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Director, Institute for Civil Infrastructure Systems (ICIS)
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EDUCATION

1972	Ph.D., Planning, Columbia University. Dissertation: "The Effectiveness of Industrial Water Pollution Control in the New York Region." Funding: U.S. Environmental Protection Agency and National Academy of Sciences-National Academy of Engineering.
1969	Master of City Planning, University of Pennsylvania
1965	B.A., Chemistry, University of California (Berkeley)

ACADEMIC POSITIONS

New York University, Robert F. Wagner Graduate School of Public Service
(formerly the Graduate School of Public Administration (GPA)):

1973-1978	Assistant Professor of Planning
1978-1990	Associate Professor of Planning
1990-1992	Professor of Planning
1992-2017	Professor of Planning and Public Administration
2017-present	Research Professor and Professor Emerita of Planning and Public Administration

Managerial Positions at NYU:

1998-present	Director, Institute for Civil Infrastructure Systems
2011-2013	Director, Urban Planning Program (also previously 1996-2001; 1992-1993; 1984-1987; 2004-2007)
1993-1994	Coordinator for the Management Specialization, Public Administration Program
1983-2000	Course director, annual summer institutes on the environment: Risk Management in Environmental Health and Protection (including Quantitative Risk Assessment) Environmental Law
1984-1986	School representative to the NYU Medical School Interdepartmental Program in Environmental Health Sciences
1974-1981	Successively Associate Director, Institute of Planning and Housing and Director, Public Policy Research Institute

Note: Where linkages in citations below have expired, search document title for citation.

RESEARCH EXPERIENCE (University Research Grant and Contract Awards)
Selected research project abstracts: wagner.nyu.edu/icis, click "Projects" or "Projects (list only)"

2021-2025 Co-Principal Investigator, "EAGER: SAI: Understanding Misperceptions of Cyber Risks to Model and Secure Transportation Infrastructures" funded by the National Science Foundation (2122060)
https://www.nsf.gov/awardsearch/showAward?AWD_ID=2122060&HistoricalAwards=false

2021-2023 Co-Principal Investigator, "SCC-CIVIC-FA Track B UNUM: Unification for Underground resilience Measures" funded by the National Science Foundation (2133356)
https://www.nsf.gov/awardsearch/showAward?AWD_ID=2133356&HistoricalAwards=false
https://engineering.nyu.edu/news/nyu-tandon-and-wagner-project-look-below-surface-make-nyc-more-resilient
Web site: https://wp.nyu.edu/unum/

2021 Co-Principal Investigator, "SCC-CIVIC-PG Track B: UNUM: Unification for Underground resilience Measures," funded by the National Science Foundation (2043736)
https://www.nsf.gov/awardsearch/showAward?AWD_ID=2043736&HistoricalAwards=false

2020-2023 Co-Principal Investigator, "RAPID: Effective Resource Planning and Disbursement during the COVID-19 Pandemic," funded by the National Science Foundation (2027884).
https://www.nsf.gov/awardsearch/showAward?AWD_ID=2027884

2020-2021 Co-Principal Investigator, "Urban microtransit cross-sectional study for service portfolio design," from C2SMART, NYU Tandon School of Engineering, U.S. Department of Transportation
http://c2smart.engineering.nyu.edu/2020/03/13/urban-microtransit-cross-sectional-study-for-service-portfolio-design/

2015-2021 Co-Principal Investigator, "Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP) Type 1: Reductionist and Integrative Approaches to Improve the Resiliency of Multi-Scale Interdependent Critical Infrastructure," funded by the National Science Foundation (1541164).
https://www.nsf.gov/awardsearch/showAward?AWD_ID=1541164
http://www.nsf.gov/news/news_summ.jsp?cntn_id=136266&org=NSF&from=news (Press release 15-108 September 14, 2015)

2015-2022 Senior faculty researcher (Principal Investigator for NYU), "Urban Resilience to Extreme Weather Related Events Sustainability Research Network (UREx SRN)," funded by the National Science Foundation Cooperative Agreement (1444755) through Arizona State University.
https://www.nsf.gov/awardsearch/showAward?AWD_ID=1444755
http://wagner.nyu.edu/news/newsStory/prof-rae-zimmerman-chosen-participate-urban-infrastructure-and-extreme-weather
https://sustainability-innovation.asu.edu/urbanresilience/

https://sustainability-innovation.asu.edu/urbanresilience/urex-srn-cities/
https://sustainability-innovation.asu.edu/urbanresilience/publications/

2019-2020 Co-Principal Investigator, "Developing Secure Strategies for Vehicular Ad hoc Networks in Connected and Autonomous Vehicles," from C2SMART, NYU Tandon School of Engineering, U.S. Department of Transportation http://c2smart.engineering.nyu.edu/2019/06/14/secure-strategies-vehicular-ad-hoc-networks/

2017-2020 Co-Principal Investigator, "Dynamic Resiliency Modeling and Planning for Interdependent Critical Infrastructures," from the Critical Infrastructure Resilience Institute, U. of Illinois, Urbana-Champaign, Homeland Security Center of Excellence, supported by a grant from the U.S. Department of Homeland Security. Project webinar, September 20, 2018: https://ciri.illinois.edu/events/dynamic-resiliency-modeling-and-planning-interdependent-critical-infrastructures

2015-2017 Principal Investigator, "Public Transit and Mandatory Evacuations Prior to Extreme Weather Events in NYC," funded by the U.S. Department of Transportation, Region 2 Urban Transportation Research Center. Final report posted at: http://www.utrc2.org/sites/default/files/Final-Report-Public-Transit-Mandatory-Evacuations.pdf

2014-2017 Co-Principal Investigator, "Resilient Interdependent Infrastructure Processes and Systems (RIPS) Type 1: A Meta-Network System Framework for Resilient Analysis and Design of Modern Interdependent Critical Infrastructures," funded by the National Science Foundation (1441140). https://www.nsf.gov/awardsearch/showAward?AWD_ID=1441140

2010-2017 Co-Principal Investigator, "Integrative Graduate Education and Research Training Program (IGERT) – INSPIRE: Information Security and Privacy: An Interdisciplinary, Research and Education Program" NYU-Poly, funded by the National Science Foundation. (0966187)

2015-2016 Faculty lead, "Graduate student research support for urban sustainability research," funded by NYU-Wagner School.

2014-2015 Principal Investigator, "Suburban Poverty, Public Transit, Economic Opportunities and Social Mobility," U.S. Department of Transportation, Region 2 University Transportation Research Center. Final report posted at: http://www.utrc2.org/sites/default/files/Final-Report-Surburban-Poverty-Public-Trans-Eco-Opportunities.pdf

2013-2015 Lead investigator for NYU-Wagner and Work Unit leader, "New York State Resiliency Institute for Storms & Emergencies (NYS RISE)," funded by New York State Office of Storm Recovery (NYU-Poly, Stony Brook University, lead institutions).

2013-2014 Principal Investigator, "RAPID/Collaborative Research: Collection of Perishable Hurricane Sandy Data on Weather-Related Damage to Urban Power and Transit Infrastructure," National Science Foundation, in collaboration with the U. of Washington (lead) and Louisiana State University (1316335). https://www.nsf.gov/awardsearch/showAward?AWD_ID=1316335 http://depts.washington.edu/hursandy/index.html

2012-2014 Principal Investigator, "Promoting Transportation Flexibility in Extreme Events

through Multi-Modal Connectivity," Faculty research grant from the U.S. Department of Transportation, Region 2 University Transportation Research Center. Final report posted at: http://www.utrc2.org/sites/default/files/pubs/Final-NYU-Exterme-Events-Research-Report.pdf

2009-2014 Co-Principal Investigator, "ASPIRE: A Scholars for Service (SFS) Partnership for Interdisciplinary Research and Education," NYU-Poly, funded by the National Science Foundation. (0911982)

2012-2013 Principal Investigator, "The Disconnectedness of the Poor from Urban Public Services," Wagner Faculty Research Fund grant.

2011 Co-Principal Investigator, Center for Interdisciplinary Studies in Security and Privacy – Abu Dhabi, (CRISSP-AD) NYU-Poly, by NYU-AD Institute.

2010-2013 Principal Investigator / Co-Principal Investigator, "Mobile Source Air Toxics (MSAT) Mitigation Measures," Rudin Center, NYU-Wagner, funded by the NYS Department of Transportation.

2011-2012 Principal Investigator (at NYU), "Urban Commerce and Security Study (UCASS) - Economics of Security," Center for Risk and Economic Analysis of Terrorism Events (based at the University of Southern California), funded by the U.S. Department of Homeland Security.

2010-2012 Principal Investigator, Curricular Development Challenge Fund grant for course, Planning for Emergencies and Disasters, funded by New York University

2010-2011 Principal Investigator, "Co-Benefits of Green, Secure and Equitable Transport Services for Resilient Cities: In Pursuit of Multiple Policies," funded by Wagner Faculty Research Fund.

2004-2010 Principal Investigator (for NYU), Homeland Security Center for Risk and Economic Analysis of Terrorism Events (CREATE) (based at the University of Southern California), funded by U.S. Department of Homeland Security.

2009 Principal Investigator, "Connecting the Greening of Urban Infrastructure with Social Justice," funded by the Wagner Faculty Research Fund.

2008-2009 Principal Investigator, "Waste Containerization Project," funded by the Fund for Public Health in NY for NYC Department of Health and Mental Hygiene.

2004-2009 Principal Investigator, "Public Infrastructure Support for Protective Emergency Services," funded by the U.S. Department of Homeland Security through the NYU Center for Catastrophe Preparedness & Response

1998-2009 Co- Principal Investigator, "South Bronx Environmental Health & Policy Study," funded by the U.S. EPA.

2004-2008 Task Leader for "Risk Communication for the Large Scale Emergency Readiness (LaSER) Project: A Public Health Perspective," funded by the U.S. Department of Homeland Security through the NYU Center for Catastrophe Preparedness & Response.

2005-2007 Responsible Investigator (for NYU) "Supervisory Control and Data Acquisition (SCADA) Systems and Critical Infrastructures" project for the Institute for Information Infrastructure Protection (I3P) Research Plan, "Unifying Stakeholders and Security Programs to Address SCADA Vulnerabilities and Infrastructure Interdependencies," funded by the

U.S. Department of Homeland Security, Office of Domestic Preparedness Office of Justice Programs through Dartmouth College.

2001-2005 Principal Investigator, "Urban Infrastructure Services in a Time of Crisis: Lessons from September 11th," Small Grant for Exploratory Research (SGER), funded by National Science Foundation (NSF).

2001-2004 Principal Investigator, "Learning from Urban Disasters: National Science Foundation Response and Opportunities for Future Research Workshop," funded by the National Science Foundation (NSF).

1998-2004 Director and Principal Investigator of the Institute for Civil Infrastructure Systems (ICIS), funded by the National Science Foundation (NSF) to 2004 (9728805) (wagner.nyu.edu/icis); Supplemental grant -web design. https://www.nsf.gov/awardsearch/showAward?AWD_ID=9728805

2000-2002 Principal Investigator, "Bringing Information Technology to Infrastructure: A workshop to develop a research agenda," funded by the NSF.

1999-2002 Co- Principal Investigator, "Information Technologies and the Future of Urban Environments," funded by the National Science Foundation.

1995-1999 Project Director and Principal Investigator, "Integrated Decision-making for Urban Infrastructure Performance," funded by the National Science Foundation (NSF), Civil Infrastructure Systems (CIS) initiative.

