminar to senior staff of Mississippi Department of Environmental, November 1990.
- Ethics and Risk Communication: Presentation to Edison Electric Institute Annual Environmental Conference,
   November 1990.
- The Role of Risk Communication in Dealing with the Public and Media Presentation to Western States
   Petroleum Association Member Companies, October 1990.

- Public Informational Meetings on NASA ASRM program Bay St. Louis, Picayunne and Diamondhead Mississippi and Slidel Louisiana, August 1990.
- Risk Communication and Environmental Management Presentation to General Chemical Corporation Annual Environmental Managers Meeting 1990.
- Risk Communication/Media Relations Training to Marshall Flight Space Center Senior Management, May 1990.
- Risk Communication, Community relations and Media Relations Skills Training Seminar to Lockheed, Aerojet and Rust senior staff, 1990.
- Eight presentations to state and local officials and senior industry environmental management staff on California AB2588 Air Toxic Legislation Risk Assessment, Risk Communication and Pollution Prevention Implications, 1990 and 1989.
- Two and one half day training seminar on Risk Communication to Stennis Space Center Senior Center Management staff, April 1990.
- Santos, S.L., Edwards, S., "Communication about Environmental Risks: The European Experience";
   Presentations at Society for Risk Analysis Annual Meeting and American Public Health Association Annual Meeting; October 1989.
- Training Seminar to N.J. DEP Senior Agency staff on Risk Communication, December 1988.
- Santos, S.L., "Techniques for Communicating Environmental Risk"; Presentation and Panel Discussion Leader;
   Society for Risk Analysis Annual Meeting; October 1988.
- Santos, S.L., Sullivan, J., "The Use of Risk Assessment for Establishing Corrective Action Clean-up Levels";
   HMICRI-RCRA Conference; April 1988.
- Santos, S.L., Edwards, S., "Unraveling Risk Communication"; APHA Conference, New Orleans; October 1987.
- Nine training sessions for EPA Region I and N.E. State Agency staff on Effective Risk Communication, 1987-1990.
- Presentation to Town of Springfield, Vermont on Risk Assessment.
- Presentation on Risk Assessment at Auburn Road Public Meeting.
- Multiple presentations on New Bedford Harbor risk assessment and feasibility study.
- Over fifty marketing and technical presentations to industry management and private and public sector clients on Consulting Services, 1985-present.

# Sample EPA Public Speaking Experience Includes:

- Presentations at Public Meetings on Remedial Investigation, Risk Assessment, and Feasibility Study for Picillo Farm Site Superfund site, Coventry, Rhode Island (1984-1985).
- Presentations at Public Meetings on RIFS and Preferred Remedial Alternative for Western Sand and Gravel site,
   Burrilville, Rhode Island (1984-1985).
- Presentation to Rhode Island Save the Bay, State and local Officials and Congressional staff on EPA/DOD Superfund Interface and Status of R.I. Navy sites, February 1984.

- Presentation on "Remedial Investigation of the Winthrop Town Landfill", Winthrop, Maine Public Meeting, June 1983.
- Development and Public Workshops on the Risk Assessment and Superfund Feasibility Study Process,
   Winthrop, Maine.
- Presentation to Winthrop (ME) Town council on Winthrop Landfill Remedial Investigation, June 1983.
- Presentation on Vermont Phase II, RCRA Interim Authorization; Public Hearing; Montpelier, Vermont, November 1983.
- Presentation to Federal and State Waste Management Officials on RCRA Authorization; 1982 Annual State/EPA
  Directors' Meeting; New Hampshire, 1982.
- Seminar on Hazardous Waste Management Alternative and Federal Laws to Tufts University graduate engineering students and faculty, 1981.
- Presentation to Federal and State Waste Management Officials at the 1980 Annual Region I State/EPA
   Conference on Resource Recovery and the Urban Grants Program; Vermont, 1980.
- Presentation of technical paper to the 1979 ASCE National Environmental Engineering Conference on Sludge Management, 1979.
- Presentation to residents, town and county officials from 20 towns in Hampshire County (MA) on solid Waste Management Alternatives.
- Presentation to the Mount Washington Valley (NH) Selectmen's Solid Waste Committee and Rutland Vermont Solid Waste Committee on Procurement and Implementation of Resource Recovery.
- Orientation of EPA Region I "new" employees on Resource Recovery and Solid Waste Management.
- Presentation of EPA's Environmental Impact Statement on the MDC's Sewerage Treatment Plant at the Public Hearing and Citizens Briefings; Boston, MA.
- Presentation of EPA Sludge Management EIS at twenty public meetings in MDC communities.