1993-1998 Principal Investigator, "Acceptance and Adoption by Farmers of Pesticide Use Alternatives for Water Quality Protection," funded by the U.S. Environmental Protection Agency, Office of Exploratory Research

1996-1997 Project Director and Principal Investigator, "Workshop on Integrated Research for Civil Infrastructure," funded by the National Science Foundation, Civil Infrastructure Systems (CIS) initiative (9629884) https://www.nsf.gov/awardsearch/showAward?AWD_ID=9629884

1993-1995 Principal Investigator, "Statewide (NYS) Transportation Plan and Early Public Outreach," Evaluation of Policy Papers for the Statewide Transportation Plan, funded by NYS DOT; University Transportation Research Center.

1990-1993 Principal Investigator, "New Audiences for Environmental Planning, Management and Policy," NYU Curricular Challenge Grant.

1988-1992 Principal Investigator, "Profiling Community Characteristics for the Application of Risk Communication Strategies to Hazardous Facility Siting and Remediation," funded by the U.S. Environmental Protection Agency, Office of Solid Waste & Emergency Response.

1990 Principal Investigator, "Survey of the Environmental Services Market," funded by Sedgwick James Co. (New York).

1988-1990 Co-Principal Investigator, "Public's Perception of Risk Assessment" (full-scale study), funded by the NSF Hazardous Substances Management Research Center, New Jersey Institute of Technology.

1988-1989 Principal Investigator, "Management of Human Error in Industrial and Transportation Accidents," NYU Research Challenge Grant.

1987-1988 Co-Principal Investigator, "Public's Perception of Risk Assessment" (pilot study), funded by NSF Hazardous Substances Management Research Center,NJIT

1986-1987 Project Director, "Environmental Planning and Infrastructure Study (water supply, wastewater, transportation) Carmel, NY," funded by Carmel, NY.

1985-1987 Project Director, "Risk Assessments for Abandoned Coal Gasification Sites," funded by Jersey Central Power & Light, Co.

1984 Project Director, "Feasibility Study for a Coordinated Transportation and Industrial System Composed of an Offshore Island Complex with an Enlarged Erie Canal" (engineering, economic, environmental and financial analysis), funded by the NYS Department of Transportation.

1983 Project Director, "New York State Infrastructure Analysis," Joint Economic Committee, U.S. Congress, coordinated by the University of Colorado. https://www.jec.senate.gov/reports/98th%20Congress/Hard%20Choices%20-%20Appendix%2015%20-%20New%20York%20(1245).pdf

1982-1983 Principal Investigator, "Manpower Needs in Environmental Health and Risk Analysis for Environmental Pollution Control in New York State," funded by the New York State Health Research Council.

1982-1983 Project Director, Development of the Summer Institute in Risk Management in Environmental Health and Protection, NYU Curricular Challenge Grant.

1980-1982 Principal Investigator, "Management of Risk," funded by the National Science Foundation, Division of Policy Research and Analysis.

1980-1982 Principal Investigator, "Institutional Analysis of the Uses and Usage Potential of the Hudson-Raritan Estuary," funded by U.S. Dept. of Commerce, NOAA.

1980 Project Director, "Evaluation of the Hoboken Municipal Mortgage Insurance Program," funded by the U.S. Department of Housing and Urban Development through the Urban Institute.

1978-1980 Co-Principal Investigator and Project Director, "Permit Systems and Environmental Review Procedures for Water Resources Management: An Assessment of Information and Decisionmaking Processes at the State and Local Levels," funded by the U.S. Department of Interior, Office of Water Research and Technology.

1978-1979 Principal Investigator, "Institutional Constraints on Land Management for Water Resource Protection in Urban and Suburban Watersheds," funded by the U.S. Department of Interior, Office of Water Research and Technology.

1977-1978 Project Director, "Public Seminar in conjunction with Areawide Waste Treatment Management Planning," for the New York City Department of Environmental Protection, Water Resources.

1974-1975 Project Director, "Delaware River Basin Regional Assessment Study-Institutional Analysis," funded by the National Commission on Water Quality (Betz Environmental Engineers, Inc., prime contractors).

1974 Project Director, "Measurement of Communication Within and Among Organizations with Application to Environmental Management," funded by the National Science Foundation.

TEACHING EXPERIENCE AND CURRICULAR DEVELOPMENT

New York University Robert F. Wagner Graduate School of Public Service:
Teaching and Curricular Development

- Developed, taught and advised students for the Environment, Infrastructure and Transportation course of study

- Graduate level courses (developed and/or taught) for Wagner and other NYU school students: planning for emergencies and disasters; environmental management and planning / environment and urban dynamics; environmental impact assessment; environmental law; epidemiology; the summer institute in environmental health risk assessment and risk management; urban infrastructure and environmental services / adapting the physical city: innovations in energy, transportation and water; energy resources; urban economics; organization theory / management of public service organizations; capstone in urban planning

Elected and Appointed Committees

- Admissions: 2006-2007, 2010-2013
- Budget: 1990-1992, 2014-2016
- Curriculum: 2012-2014
- Diversity: 1989-1990
- Education: 1983-1986
- Faculty Personnel:1983-1985, 1990-2003 (excluding sabbatical years)
- Grievance: 1983-1985, 1985-1986 (university-wide), 1989-1990
- Promotion and Tenure: 2004-2006
- Search (Faculty): 1990-1991 (health policy and management endowed chair), 2007-2009 (environmental faculty); 2009-2012 (NYU-Poly Civil Engineering Chair)

Program Directorships

- Urban Planning: 1984-1987, 1992-1993, 1996-2001, 2004-2007, 2011-2013; directed the MUP Accreditation (1984-1987), subsequent reaccreditation reports (2000, 2005, 2013).
- Management: 1993-1994

<u>New York University Activities and Roles</u>

- 2012 (approximate)-2017: An NYU representative for the U.S. Department of Transportation Region II University Transportation Research Center (UTRC) Board of Directors
- 2006-2016: Former Associated Faculty Member, NYU Environmental Studies Program
- 2010-2012: Former Faculty Steering Committee member, Center for the Sustainable Built Environment, NYU Schack Institute of Real Estate
- Former advisory role for joint courses with environmental health sciences, engineering

<u>PROFESSIONAL APPOINTMENTS, ELECTIONS, AND ACTIVITIES (External)</u>

American Association for the Advancement of Science (AAAS), Elected Fellow

Society for Risk Analysis: Recipient of the 2019 Distinguished Achievement Award; 2015 Outstanding Service Award; Past President and Fellow

2023 (April)- 2025 (May): Appointed Member, Standing Committee on Systems, Enterprise and Cyber Resilience (AMR40), Transportation Research Board, National Academies until May 30 when all standing committees were disbanded.

2020 – 2023: External Assessment Panel invited member, Center for Risk-Based Community Resilience Planning, a National Institute of Standards and Technology (NIST) funded Center of Excellence, Colorado State University, Fort Collins, CO.

2022-2023: Invited participant, session chair, report contributor, EPSRC-NSF Infrastructure Workshop NY, NY 11–15 July 2022. Report: The Cambridge Centre for Smart Infrastructure and Construction (CSIC) and The Cornell Programme in Infrastructure Policy (CPIP), May 2023. EPSRC-NSF Infrastructure Workshop Report from the EPSRC-NSF Infrastructure Workshop NY, NY 11–15 July 2022. The Role of Funding, Financing and Emerging Technologies in Delivering and Managing Infrastructure for the 21st Century. Cambridge UK: CSIC, Department of Engineering, University of Cambridge and Ithaca, NY: CPIP, Cornell Program in Infrastructure Policy, Jeb E. Brooks School of Public Policy.
https://cornell.app.box.com/s/us6c8tblkb5ruaxy1z2duvyfn5y08oer
https://www-smartinfrastructure.eng.cam.ac.uk/files/epsrc-nsf_infrastructure_workshop_report_-_final_digital-uk__0.pdf

2022-2023: Invited participant, The Future of Risk Research for Homeland Security: An Interdisciplinary Workshop. May 16 – May 17, 2022 Washington, D.C. Report: Ackerman, Gary, Brandon Behlendorf, Hayley Peterson, Douglas Clifford, Anna Wetzel, and Jenna LaTourette 2023 The Future of Risk Research for Homeland Security: An Interdisciplinary Workshop. Center for Advanced Red Teaming (CART): Albany, NY.

2020-2022: Invited technical advisory group member, NYC Mayor's Office of Resiliency, Financial District-Seaport Climate Resilience Master Plan of the Lower Manhattan Coastal Resiliency strategy issued December 28, 2021: The Financial District and Seaport Climate Resilience Master Plan, https://fidiseaportclimate.nyc/wp-content/uploads/2021/12/FiDi-Seaport-Climate-Resilience-Master-Plan_v2_compressed.pdf.Updated 3/15/24: https://edc.nyc/sites/default/files/2024-03/FiDi-Seaport-Climate-Resilience-Master-Plan-03-15-2024.pdf

2018-2022: Invited Member, EAUMEGA2020 Researchers College of the Programme Committee for the 2nd International Conference Water, Megacities and Global Change, Paris, France. https://en.unesco.org/events/eaumega2021/programme-committee

2019: Awarded the Society for Risk Analysis 2019 Distinguished Achievement Award for "extraordinary achievement in risk analysis pertaining to the planning and operations of infrastructure systems," 12/10/2019 https://www.sra.org/about-sra/awards/

2019: Invited Organizing Committee Member and commentary, NSF funded workshop, "DIG Around: Documenting Infrastructure and the Ground Conditions Around It" Brooklyn, New York; June 24-25, 2019, led by the NYU Center for Urban Science and Progress (CUSP). NSF award number #1929923.

2015-2018: Appointed Member, City of New York, Third NYC Panel on Climate Change. http://www1.nyc.gov/office-of-the-mayor/news/461-15/mayor-de-blasio-third-nyc-panel-climate-change---ensuring-best-available-science;
http://wagner.nyu.edu/news/newsStory/professor-rae-zimmerman-appointed-third-nyc-panel-climate-change

2011-2020 (April): Appointed Member, Standing Committee on Critical Transportation Infrastructure Protection, ABR10 (Formerly ABE40), Transportation Research Board, National Research Council, National Academies, co-Chairperson, Physical Security subcommittee.

2017-2018: Invited member, International Scientific Committee of the 10th International Conference on Urban Climate (ICUC10) of the International Association of Urban Climatology (http://www.urban-climate.org/), and the 14th Symposium on the Urban

Environment of the American Meteorological Society (14SUE), held August 6-10, 2018 at City University of New York, New York City. Listed at: https://www.ametsoc.org/ams/index.cfm/meetings-events/ams-meetings/10th-international-conference-on-urban-climate-14th-symposium-on-the-urban-environment/icuc-10-committee-listing/
Working Group report at: https://doi.org/10.1016/j.uclim.2021.100858

2017-2018: Invited member, Organizing Committee, International Conference on Sustainable Cities, Columbia-Fordham-NYU, Fordham University, New York, NY, May 1-2, 2018. https://www.fordham.edu/sustainablecitiesconference

2014-2016: Appointed Member, Committee on Pathways to Urban Sustainability: Challenges and Opportunities, National Research Council, National Academies. http://sites.nationalacademies.org/PGA/sustainability/urbanstudy/index.htm
National Academies of Sciences, Engineering, and Medicine. 2016. Pathways to Urban Sustainability: Challenges and Opportunities for the United States. Washington, DC: The National Academies Press. doi: 10.17226/23551.

2013-2014: Appointed Member, Infrastructure Indicators Technical Team, U.S. Global Change Research Program, National Climate Assessment http://www.globalchange.gov/sites/globalchange/files/Pilot-Indicator-System-Report_final.pdf

2013-2014: Advisory committee / reviewer for the Center for an Urban Future (March 2014) "Caution Ahead. Overdue Investments for New York's Aging Infrastructure," New York, NY. https://nycfuture.org/pdf/Caution-Ahead.pdf

2013-2014: Advisory committee / reviewer for the Metropolitan Waterfront Alliance (April 2014) "Ship to Shore: Integrating New York Harbor Ferries with Upland Communities," New York, NY.

2012-2013: Advisory Committee member for "Barriers to Resource Coordination for Multi-Modal Evacuation Planning," Daniel Hess, Associate Professor, Department of Urban and Regional Planning, University at Buffalo, State University of New York funded by the Research Foundation of SUNY to the University at Buffalo, State University of New York through the Region 2 University Transportation Research Center, Report published

2012: NYUPoly Center for Urban Science & Progress (CUSP) Interim Curriculum Advisory Committee member

2012: Steering Committee, NYUPoly Bugliarello Symposium "Livable Cities of the Future"

Spring 2012: NYC Natural Hazard Risk Model Technical Advisory Board member, New York City Office of Long Term Planning and Sustainability

2010-2011: Member, Expert Advisory Panel for the U.S. and Canada Green City Index by the Economist Intelligence Unit, June 2011

2009-June 2023: Argonne Associate, Argonne National Laboratory

2009-2011: Member of the New York Academy of Sciences Steering Committee on Greening Transportation and Infrastructure Discussion Group

2010: New York State Climate Action Council Technical Working Group Transportation and Land Use, ClimAID Liaison

2010: Disaster Housing Planning Team, Regional Catastrophic Preparedness Grant Program, Regional Integration Center (RIC) NY-NJ-CT-PA

2009-2010: Advisory Working Group (AWG) member, Mainstreaming Climate Change Adaptation Strategies into New York State Department of Transportation's Operations, Columbia University Center for Climate Systems Research
2008-2010: Appointed member, Mayor's New York City Panel on Climate Change (NPCC)
2007-2008: Member of working groups for the MTA Blue Ribbon Commission on Sustainability
2006: NYC Office of Emergency Management Utilities Credentialing Committee
2006: Queens (NYC) Power Outage Task Force
2005: Appointed member of the U.S. Environmental Protection Agency, Science Advisory Board, Homeland Security Advisory Committee
2005: Member of the NYC Office of Emergency Management Mitigation Planning Council
2005: Member of the Review committee for the National Research Council's Board on Infrastructure and the Constructed Environment (BICE) in the Division on Engineering and Physical Sciences (DEPS)
2004: U.S. GAO, Member of expert panel for U.S. GAO, "Wastewater Facilities: Experts' Views on How Federal Funds Should be Spent to Improve Security," (Washington, DC: U.S. GAO, 2005) GAO-05-165 http://www.gao.gov/cgi-bin/getrpt?GAO-05-165
2004: NSF Committee of Visitors for the Decision Risk and Management Sciences Program
2004-2005: AAAS, Elected member, Electorate Nominating Committee of the Section on Societal Impacts of Science and Engineering (X)
2002-2004: Appointed Member, Committee on the Review and Evaluation of the Army Chemical Stockpile Disposal Program of the National Academy of Sciences
2003-2004: Appointed Member, Consortium for Atlantic Regional Assessment [global climate change] advisory council, Penn State University
2003-2005: Appointed Member, Water Environment Research Foundation (WERF) Project Subcommittee (PSC)
2002-2007: Appointed Member, Marine Science Research Center (MSRC) project review panel, SUNY-Stony Brook
2003-2008: Advisory board member, resource allocation project for transportation infrastructure development from the Midwest Regional University Transportation Center
2001-2002: Member, The Bond Market Association's Rebuild NY/America Task Force
1996-2003: Appointed Member, U.S. EPA, Office of Research and Development, Board of Scientific Counselors - Chair, Subcommittee for the development of BOSC Operating Principles; Chair, Subcommittee for the review of the National Health and Environmental Effects Research Laboratory and National Center for Environmental Assessment; Chair, Subcommittee for Assessment of Particulate Matter
2001-2003 Appointed Member, American Society of Civil Engineers (ASCE) SEI Technical Committee on Performance-Based Design and Evaluation of Civil Engineering Facilities
2002: Appointed Advisory Committee Member, NYU Real Estate Institute, construction mgmt
1999-: Elected Fellow, American Association for the Advancement of Science (AAAS)
2000-2002: Appointed Member, National Drinking Water Advisory Council Research Working Group, U.S. EPA
2000-2008: Member of the NY/NJ Harbor Consortium for the NY Academy of Sciences
1999-2001: Co-Chair, Rebuild New York Coalition (NY Chapter of the Rebuild America Coalition), appointed by the NYC Comptroller
1998-2001: Appointed Member, Board on Infrastructure and the Constructed Environment,

National Research Council, Commission on Engineering and Technical Systems, National Academy of Sciences (3 year term)

1996-2002: Appointed Member, NYS Department of Environmental Conservation Comparative Risk Project Steering Committee

1997-1998: Member, The Council on Transportation

1996-: Board of Directors Member, University Transportation Research Center – Region 2 (City University of NY)

1996-1998: Alternative Board Member, Transportation Infrastructure Research Consortium (Cornell University)

1991-: Elected and Appointed positions, Society for Risk Analysis: President, 1997; 2001-2003- co-Chair, First World Congress on Risk (Brussels, Belgium); Invited member of various SRA committees; 1999 – Chair, Nominations Committee, Chair, Year 2000 Symposium Committee; 1998 - Executive Committee Member, Chair of Publications Committee, Year 2000 Symposium Committee; 1996 - Elected President-Elect; 1991-1994 - Elected Council Member (3 year term); Panel chairperson, use of meta-analysis for human data in risk assessment for SRA Risk Assessment Guidelines Workshop, 1992 (U.S. EPA)

1998-2000: Appointed Member, Civil Engineering Research Foundation, Symposium 2000 Planning/Program Committee

1998, 2000: Member, Residual Risk Subcommittee of the U.S. EPA Science Advisory Board

1996-1998: Appointed Member, NYS Dept. of Environmental Conservation Air Toxics Workgroup

1994-1996: Appointed research review panel member for the National Science Foundation's Decision, Risk and Management Science Program of the Division of Social, Behavioral, and Economic Research (2 year appointment)

1992-1996: Consultant to U.S. Region II, Emergency and Remedial Response Division, socioeconomic characteristics of and equity issues at Superfund sites

1994-1995: Invited Member, Harvard Group on Risk Management Reform (Harvard Center for Risk Analysis). https://www.tandfonline.com/doi/pdf/10.1080/10807039509380007 Human and Ecological Risk Assessment: An International Journal Vol. 1, 1995 - Issue 3 Special report Reform of risk regulation: Achieving more protection at less cost Report of the Harvard group on risk management reform John D. Graham Ph.D. Pages 183-206 | Published online: 02 Dec 2008

1994-1995: Appointed Chairperson, Meta-Analysis Advisory Committee for the International Life Sciences Institute (ILSI), Risk Science Institute

1993: Appointed Member, U.S. Congress, Office of Technology Assessment Advisory Panel for Researching Health Risks. Workshop Report: U.S. Congress, Office of Technology Assessment, Researching Health Risks, OTA-BBS-570 (Washington, DC: U.S. Government Printing Office, November 1993) https://ota.fas.org/reports/9352.pdf

1991-1992: Appointed Member, U.S. Congress, Office of Technology Assessment Advisory Panel for "Research on Risk Assessment Methodology for Chemical Carcinogens" and co-Chair, Workshop on Research Structure and Organization

1991-1993: Appointed Member, Technical Advisory Committee to the Greenpoint-Williamsburg (Brooklyn, New York) Environmental Benefits Program, New York City Department of Environmental Protection

1991-1992: American Society for Public Administration, Emergency Management section representative to the ASPA Policy Issues Committee on Research Needs. Responsible for

the development of issue papers on safety, sudden chemical releases, hazardous waste management and professional training

1990-mid 1990s: Appointment to the American Arbitration Association Commercial Panel of Arbitrators

1991: Invited Member, Canada-U.S. Environmental Politics Working Group, Americas Society, Canadian Affairs Program

1989-1990: Invited peer reviewer, U.S. EPA Office of Ground-Water Protection, for "The Risk Ranking and Screening System (RRSS)" technical assistance documents for local water suppliers to assess water supply risks from chemicals

1984-1991: Appointed Member, New York State Department of Health Advisory Committee on Safe Drinking Water

1984-1990: Member, Environmental Institute for Waste Management Studies, University of Alabama (Tuscaloosa)

Invited Professional Reviewer Activities

Editorial Board member, *J. of Risk Research*, *J. of Urban Technology*, *International J. of Critical Infrastructures.* Former Board Member: *Risk Analysis* (1998-2018) *Risk-Health, Safety & Environment* (2-year term to12/97); *J. of the American Planning Association* (1974-1983).

Journal Article Referee for the *American J. of Public Health*; *Climatic Change; Disaster Medicine and Public Health Preparedness; Earth's Future; Environmental Health Perspectives, Environmental Science & Technology; Homeland Security Affairs; Industrial Crisis Quarterly; International Journal of Critical Infrastructures, J. of the American Planning Association; J. of Environmental Management; J. of Environmental Planning and Management; J. of Hazardous Materials; J. of Infrastructure Systems; J. of Planning Education and Research*; *J. of Policy Analysis and Management; J. of Risk Research; J. of Urban Health; Policy Studies J.; Policy Studies Review, Public Administration Review; Risk Analysis; Risk-Health, Safety & Environment; Sustainable and Resilient Infrastructure, Urban Affairs Review; Urban Climate; Weather, Climate and Society.*

Manuscript Reviewer (academic) – Edward Elgar Publishing, John Wiley, Van Nostrand Reinhold, Lewis Pub., Academic Press, Rutgers University Press, Yale University Press, etc.

Proposal Reviewer: U.S. Department of Energy; U.S. Environmental Protection Agency (STAR); National Science Foundation (Ethics and Values, Decision Risk and Management Science, Geography and Regional Science; Division of International Programs; others); National Academies, Hudson River Foundation for Science and Environmental Research; Tufts University, Center for Environmental Management; Environmental Protection Agency Experimental Program to Stimulate Competitive Research (EPA/EPSCoR)-Alabama, Environmental Design Research Association (EDRA) – EDRA50Brooklyn.

PROFESSIONAL SOCIETY MEMBERSHIPS: Current and Recent Previous Memberships

Current Memberships

American Association for the Advancement of Science (Fellow; former elected member, electorate Nominating Committee - Societal Impacts of Science and Engineering (X) Section)

American Planning Association

American Society of Civil Engineers (Associate)

Association of Collegiate Schools of Planning

Society for Risk Analysis – Charter Member; President-Elect (1996); President (1997); Co-Chair First World Congress on Risk, June 2003 (Brussels); Past President and Chair, Publications Committee, Nominations Committee, Awards Committee; Elected councilor (1991-1994); co-founder, former President, Metropolitan (CT-NJ-NY) Chapter (1987-88); Fellow; Recipient of the Outstanding Service Award (2015) and Distinguished Achievement Award (2019)

Transportation Research Board, National Academies, Individual - Affiliate Member
Appointed Committee Member, ABR40 Standing Committee on Systems, Enterprise and Cyber Resilience (AMR40)

Former Memberships: American Association of Geographers; American Geophysical Union; American Public Health Association; Association for Public Policy and Management; Air & Waste Management; Transportation Research Board of the National Academies, Committee on Critical Transportation Infrastructure Protection, ABR10 (Formerly ABE40), Co-Chair Physical Security subcommittee; term appointment to April 2020.

PREVIOUS PROFESSIONAL POSITIONS

U.S. Environmental Protection Agency, Region II office (New York):
1993-1996 Consultant, Superfund Division.
1973-1977 Successively consultant to the Chief, Environmental Impacts Branch, Environmental Programs Division and land use and planning consultant to the Director of the Environmental Programs Division.
1971-1973 Physical Scientist, Water Programs Branch, Air and Water Programs Division; Assistant Chief, Technical Branch, Enforcement Division.

1970-1971 Project Member, Office of Water Resources Research (U.S. Department of Interior) project on water quality, New York Region (grant to Barnard College & Rutgers U.).

1969-1971 Research Analyst, Columbia University, Institute of Urban Environment, Department of Urban Planning (Harlem housing study and other research projects).

1968-1969 Research Associate, University of Pennsylvania, Department of City Planning (rent control study of New York City).

1969 Research Assistant, U. of Pennsylvania, Dept. Sociology (organizational analysis research).

1967 Part-time Assistant, Columbia University Campus Planning Office.

1965-1966 Scientist's Assistant, Rockefeller University, Department of Biochemical Cytology.

1962, 1963 (Summers) Scientist's Assistant to the Assistant Director, Lamont Doherty Geological Observatory, Columbia University.

UNDERGRADUATE AND GRADUATE FELLOWSHIP AWARDS

New York State Regents Scholarship, 1961

Women's Honorary Society, Washington University, St. Louis, 1961

University Scholarship, Washington University, St. Louis, 1961-2

Lois T. Howison Scholarship, University of California, Berkeley, 1963

Mellon Fellowship (for graduate study in planning), University of Pennsylvania, 1967-8

University Fellowship (for graduate study in planning), University of Pennsylvania, 1968-9

Summer Grant, Urban Ecology Program, Department of Biology, Columbia University, 1970

Research Fellowship, U.S. Environmental Protection Agency (dissertation research)

Grant for Dissertation Research, National Research Council, National Academy of Sciences-National Academy of Engineering

PUBLICATIONS

Books

J. Heathcott, J. Soffer, and R. Zimmerman, editors (2022). Urban Infrastructure: Historical & Social Dimensions of an Interconnected World. Pittsburgh, PA: University of Pittsburgh Press. https://muse-jhu-edu.proxy.library.nyu.edu/book/103775

R. Zimmerman (2012) Transport, the Environment and Security. Making the Connection. Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, Ltd. ISBN: 978 1 84980 020 4 http://www.e-elgar.com/bookentry_mainUS.lasso?id=13884. Reviewed in the *Journal of Planning Education and Research* (2015) and *Risk Analysis* (2015).

O. Coutard, R. Hanley, and R. Zimmerman, eds. (2005) Sustaining Urban Networks: The Social Diffusion of Large Technical Systems. London, UK: Routledge. https://doi.org/10.4324/9780203357118

R. Zimmerman and T. Horan, eds. (2004) Digital Infrastructures: Enabling Civil and Environmental Systems through Information Technology. London, UK: Routledge. ISBN 9780415324618

Natural Hazards Research & Applications Information Center, Public Entity Risk Institute, and Institute for Civil Infrastructure Systems (2003) Beyond September 11th: An Account of Post-Disaster Research. Boulder, CO: University of Colorado. ISBN-10:1877943169, ISBN-13: 978-1877943164. https://www.amazon.com/Beyond-September-11th-Post-Disaster-Environment/dp/1877943169

R. Zimmerman (1990) Governmental Management of Chemical Risk. Regulatory Processes for Environmental Health. Chelsea, MI: Lewis Publishers. ISBN 0873711432

Book Chapters, Peer-Reviewed Journal Articles, Papers in Published Conference Proceedings, Published Reports

C.E. Restrepo, R. Zimmerman, D.F. Laefer, et al. "Stakeholder engagement to strengthen underground infrastructure resilience." Environ Syst Decis 45, 10, 2025. https://doi.org/10.1007/s10669-025-10003-8.

R. Zimmerman, "Individual Behaviors as Drivers of Energy Usage," in Urban Energy and Climate: Prospects for a Sustainable Transition, edited by P. J. Marcotullio, J. Sperling, and A. L. Pierce, World Scientific Series in Current Energy Issues: Vol.8, Edited by Gerard M Crawley, World Scientific Publishers, Singapore, 2023, pp. 35-60. https://doi.org/10.1142/13194; Chapter 3: https://doi.org/10.1142/9789811268120_0003

S. Kaufman, R. Zimmerman, K. Ozbay, A. Smith, S.H. Lambson, C. Curry, E. Jeng, J. Gao, E. Kaval, "Lessons Learned from the Buffalo Blizzard: Recommendations for Strengthening Preparedness and Recovery Efforts." New York, NY: NYU Rudin Center for

Transportation, 2023. https://wagner.nyu.edu/impact/research/publications/lessons-learned-buffalo-blizzard-recommendations-for-strengthening. https://wagner.nyu.edu/files/faculty/publications/NYU%20Buffalo%20Blizzard%20Report%20-%20June2023_0.pdf

R. Zimmerman, "The Centrality of Collaboration in Social Services for Sustainability and Communities," Proceedings of the International Conference on Sustainable Development (ICSD), Posted November 10, 2022. https://ic-sd.org/wp-content/uploads/2022/11/submission_455.pdf

R. Zimmerman, "The Interdependencies of Infrastructure," in Urban Infrastructure: Historical & Social Dimensions of an Interconnected World, edited by J. Heathcott, J. Soffer, and R. Zimmerman. Pittsburgh, PA: University of Pittsburgh Press, 2022, pp. 11-28. https://muse-jhu-edu.proxy.library.nyu.edu/pub/49/edited_volume/chapter/3260566/pdf

R. Zimmerman, C. Redman, and S.A. Markolf, "Extreme Weather: Challenges for Infrastructure and Society," in Urban Infrastructure: Historical & Social Dimensions of an Interconnected World, edited by J. Heathcott, J. Soffer and R. Zimmerman. Pittsburgh, PA: University of Pittsburgh Press, 2022, pp. 181-195. https://muse-jhu-edu.proxy.library.nyu.edu/pub/49/edited_volume/chapter/3260628/pdf

A. Freed and R. Zimmerman, Coordinating Lead Authors, et al. (Chapter 3) "Urban Systems and Services: Vulnerabilities and Impacts" in Climate Change and US Cities: Urban Systems, Sectors, and Prospects for Action, Island Press, Washington DC 2022 Edited by William D. Solecki and Cynthia Rosenzweig. Pp. 79-204. ISBN-13: 978-1610919784 ISBN-10: 1610919785

H. Chang, A. Pallathadka, J. Sauer, N. Grimm, R. Zimmerman, C. Cheng, D.M. Iwaniec, Y. Kim, R.Lloyd, T. McPhearson, B. Rosenzweig, T. Troxler, C. Welty, R. Brenner, P. Herreros-Cantis, "Assessment of urban flood vulnerability using the social-ecological-technological systems framework in six US cities," Sustainable Cities and Society, Vol. 68, May 2021, 102786. https://doi.org/10.1016/j.scs.2021.102786

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P. Concha Larrauri, U. Lall, R. Zimmerman. "Assessing the Hazard from Aging dams in the U.S.A." Earth and Space Science Open Archive (ESSOAr). July 27, 2020. https://essopenarchive.org/doi/full/10.1002/essoar.10503795.1

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R. Zimmerman, "Human-Made Disasters: Electric Power and Transit Linked Outages." In: Shapiro L. R., Maras M-H. (eds) Encyclopedia of Security and Emergency Management. Springer Nature, Switzerland AG, Cham, 2020. https://doi.org/10.1007/978-3-319-69891-5; https://link.springer.com/referenceworkentry/10.1007/978-3-319-69891-5_291-1; https://doi.org/10.1007/978-3-319-69891-5_291-1

R. Zimmerman and C.E. Restrepo, "Physical Security: Exterior Application." In: Shapiro L. R., Maras M-H. (eds) Encyclopedia of Security and Emergency Management. Springer Nature, Switzerland AG, Cham, 2019. https://doi.org/10.1007/978-3-319-69891-5; https://link.springer.com/referenceworkentry/10.1007/978-3-319-69891-5_221-1

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R. Moss, S. Avery, K. Baja, M. Burkett, S. William, A. Chischilly, J. Dell, P. Fleming, K. Geil, K. Jacobs, A. Jones, K. Knowlton, J. Koh, M. Lemos, J. Melillo, R. Pandya, T. Richmond, L. Scarlett, J. Snyder, M. Stults, A. Waple, J. Whitehead, D. Zarrilli, B. Ayyub, J. Fox, A. Ganguly, L. Joppa, S. Julius, P. Kirshen, R. Kreutter, A. McGovern, R. Meyer, J. Neumann, W. Solecki, J. Smith, P. Tissot, G. Yohe, and R. Zimmerman, April 5, 2019: "Evaluating Knowledge to Support Climate Action: A Framework for Sustained Assessment," Weather, Climate and Society. WCAS-D-18-0134, https://doi.org/10.1175/WCAS-D-18-0134.1 Published Online: 4 April 2019; https://journals.ametsoc.org/doi/pdf/10.1175/WCAS-D-18-0134.1

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R. Blake, K. Jacob, G. Yohe, R. Zimmerman, D. Manley, W. Solecki, and C. Rosenzweig. New York City Panel on Climate Change 2019 Report, "Chapter 8: Indicators and Monitoring," in New York City Panel on Climate Change (NPCC), Advancing Tools and Methods for Flexible Adaptation Pathways and Science Policy Integration: NPCC 2019 Report, edited by C. Rosenzweig and W. Solecki Annals of the New York Academy of Sciences, 1439, March 15, 2019. Pp. 230-279. https://doi.org/10.1111/nyas.14014

S. Foster, R. Leichenko, K.H. Nguyen, R. Blake, H. Kunreuther, M. Madajewicz, E. P. Petkova, R. Zimmerman, C. Corbin-Mark, E. Yeampierre, A. Tovar, C. Herrara, and D. Ravenborg. "Chapter 6: Community-Based Assessments of Adaptation and Equity," in: New York City Panel on Climate Change (NPCC), Advancing Tools and Methods for Flexible Adaptation Pathways and Science Policy Integration: NPCC 2019 Report, edited by C. Rosenzweig and W. Solecki Annals of the New York Academy of Sciences, 1439, March 15, 2019. Pp. 126-173. https://doi.org/10.1111/nyas.14009

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P.J. Marcotullio, A. Sarzynski, J. Sperling, A. Chavez, H. Estiri, M. Pathak, R. Zimmerman, "Energy transformation in cities," in Climate Change and Cities: Second Assessment Report of the Urban Climate Change Research Network, edited by C. Rosenzweig, W.

Solecki, P. Romero-Lankao, S. Mehrotra, S. Dhakal, and S. Ali Ibrahim. Cambridge University Press. New York, 2018, pp. 443–490.

R. Zimmerman, Q. Zhu, F. de Leon, and Z. Guo, "Conceptual Modeling Framework to Integrate Resilient and Interdependent Infrastructure in Extreme Weather," Journal of Infrastructure Systems, Vol. 23, Issue 4, December 2017, (online) 04017034-1 to 13. http://ascelibrary.org/doi/pdf/10.1061/(ASCE)IS.1943-555X.0000394

R. Zimmerman and M. G. Dinning, "Benefits and Needs for an Integrated Approach to Cyber-Physical Security for Transportation," in Transportation Systems Resilience: Preparation, Recovery, and Adaptation, Transportation Research Circular E-C226, Transportation Systems Resilience Section, Standing Committees: Logistics of Disaster Response and Business Continuity, Emergency Evacuations, Critical Transportation Infrastructure Protection, Transportation Research Board, Washington, DC: National Academies, November 2017, pp. 15-21. http://onlinepubs.trb.org/onlinepubs/circulars/ec226.pdf

R. Zimmerman, "The Transit-Jobs Nexus: Insights for Transit-Oriented Development," Fordham Urban Law Journal, Vol. XLIV, No. 4, August 2017, pp. 1131-1152. http://ir.lawnet.fordham.edu/ulj/vol44/iss4/8

R. Zimmerman, "Financing Sustainable Infrastructure: Reconciling Disaster and Traditional Financial Resources," Proceedings of the International Conference on Sustainable Infrastructure 2017, Policy, Finance and Education, edited by Lucio Soibelman and Feniosky Peña-Mora, Vol. 2, 2017, pp. 176-187, Reston, VA: American Society of Civil Engineers. https://doi.org/10.1061/9780784481202; https://doi.org/10.1061/9780784481202.017

R. Zimmerman, "Implications of Combined Infrastructure Concentration and Interdependency for Extreme Event Recovery," Safety, Reliability, Risk, Resilience and Sustainability of Structures and Infrastructure, Proceedings of the 12th International Conference on Structural Safety & Reliability (ICOSSAR 2017), edited by C. Bucher, B.R. Ellingwood and D.M. Frangopol, Vienna, Austria, 2017, pp. 2122-2131.

R. Zimmerman, "Effective Public Service Communication Networks for Climate Change Adaptation," in: Climate Change Adaptation in North America: experiences, case studies and best practice, edited by W. Leal Filho and J.M. Keenan. Berlin: Springer, 2017, pp. 241-259. DOI 10.1007/978-3-319-53742-9. ISBN 978-3-319-53741-2. Prepublication: https://web-oup.s3-us-gov-west-1.amazonaws.com/showc/assets/File/CIRI_Zimmerman%20Effective%20Public%20Service%20Communication%20Networks%20for%20Climate%20Change%20Adaption.pdf

R. Zimmerman, Q. Zhu and C. Dimitri, "Promoting Resilience for Food, Energy and Water Interdependencies," Journal of Environmental Studies and Sciences, Vol. 6, Issue 1, 2016, pp. 50-61. Published online: February 12, 2016. DOI: 10.1007/s13412-016-0362-0

R. Zimmerman, Chapter 32, "Resilient Urban Infrastructure for Adapting to Extreme Environmental Disruptions," in: The Routledge Handbook of Urbanization and Global

Environmental Change, edited by K.C. Seto, W. D. Solecki and C. A. Griffith, New York, NY: Routledge, 2016, pp. 488-512. ISBN: 978-0-415-73226-0 (hbk)

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W. Solecki, C. Rosenzweig, V. Gornitz, R. Horton, D. Major, L. Patrick, and R. Zimmerman, "Climate Change and Infrastructure Adaptation in Coastal New York City," Chapter 5 in Climate Change and the Coast. Building Resilient Communities, edited by B. Glavovic, M. Kelly, R. Kay, and A. Travers, London, UK: Taylor & Francis Group, CRC Press, 2015, pp. 125-146. ISBN 9780415464871

R. Zimmerman, C.E. Restrepo, J. Sellers, A. Amirapu, T. R. Pearson, and H. B. Kates, "MultiModal Transit Connectivity for Flexibility in Extreme Events," Transportation Research Record: Journal of the Transportation Research Board, No. 2532, pp. 64-73, 2015. DOI: 10.3141/2532-08.

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R. Zimmerman, "Crisis Communications," in SAGE Encyclopedia of Crisis Management, edited by K. B. Penuel, M. Statler, and R. Hagen, Sage Publishers, 2013, pp. 188-193.

R. Zimmerman, "Critical Infrastructure and Interdependency Revisited," Chapter 20, in The McGraw-Hill Homeland Security Handbook – 2nd edition, edited by D. G. Kamien. New York, NY: The McGraw-Hill Companies, Inc., 2012, pp. 437-460.

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R. Zimmerman and M. Sherman, "To Leave an Area After Disaster: How Evacuees from the WTC Buildings Left the WTC Area Following the Attacks," Risk Analysis, Vol. 31, Issue 5, 2011, pp. 787-804. First published online December 8, 2010. DOI:10.1111/j.1539-6924.2010.01537

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J.S. Simonoff, C.E. Restrepo, and R. Zimmerman, "Current Risk Management Issues for Hazardous Liquids and Natural Gas Pipeline Infrastructure," Hydrocarbon World, Vol. 2, Issue 6, 2011, pp. 72-75.

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R. Zimmerman, H. Kuplesky and K. Ford, "Evaluation of the Hoboken, New Jersey Municipal Mortgage Insurance Program." Report to the Urban Institute, Washington, D.C., July 1980.

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R. Zimmerman, "Institutional Constraints on Land Management for Water Resource Protection in Urban and Suburban Watersheds." Final Report to the Department of Interior. Springfield, VA: National Technical Information Service, 1979. 62 pp. plus appendices (PB 298-271/AS). Published by NTIS as a "Highlight" (i.e., publications of special note).

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UNPUBLISHED PAPERS AND PRESENTATIONS

Presentations, 1990-2024 (R. Zimmerman is sole presenter unless asterisks indicate other presenter)

April 17, 2026. Rae Zimmerman. "Behavioral Changes Shaping Human-Environment Compatibility," Environment and Society Research Symposium, Panel II Climate change risks, responses, and resilience. The Social Science Research Hub, New York University.

December 10, 2025. Rae Zimmerman, Emily Balcetis and Quanyan Zhu. 2025. A deep dive using social psychological factors for human behavior in the context of autonomous vehicle cyber-attacks, Society for Risk Analysis 2025 annual meeting, Washington, DC, December 2025. Accepted for presentation in session W1-D: Cyber and Digital Risks. Submitted abstract, ID #71. Based on the National Science Foundation funded project # 2122060 "EAGER: SAI: Understanding Misperceptions of Cyber Risks to Model and Secure Transportation Infrastructures," https://www.nsf.gov/awardsearch/showAward?AWD_ID=2122060&HistoricalAwards=false

June 18, 2025. R. Zimmerman. "Human behavior shaping mobility for disaster resilience," MR2025: Mobility, Adaptation, and Wellbeing in a Changing Climate conference. New York, NY: Columbia University Climate School and the Global Centre for Climate Mobility, June 16-18,2025. Session: Resilient Societies, June 18 2025 8:30-10AM https://www.youtube.com/watch?v=XMd13qLuNRk&list=PLPmPmV9ZCh-ihhwdkhA-JgT5ydMDWKjSc&index=7&t=2817s
Time: 46:35 to1:00:50

June 5, 2025. R. Zimmerman. "Engaging Stakeholders for Strengthening Underground Infrastructure: Focus Group Findings," Town +Gown: NYC. In: It is now January 1 2075. Do We Know Where Our Subsurface Infrastructure Is, Actually? Can We Get to It Easily to Minimize Disruptions? Do We Still Have Subsurface Spaghetti? Session: Future Utilidor Considerations. New York, NY: Under the Ground.3, 4 WTC, 43rd Floor, HRA Dumpson Center.
https://www.nyc.gov/assets/ddc/downloads/town-and-gown/Zimmerman.pdf
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April 28, 2025. R. Zimmerman. Invited class presentation. The Buffalo Blizzard, December 22-24 2022, with updates. The Buffalo Blizzard December 23-25 2022 and Updates. Course title Introduction to Urban Systems Engineering and Management. Online. New York, NY: NYU Tandon Engineering School.

April 25, 2025. R. Zimmerman Affiliated faculty. NYU Global Urban Summit 2025 Urban Underground. Mini-Conference: "Urban Underground Infrastructure Networks: Innovative Collaboration for Future Resilience." New York, NY: NYU Wagner Graduate School of Public Service.

January 8, 2025. R. Zimmerman. "Cybersecurity and Workforce Behavior in Connection with Autonomous Vehicle Acceptance and Use," (Paper 25-21220) Session 4088 Addressing Transportation Workforce Connections to Elevated Cybersecurity Risk, Transportation Research Board Annual meeting, Washington, DC.
Program session: https://annualmeeting.mytrb.org/OnlineProgramArchive/Details/23126

Presentation: https://annualmeeting.mytrb.org/FileUpload/PDFUpload?ID=62605&SessionID=23126&ConferenceID=13

December 11, 2024. R. Zimmerman. "Risk Perception Uncertainties and Behavior for Information Technology Dependent Transportation Technologies Vulnerable to Cyber Attacks. Session: Innovations and Challenges in Cybersecurity and Information Technology." Society for Risk Analysis Annual Meeting, Austin, TX.

August 20, 2024. R. Zimmerman. Invited Keynote presentation, "From Cascading Disruptions to Resilient Integration: Reconciling Hazards, Technology, and Environment Interactions with Network Principles," 2024 NIST-NSF Disaster Resilience Research Symposium. Virtual event. https://www.nist.gov/news-events/events/2024/08/2024-nist-nsf-disaster-resilience-research-symposium Agenda: https://www.nist.gov/system/files/documents/2024/07/30/2024_drrg-agenda.pdf

June 1, 2024. R. Zimmerman, Abstract submission (web posted). "Risk perception uncertainties and behavior for information technology dependent transportation technologies vulnerable to cyber attacks," Society for Risk Analysis annual meeting, Austin TX.

April 19, 2024. Rae Zimmerman, Debra Laefer, Carlos Restrepo, Kim Hertz, Charan Kukunoor, Alan Leidner, Wendy Dorf, "Promoting Multiple Stakeholder Connectivity to Confront Natural Hazards by Overcoming Spatial Mismatches," American Association of Geographers annual meeting 2024. Hazards, Risks, & Disasters (HRD) specialty group. Virtual presentation.

March 6, 2024. "Human Perceptions, Attitudes and Behavior as Critical Factors in User Acceptance and Adoption of Infrastructure Services," New York University Faculty Urban Research Day, New York, NY: New York University.

January 9, 2024. "Human Attitudes, Perceptions, and Acceptance of Autonomous Vehicle Cyber Risks, P24-20451 Systems, Enterprise, and Cyber Resilience Research Highlights, Advances, and Core Considerations (Competition) Event Number: 3120, Transportation Research Board, 103rd Annual Meeting.

December 13, 2023. "From science to stakeholder-driven institutions: confronting underground infrastructure risks" W1-K: Lightning Session: Energy, Climate, Uncertainty, and Cyber, Society for Risk Analysis 2023 annual meeting, Washington, D.C. Renaissance Washington Hotel. https://www.xcdsystem.com/sra/program/S9Gx5mr/index.cfm

November 20, 2023. Invited presentation, "The Influence of Human Behavior on Critical Infrastructure Cybersecurity," The 1st NYC Cybersecurity Day Human Elements in Cyber Security. NYC Cybersecurity Day Workshop Series at NYU, NYU Center for Cybersecurity, NYU Tandon School of Engineering, Brooklyn, NY. https://larxwebsite.github.io/workshops/

November 16, 2023. "Wholistic Approaches to Sustainable and Resilient Interdependent Infrastructures: Social and Behavioral Measures to Identify and Manage Abrupt Physical System Changes," ASCE INSPIRE Conference Infrastructure Innovation & Adaptation for a Sustainable & Resilient World, Arlington, Virginia. https://inspire.asce.org/program Draft Technical Program: https://cdn.asce.org/asce-conferences/inspire/s3fs-public/inline-files/Inspire%202023-%20Technical%20Program_0.pdf?VersionId=l4GoQgejyG8PgESdDnF8hcnxUb8B4ML9 (p. 10).

November 13, 2023. R. Zimmerman, "Human Behavior Shaping Climate and Extreme Weather-Related Transportation Resilience," Poster presentation at the Transportation Research Board Transportation Resilience 2023: International Conference on Extreme Weather and Climate Change Challenges, National Academy of Sciences Building, The Great Hall, Washington, D.C. https://trb.secure-platform.com/a/solicitations/104/sessiongallery/schedule/items/1517

October 10, 2023. Invited presentation, "Insights from the December Blizzard in Buffalo, NY," Christian Regenhard Center, John Jay College, New York, NY. https://youtu.be/NFQiDjds7MQ (press "subscribe" on lower right to activate link)

September 26, 2023. "Missing Pieces: How Small Infrastructure Components Can Compromise Infrastructure Resilience," ASCE Metropolitan Section, Infrastructure Group September 2023 Webinar, New York, NY. ascemetsection.org/infrastructure

March 23-27, 2023. "Spatially Dynamic Stakeholder Networks for Vital Infrastructure Services," Session title: Measuring spatial and urban networks 3: Virtual, American Association of Geographers, Denver, CO. https://aag.secure-platform.com/aag2023/solicitations/39/sessiongallery/5540

March 1, 2023. "An Integrated Framework for Human Behavior with Respect to Multiple Threats to Transportation," NYU Faculty Urban Research Day. New York, NY: NYU Wagner School.

January 11, 2023. "Cyber-Transportation Nexus: Interconnectivity, Vulnerabilities, and Human Behavior, Selected Research Findings" [update from May 18 2022 TRB AMR10 presentation] P23-20259, Transportation Research Board 102nd Annual Meeting, Event 4019: A Spirited Discussion on Current Experiences in State DOT Cyber-Resilience: Is Good the Enemy of Perfect? Washington DC, Walter E. Washington Convention Center.

December 7, 2022. R. Zimmerman and C. Restrepo "Integrating Stakeholders into Risk Mitigation Decisions for Infrastructure Resilience in the Context of Natural Hazard Disruptions," Society for Risk Analysis annual meeting, Tampa, FL.

December 6, 2022. Invited panelist. G. Ackerman, lead, R. Zimmerman, invited participant, T3-C Roundtable: The Future of Risk Research for Homeland Security. Society for Risk Analysis annual meeting, Tampa, FL.

October 13, 2022. R. Zimmerman, D. Laefer, A. Leidner, W. Dorf, C. Restrepo, K. Hertz, and P. Gmelch. Invited UNUM project presentation to the National Institute of Standards and Technology (NIST) community resilience group, Engineering Laboratory.

September 19, 2022. "The Centrality of Collaboration in Social Services for Sustainability and Communities," International Conference on Sustainable Development (ICSD) Topic: 4C | Partnerships and the Sustainable Development Goals. Presentation and Proceedings publication posted 11/10/22 at https://ic-sd.org/wp-content/uploads/2022/11/submission_455.pdf.

July 10-14, 2022. Chair, plenary session on resilience, for Funding, Financing & Emerging Technologies in Infrastructure: Improving Resilience, Sustainability and Universal Access, an International multi-disciplinary Workshop held by the Cornell Program in Infrastructure Policy (CPIP) and the Cambridge Centre for Smart Infrastructure and Construction (CSIC) New York City, Cornell University's Tech Campus on Roosevelt Island. Jointly sponsored by UK's Engineering & Physical Sciences Research Council (EPSRC) and the US National Science Foundation (NSF).

June 16, 2022. Invited participant, Resilient Investment Planning and Development Working Group (RIPDWG), Cybersecurity and Infrastructure Security Agency (CISA). A Cross-sector Council chartered in 2018 under the Critical Infrastructure Partnership Advisory Council (CIPAC). Sponsored by the Infrastructure Security Division of the Cybersecurity and Infrastructure Security Agency Co-chaired by representatives of the Government Coordinating and Cross-sector Councils, Washington, DC.

May 18, 2022. "The Cyber-Transportation Nexus: Interconnectivity, Vulnerabilities, and Human Behavior, Selected Research Findings," invited presentation for the meeting of the Transportation Research Board, Cybersecurity Subcommittee (AMR40(1)) Joint Subcommittee of AMR40, AED30, AMR10

May 16-17, 2022. Invited Participant, "The Future of Risk Research for Homeland Security: An Interdisciplinary Workshop." Washington, DC, Arizona State University Barbara Barrett and Sandra Day O'Connor Washington Center. Sponsored by the University at Albany Center for Advanced Red Teaming (CART) and the Arizona State University Center for Accelerating Operational Efficiency (CAOE)

March 23, 2022.R. Zimmerman, A. Leidner, W. Dorf, "UNUM: NYU's Approach to Underground Infrastructure Interoperability in NYC," Subsurface Utility Mapping Strategy Forum (SUMSF 22), www.sumsforum.com GoGeomatics Canada https://www.youtube.com/watch?v=zagA3RFrfo8

March 17, 2022. Panel presentation on equity and physical infrastructure, National Academies of Sciences, Engineering and Medicine Workshop on Equitable and Resilient Infrastructure Investments, Hazard Mitigation and Resilience Applied Research Topics - Workshop 1 - Equitable and Resilient Infrastructure Investments, Panel 2 Equity and Physical Infrastructure https://www.nationalacademies.org/event/03-17-2022/hazard-mitigation-and-resilience-applied-research-topics-workshop-1-equitable-and-resilient-infrastructure-investments. Workshop information at: https://www.nationalacademies.org/event/03-17-2022/hazard-mitigation-and-resilience-applied-research-topics-workshop-1-equitable-and-resilient-infrastructure-investments. Final NASEM report: National Academies of Sciences, Engineering, and Medicine 2022. Equitable and Resilient Infrastructure Investments. Washington, DC: The National Academies Press https://doi.org/10.17226/26633

March 8, 2022. Q. Zhu and R. Zimmerman,* "Understanding Cyber Risks and Design of Human-Centered Mechanisms for Critical Infrastructure Resilience," Presentation for the 2022 Urban Research Day, New York University, Wagner Graduate School of Public Service.

March 8, 2022. "Community Engagement and Human Behavioral Frameworks to Mitigate Infrastructure-Related Risks in Extreme Events," Presentation for the 2022 Urban Research Day, New York University, Wagner Graduate School of Public Service.

February 28, 2022. R. Zimmerman, et al. "The Complex Geography of Underground Infrastructures: Implications for Collaborative Public Services," American Association of Geographers poster https://aag-annualmeeting.secure-platform.com/a/solicitations/19/sessiongallery/5058/application/18648

December 9, 2021. "Small Changes, Large Effects: Interconnected Infrastructure Networks in Food Supply Chain Disruptions and Multi-Modal Transportation Solutions," Presentation in Track 1: Transportation Systems at the ASCE International Conference on Sustainable Infrastructure (ICSI 2021) (virtual). Presentation Abstract:

https://www.icsiconference.org/sites/icsiconference.org/2021/files/inline-files/Abstracts%20for%20Technical%20Tracks%20Dec%209_0.pdf, p. 5.

December 5-9, 2021. R. Zimmerman,* D. Laefer, A. Leidner, W. Dorf, and P. Gmelch, "Risk science, communication and policy for underground infrastructures and their connectivity," Society for Risk Analysis annual meeting (virtual). Abstract: https://sra2021.conferencespot.org/event-data/pdf/catalyst_activity_25854

June 16, 2021. "Flexible & Adaptable Infrastructure for a Post-Covid World," 2021 ASCE Metropolitan Section Infrastructure Group June seminar (virtual). https://www.ascemetsection.org/images/files/infrastructure/20210616_Event_Flyer.pdf https://register.gotowebinar.com/register/3426197394343709198 (with partial abstract).

May 19-21, 2021. "Sustainability for Interconnected Food, Energy, and Water Networks, NSF-Sponsored Convergence Accelerator Conference for Food Security in Extreme Environments and Food Deserts." https://www.youtube.com/watch?v=08O__24abu8

April 7, 2021. Invited lecture, "Urban Infrastructure and Economic Impacts of Extreme Events," The New School course on Urban Resilience.

March 19, 2021. Invited panelist and presenter, Policy Models Panel, Identifying Data Guideline Needs for Community and Regional Resilience Modeling, Virtual Workshop, Fort Collins, CO: NIST Center of Excellence for Risk-Based Community Resilience Planning.

March 18, 2021. J. Chow*, S. Golde (VIA), and R. Zimmerman, "Understanding the Role of Microtransit in a Multi-modal Ecosystem," Webinar. New York, NY: NYU C2Smart. https://c2smart.engineering.nyu.edu/2021/03/24/understanding-the-role-of-microtransit-in-a-multi-modal-ecosystem/; https://www.youtube.com/watch?v=rA7TLsiXQ98

March 5, 2021. "Enlarging Infrastructure- based Public Services with Integrated Frameworks for Risk Reduction and Equity for Severe Weather, Climate Change and Pandemics," NYU Urban Initiative 2021 Urban Research Day, New York, NY: NYU.

February 10, 2021. "Abrupt Transformations of Food Supply and Demand Networks and Interconnected Water and Energy in the COVID-19 Pandemic 2nd Food Energy Water Nexus conference. American Institute of Chemical Engineers (AIChE), the Institute for Sustainability.

December 15, 2020. "Can the competing risks of climate change and COVID-19 be reconciled?" In the session Understanding and communicating climate risk, Society for Risk Analysis 2020 annual meeting, virtual presentation. Abstract: https://sraannualmeeting.secure-platform.com/a/solicitations/1/sessiongallery/38/application/255

December 9, 2020. R. Zimmerman, B. Rosenzweig, and A. Cohn, "Green Infrastructure and Stormwater Management: Opportunities and Challenges," 2nd International Conference, Water, Megacities and Global Change (EauMega2020), organized by UNESCO and others, December 7-11, 2020. Youtube https://www.youtube.com/watch?v=SaY2dt181NI 1:24:51 (introduction by chair) Presentation 1:25:57-1:34:36.

November 11, 2020. "The integration of big data for impacts of COVID-19 decision points on public service resilience" The Institute for Operations Research and the Management Sciences (INFORMS) Session WC19 Data Driven Disaster Resilience. Online.

November 6, 2020. "Incorporating Public Acceptance into Planning Decisions for Autonomous Vehicles," Association of Collegiate Schools of Planning (ACSP) 60th Annual Conference November 4-8, 2020 online. Abstract number 1111 in ACSP Book of Accepted Abstracts, ACSP 2020 Annual Conference, pp. 1112-1113.

https://cdn.ymaws.com/www.acsp.org/resource/resmgr/2020_conference/20bkofaccepted abstracts_6_25.pdf

September 22, 2020. "Network-based Drivers of Technical and Social Innovations in Integrated Food, Water and Energy (FEW) Systems." Presented at the International Conference on Sustainable Development (ICSD) in Parallel Session 10B: Socio-technical Solutions for Water-Energy-Food Security Challenges." New York, NY: Columbia University Earth Institute and other sponsors.

July 12-15, 2020. H. Chang,* A. Pallathadka, J. Sauer, R. Zimmerman, R. Brenner, C. Cheng, N. Grimm, D. Iwaniec, Y. Kim, R. Lloyd, T. McPherson, B. Rosenzweig, T. Troxler and C. Welty. "Understanding Urban Flooding Vulnerability through a Social-Ecological-Technological Systems (SETS) Lens," Research and Practice Highlight, Natural Hazards Research and Applications Workshop, U. of Colorado Natural Hazards Center, Boulder, CO https://hazards.colorado.edu/workshop/2020/abstract/index/research-highlight https://hazards.colorado.edu/workshop/2020/abstract/research-highlight#understanding-urban-flooding-vulnerability-through-a-social-ecological-technological-systems-sets-lens

June 23, 2020. Q. Zhu* and R. Zimmerman, Developing Resilient Mechanisms to Cyber Security Threats in Connected and Autonomous Vehicles: From Anomaly Detection to Multi-Modal Planning, C2Smart webinar. http://c2smart.engineering.nyu.edu/2020/06/23/secure-strategies-for-vehicular-ad-hoc-networks-in-cav/

June 22, 2020. R. Zimmerman and Q. Zhu. Attitudes and Perceptions Potentially Associated with Behavior Toward Autonomous Vehicles, International Symposium for Sustainable Systems and Technology (ISSST) 2020 [originally June 8-12, 2020, Pittsburgh, PA switched to online, Oral presentation webinar]. https://awsum.app.box.com/s/636d22y7igrnn4otqt7b5fqiaxusy9wp/file/682573326067

April 15, 2020. Podcast on new challenges for risk analysts posed by the COVID-19 pandemic from a NYC perspective for the Society for Risk Analysis COVID Conversations on Risk in the Let's Talk Risk series: Direct URL http://traffic.libsyn.com/societyriskanalysis/SRA-Podcast_01.m4a Also at: http://societyriskanalysis.libsyn.com/new-challenges-for-risk-analysis-from-covid-19

March 6, 2020. R. Zimmerman and Q. Zhu, "Integrating New Transportation Technologies into Existing Travel Modes: The Case of Autonomous Vehicles," Transportation session. NYU Faculty Urban Research Day. New York: NYU.

March 6, 2020. Q. Zhu* and R. Zimmerman, The Challenge of Achieving Urban Resilience with Interdependent Infrastructures and Extreme Events, Safety and Resilience session. NYU Faculty Urban Research Day. New York: NYU.

January 15, 2020. "The Challenge of Physical Security Adaptation to Multi-Hazards for Resilient Transportation," Paper #20-20144 in session #1663 Mainstreaming Resiliency: Physical Security Faces New Challenges, Transportation Research Board 2020 annual meeting, Washington, DC. Available online.

January 13, 2020. Co-chair of Physical Security subcommittee (ABR10(3)) January 13, 2019 Monday, Marriott Marquis hotel, 6:00 PM-7:30 PM Liberty Salon P (Level 4 (M4)) R. Zimmerman, "Managing Adverse Human Behavior with Respect to Transportation Infrastructure Security," Lightning talk.

December 10, 2019. "A data-driven framework for user, provider, and community behavior toward infrastructure services risks," SRA 2019 annual meeting, Arlington, VA.

December 9, 2019. Marissa Matsler, Lauren E McPhillips, Bernice Rosenzweig,* Peter M Groffman, Stephen Elser, Nancy B Grimm, Heejun Chang, and Rae Zimmerman, H11A-08 "Green infrastructure implementation and performance: Lessons learned from nine US and Latin American cities in the Urban Resilience to Extremes Sustainability Research Network (UREx SRN)," American Geophysical Union Fall Meeting, December 9-13, 2019, San Francisco, CA. https://agu.confex.com/agu/fm19/meetingapp.cgi/Paper/619441

November 1, 2019. "Challenges of Multimodal Networks Interconnecting Transportation Technologies: CAV and other Mode Innovations," UTRC Transportation Technology Symposium: Innovative Mobility Solutions, New York: New York Institute of Technology.

June 24, 2019. "Closing Remarks: Insights and Future Directions," Workshop DIG Around: Documenting Infrastructure and the Ground Conditions Around It, NYU, CUSP. Funded by NSF grant number 1929923.

June 21, 2019. "Infrastructure Retreat in a Connected World," presentation for At What Point Managed Retreat? Resilience Building in the Coastal Zone, Session 4 D Infrastructure and Investment, Columbia Earth Institute, Columbia University. http://adaptation.ei.columbia.edu/conference/at-what-point-managed-retreat-conference/; You Tube: https://www.youtube.com/watch?v=EVm26rMQ_cQ&list=PLPmPmV9ZCh-gGlqXXtgoAbcQqA79VCY6g&index=16 Starts at: 1:36

May 23, 2019. "Human Behavioral Factors that Shape Urban Physical Infrastructure Services." Paper presentation at the Environmental Design Research Association (EDRA): EDRA50 Sustainable Urban Environments: Research, Design and Planning for the Next 50 Years, Brooklyn, NY. https://edra.confex.com/edra/EDRA50/meetingapp.cgi/Paper/6734

April 23, 2019. Invited presentation, "Challenges of combined indicators for cross-sectoral urban infrastructure assessments and urban social-ecological-technological sustainability," Session Title: Advancing Practical Application of Indicators for Urban Resilience and Adaptation, National Adaptation Forum, Madison, Wisconsin.

April 19, 2019. R. Zimmerman and R. Brenner, "Synthesis of Current Green Infrastructure Financing Mechanisms," UREx All Hands Meeting 2019, Session: Linking Green Infrastructure (GI) Finance and Performance.

April 5, 2019. R. Zimmerman and R. Brenner, "Green Infrastructure Finance: The Next Stage in Green Infrastructure Implementation," Session: Geographies of Green Infrastructure II: Green Dreams, Green Nightmares, Green Amnesia, Association of American Geographers Annual Meeting, Washington, D.C. https://aag.secure-abstracts.com/AAG%20Annual%20Meeting%202019/sessions-gallery/23736; https://aag.secure-abstracts.com/AAG%20Annual%20Meeting%202019/abstracts-gallery/18697

January 14, 2019. "Physical Security Strategies and Costs," Lightning talk for the TRB Physical Security Subcommittee (ABR10(3)) of the Critical Transportation Infrastructure Protection Committee (ABR10), Transportation Research Board (TRB) annual meeting, Washington, D.C.

January 13, 2019. Invited presentation titled "The History of NEPA's Evolution" (presentation number P19-20410), Workshop titled, 50 Years of the National Environmental Policy

Act: Where Have We Been, Where Are We Going? (Event 1062), Transportation Research Board (TRB) annual meeting, Washington, D.C.

January 8, 2019. "A Framework to Capture Impacts of Infrastructure Interdependencies on Food Supply Chains" in Session S-C8, Infrastructure for Water, Food, and Cities: A Critical Tour at the National Council for Science and the Environment 2019 annual conference. https://ncseconference.org/sessions/s-c8-flash-talk/ (account discontinued) Washington, D.C. Omni Shoreham.

December 12, 2018. "Human Behavior and the Predictability of Infrastructure Services Usage and Its Environmental Impacts" Poster presentation, American Geophysical Union Fall Meeting, December 10-14, 2018, Washington, D.C.

December 11, 2018. "Integrated Indicators for Climate, Urban Infrastructure, and Societal Infrastructure Service Use as a Science Tool: Crossing Boundaries," Oral presentation, American Geophysical Union Fall Meeting, December 10-14 2018, Washington, DC. https://agu.confex.com/agu/fm18/meetingapp.cgi/Paper/451413

December 5-6, 2018. L. Huang, J. Chen, Q. Zhu*, R. Zimmerman, K. Ozbay and N. Memon, "Network Modeling and Analysis for Economic Resilient Planning for Interdependent Critical Infrastructures," Presentation and poster, Critical Resilient Interdependent Infrastructure Systems and Processes: A CRISP/RIPS Grantees Workshop, George Mason University, Arlington, VA. http://civil.gmu.edu/crisp

November 15, 2018. Invited speaker, "Dealing with Urban Disasters," at the IGLUS (Innovative Governance of Large Urban Systems) Executive Master Program of the EPFL - École Polytechnique Fédérale de Lausanne and City University of NY (CUNY) training program on governance of sustainable urban systems attended by participants from about a dozen countries and diverse professions. http://iglus.org/overview/ Brochure: http://iglus.org/wp-content/uploads/2017/03/IGLUS-brochure-web.pdf

October 27, 2018. "Rethinking Infrastructure Interdependencies to Plan for Societal Resilience," Association of Collegiate Schools of Planning annual conference, Buffalo, NY.

October 2, 2018. "Confronting Disruptions of Interconnected Infrastructure Systems," Invited presentation, Vanderbilt University, School of Engineering, Department of Civil and Environmental Engineering Frank L. Parker Seminar series. Nashville, TN: Vanderbilt University.

September 20, 2018, Q. Zhu* and R. Zimmerman, "Dynamic Resiliency Modeling and Planning for Interdependent Critical Infrastructures," Critical Infrastructure Resilience Institute, U. of Illinois webinar. https://ciri.illinois.edu/events/dynamic-resiliency-modeling-and-planning-interdependent-critical-infrastructures

August 7, 2018. "Infrastructure Interdependencies, Extreme Weather Events and Climate Change: Avoiding the Collisions," American Meteorological Society, 10th International Conference on Urban Climate/14th Symposium on the Urban Environment, New York, NY, City University of New York. https://ams.confex.com/ams/ICUC10/meetingapp.cgi/Paper/342606

June 12-13, 2018. "Historical and Anticipated Changes in Infrastructure and Social System Interconnected Networks in the Context of Weather and Climate Extremes," Second Interdisciplinary Perspectives on Urban Infrastructure History and the Social Sciences, Università Ca' Foscari, Venice, Italy.

May 3-4, 2018. "Extremes Research: Infrastructure Focus. Lightning Talk. Earth Lab's Extremes Collider. U. of Colorado, Boulder, CO.

May 1-2, 2018. “Greening Infrastructure Finance for Sustainable Infrastructure Innovations,” Columbia-Fordham-NYU International Conference on Sustainable Cities, Fordham University, New York, NY.

April 16, 2018. Invited speaker, “Risks, Public Services and Extreme Events” Institute for Defense and Business (IDB), Megacities Strategic Broadening Seminar Fort Hamilton, New York.

April 10-14, 2018. “Financial Investments for Infrastructure Resilience as Potentially Influencing Insurance Related to Extreme Events,” Panel titled, Financializing Urban Resilience: Insurance, Reinsurance and Post-Disaster Reconstruction in Urban Regions, American Association of Geographers 2018 Annual Meeting, New Orleans, LA.

March 20, 2018. R. Zimmerman and J. Llopis Abella, “Green Infrastructure Finance: The Next Frontier,” Poster presentation, 3rd Annual UREx SRN All-Hands Meeting, Arizona State University, Tempe, AZ.

January 30, 2018. “New York Energy Transition in the Context of Recent Hurricanes,” Workshop on Deploying Sustainable Energy during Transition: Implications of Recovery, Renewal, and Rebuilding, National Academies of Sciences, Engineering, and Medicine, Roundtable on Science and Technology for Sustainability (STS Roundtable), National Academies’ Science and Technology for Sustainability Program, Washington, DC. http://sites.nationalacademies.org/PGA/sustainability/pga_183697
Summary: Energy During Transitions: Implications of Recovery, Renewal, and Rebuilding: Proceedings of a Workshop—in Brief. Washington, DC: The National Academies Press. doi: https://doi.org/10.17226/25175. Page 4.

December 10-14, 2017. “Risk reduction assessment of innovative solutions to interdependent cascading infrastructure failures.” Society for Risk Analysis annual meeting, Arlington, VA. http://www.sra.org/2017-annual-meeting

November 30, 2017. “Water, Power, Telecommunications: Disasters and Critical Infrastructure Interdependencies” John Jay College Christian Regenhard Center for Emergency Response Studies (RaCERS), New York, NY.

November 17, 2017. “Managing Weather, Climate and Other Disasters and Emergencies,” presentation to the Guangdong, China Delegation of Government Leaders hosted by Georgetown University, Georgetown Global Education Institute Executive Education Program on “Improving Governing Capability,” New York, NY.

October 27, 2017. “(589933) Understanding and Reducing Catastrophic Intersections of Public Infrastructure Services and Their Interconnections, Climate Change, and Extreme Weather Events,” ASCE International Conference on Infrastructure Sustainability, in the panel, “Case Study-PANYNJ” http://www.icsiconference.org/

October 26, 2017. “(419183) Financing Sustainable Infrastructure: Reconciling Disaster and Traditional Financial Resources;” ASCE International Conference on Infrastructure Sustainability, Presenter and Moderator of Finance panel. http://www.icsiconference.org/

October 12-15, 2017. “Frameworks for the compatibility of traditional and green infrastructures in urban contexts,” Association of Collegiate Schools of Planning Annual Conference, Denver, CO. http://www.acsp.org/?page=ConfACSP

September 18-22, 2017. Resilience Week 2017 (http://www.resilienceweek.com/), Wilmington, DE, Panel on Response and Recovery in Disrupted Systems:

- Q. Zhu* and R. Zimmerman, "A framework to understand energy and transportation interdependencies with combined co-location and co-functionality interconnections for disabling urban transit systems"
- R. Zimmerman, "The Water Nexus with Multiple Infrastructures"

September 6, 2017. Invited speaker on infrastructure and climate resilience for the IGLUS (Innovative Governance of Large Urban Systems) initiative at EPFL - École Polytechnique Fédérale de Lausanne and City University of NY (CUNY) training program on governance of sustainable urban systems.

August 14, 2017. Invited speaker "Interdependence, Risks and Community Service Effects of Extreme Events," Presentation for the IDB Megacities Strategic Broadening Seminar at the U.S. Army Fort Hamilton, NY Army Base.

August 6-10, 2017. "Implications of Combined Infrastructure Concentration and Interdependency for Extreme Event Recovery," 12th International Conference on Structural Safety & Reliability (ICOSSAR 2017), sponsored by The International Association for Structural Safety and Reliability (IASSAR), Vienna, Austria. http://icossar2017.conf.tuwien.ac.at/home/

July 10-14, 2017. "Infrastructure Interdependencies and Sea Level Rise in Coastal Areas," International World Climate Research Programme/Intergovernmental Oceanographic Commission (WCRP/IOC) Conference 2017 Regional Sea Level Changes and Coastal Impacts, Columbia University, poster presentation, July 12, 2017.

June 23, 2017. Invited Webinar presentation for the Society for Risk Analysis, "Risk Frameworks for the Simultaneous Intersection of Infrastructure Interdependencies, Infrastructure Usage, and Extreme Events." https://www.youtube.com/watch?v=SDXu--nKfQw&feature=youtu.be (Note that the audio difficulties end at 1:43.) or https://www.sra.org/webinar/risk-frameworks-for-the-simultaneous-intersection-of-infrastructure-interdependencies-infrastructure-usage-and-extreme-events/

June 1, 2017. R. Zimmerman, N. G. Grimm*, and A. Brawley-Chesworth, "Social Initiatives in the Evolution of Infrastructure from Pre-Industrial to Carbon-Intensive to Carbon-Sensitive," Interdisciplinary Perspectives on Urban Infrastructure History and the Social Sciences, NYU Paris.

May 30, 2017. R. Zimmerman, C. Redman*, and S. Markolf, "Social Responses to Infrastructure Impacts of Extreme Events," Interdisciplinary Perspectives on Urban Infrastructure History and the Social Sciences, NYU Paris.

May 10, 2017. "Infrastructure Frameworks for Urban Resilience," Sandia National Laboratories and George Mason University Center for Infrastructure Protection and Homeland Security 2017 Frontiers in Resilience: Developing Innovative Resilience Solutions at the Interface of Science, Economics and Policy symposium.

May 4, 2017. "Adapting infrastructure services for extreme weather events," First annual NYU Faculty Urban Research Day, New York, NY: NYU.

March 23, 2017. R. Zimmerman, R. A. Joseph, and J. Llopis, "Green Infrastructure Finance," UREx SRN All Hands Meeting, CC WG Green Infrastructure Research Coordination Task Force, New York, NY: The New School.

January 10, 2017. Presentation No. P17-20592 "Integrating Physical and Cyber-Security Workforce" in Session 619: "Transportation Workforce Needs for Critical Infrastructure Resilience for Physical Security and Related Cyber-Security Challenges," Transportation Research Board Annual Meeting, Washington, DC.

January 8, 2017. Presentation No: P17-21625 "Role of Transportation Policies, Protocols and Regulations in Mitigating Environmental Health Risks," in Workshop 101 "The Nexus of Transportation and Environmental Health Governance: Intersections and Collisions Across and Within Borders," Transportation Research Board Annual Meeting, Washington, DC.

December 14, 2016. "Reducing Risk Magnification in Infrastructure Failures," Society for Risk Analysis annual meeting, San Diego, CA.

November 5, 2016. "Resilience of Urban Transit Systems to Extreme Weather Events," Association of Collegiate Schools of Planning annual conference, Portland, OR.

October 22, 2016. Invited Panelist, Climate Change: What's in the Wind, NYU Alumni Day, New York, NY: NYU.

October 21, 2016. Invited speaker, "The Transit and Jobs Nexus: Insights for Transit Oriented Development (TOD) and A Commentary, In Getting There from Here: A Conversation About Regional Transportation," Fordham Urban Law J. Cooper-Walsh Colloquium, New York, NY.

October 19, 2016. "Infrastructure System Interconnectivity Effects on Resilience," session titled Decision-Making and Evaluation of Proposed Alternatives, National Institute of Standards and Technology (NIST) and Colorado State University International Workshop on Modeling of Physical, Economic, and Social Systems for Resilience Assessment, Reston, VA. Lauren A. Mudd and Francis M. Lavelle (May 2017) Proceedings of the International Workshop on Modeling of Physical, Economic, and Social Systems for Resilience Assessment NIST GCR 17-012, Gaithersburg, MD: NIST, Pp. 28-29. http://nvlpubs.nist.gov/nistpubs/gcr/2017/NIST.GCR.17-012.pdf https://doi.org/10.6028/NIST.GCR.17-012

August 18, 2016. "Effective Public Service Communication Networks for Climate Change Adaptation," North American Symposium on Climate Change Adaptation, New York, NY: Columbia University. Published as: R. Zimmerman, "Effective Public Service Communication Networks for Climate Change Adaptation" In: Climate Change Adaptation in North America: experiences, case studies and best practice, edited by W. Leal Filho and J.M. Keenan. Berlin: Springer, 2017, pp. 241-259. DOI 10.1007/978-3-319-53742-9. ISBN 978-3-319-53741-2.

April 25, 2016. Panel presentation on "financial aspects of critical infrastructure transformations," for the Transforming Infrastructure in NYC for Sustainability: Critical Needs and Opportunities Workshop, co-organized by Hunter College (CUNY) and NASA/GISS, Columbia University. New York, NY: Hunter College.

April 7, 2016. "Issues of Intermodal Connectivity and Eco-Mobility," Transportation Transformed. Advancing Eco-friendly Mobility, sponsored by UTRC Region 2, NYSERDA, NYSDOT, and NYIT. New York, NY: NYIT.
Featured in: City College of New York (August 2016) Transportation Transformed: Advancing Eco-Friendly Mobility http://www.utrc2.org/sites/default/files/Final-Report-Transportation-Transformed.pdf pp. 23-25.

January 10, 2016. Panel organizer, moderator, speaker. Critical Transportation Infrastructure Protection Committee (ABR10) Workshop 111, Panel 2: Physical Security: Why It's Critical to Resilience. Presentation: "Physical Security: New Emerging Needs and Innovations," Transportation Research Board Annual Meeting, Washington, DC.

December 15, 2015. Invited Participant and presenter (invited). "Climate, Infrastructure and Health," Conference Name: Will Climate Change Health? Session 3 Critical Infrastructure & Systems. Sponsor: The Institute for Public Knowledge in partnership with the Robert Wood Johnson Foundation.

December 7, 2015. "Adapting Communications for Complex, Interdependent Technological Risks," Presentation 71815480 Society for Risk Analysis annual meeting, Arlington, VA.

November 20, 2015. Presentation by R. Zimmerman, Q. Zhu, Z. Guo and N. Memon, "Overcoming Cyber Threats to Transportation Vehicles and Roadway Infrastructure," University Transportation Research Center's 3rd Annual Transportation Technology Symposium: Innovative Mobility Solutions, New York: NY Institute of Technology. http://files.ctctcdn.com/08b78404201/995ad396-a200-462c-8e1b-affa86866cf0.pdf

November 12, 2015. Invited Panelist, "Heat Waves and Infrastructure," Conference Name: Extreme Heat Hot Cities. Adapting to a Hotter World, Urban Heat & Infrastructure panel, Sponsored by the AIANY Design for Risk and Reconstruction (DfRR) Committee, Center for Architecture, New York, NY. http://designforrisk.com/dfrr/wp-content/uploads/2016/04/ExtremeHeatHotCities-AdaptingToAHotterWorld_AIANY-DfRR_April2016.pdf; http://designforrisk.com/2016/04/urban-heat-and-infrastructure-extended-coverage/

November 5, 2015. Invited Provocateur Presentation, Workshop on Human Adaptations to Climate Change: Impacts on the Resilience of Regional Food, Energy, and Water Systems, Columbus, OH: The Ohio State University.

November 2, 2015. Invited Keynote Speaker, Hurricane Sandy: Community Recovery & Resilience, The New York Women's Foundation with NYU Wagner, NYU-Wagner.

October 22, 2015. "A Meta-Network System Framework For Resilient Analysis and Design of Interdependent Critical Infrastructures," Poster presentation by Quanyan Zhu, Francisco De Leon, Zhan Guo, Nasir Memon and Rae Zimmerman at the National Workshop on Resilience Research (NWRR) for Critical Infrastructure 2015.

October 14, 2015. Invited Presentation, "Why is Achieving Sustainability So Urgent in Communities Today?" Sustainable Decision Making seminar, U.S.EPA Reg. 2, NY.

August 19, 2015. Transforming the Resilience of Cognitive, Cyber-physical Systems, Session S/I-04 "Meta-Network Models for Resilient Interdependent Infrastructures," by Q. Zhu and R. Zimmerman, Resilience Week 2015. Philadelphia, PA. https://secureweb.inl.gov/Resweek2015/docs/MetaNetworkModels_SSI-4.pdf

August 4, 2015. R. Zimmerman and Q. Zhu, "Measures and Models for Electric Power Dependencies and Interdependencies with Other Critical Infrastructures" Poster Presentation, New York Scientific Data Summit (NYSDS) 2015, sponsored by Brookhaven National Laboratory, Stony Brook University, New York University and the Institute for Advanced Computational Science, New York, NY. https://www.bnl.gov/nysds/

June 4, 2015. Invited Presentation, "Measures of Public Infrastructure Service Sector Recovery from Disasters, NYU Center for Urban Science and Progress (CUSP)

February 18, 2015. Invited Presentation, "Transportation and Risk Challenges," in Transportation Risk & Security, Rutgers University, Bloustein School of Planning and Public Policy.

February 5, 2015. "Building resilient public service infrastructure responsive to storms and other emergencies," Urban Planning Program faculty research presentation for MUP students.

January 20, 2015. "Untangling Electric Power Interdependencies with Other Infrastructures Mediated by Communication Technologies," CRISSP Workshop on Interdependent Networks, New York, NY: NYUPoly. http://engineering.nyu.edu/crissp/events/2015/01/19/workshop-independent-networks

January 13, 2015. "Multi-Modal Transit Connectivity for Flexibility in Extreme Events," with C. E. Restrepo, J. E. Sellers, A. Amirapu, and T.R. Pearson, Transportation Research Board annual meeting, Washington, D.C.

December 8, 2014. "Breaking the barriers: Communication networks for risk reduction in technological disasters," Society for Risk Analysis annual meeting, Denver, CO.

December 2, 2014. "Pipeline Emergency Response: Understanding the Risk and Planning Communication Needs," N. Groner,* C. Jennings* and R. Zimmerman*, New York, NY: Christian Regenhard Center for Emergency Response Studies (RaCERS), John Jay College of Criminal Justice.

November 1, 2014. "Extreme Events and Transportation Planning for the Poor," with C E. Restrepo, Association of Collegiate Schools of Planning Annual Conference, Philadelphia, PA.

October 21-22, 2014. "The Recovery and Adaptability of Vital Public Transit Services Following Hurricane Sandy and Implications for Other Extreme Events," presented at the Command, Control, and Interoperability Center for Advanced Data Analysis (CCICADA) Workshop: S&T Innovations and Applications in Hurricane Sandy Research – October 21-22, 2014 http://www.ccicada.org/2014/08/04/ccicada-workshop-st-innovations-and-applications-in-hurricane-sandy-research-october-21-22-2014/

September 18, 2014. Invited Plenary Lecture, "Adapting Transportation to Global Risk Challenges," International Association for the History of Transport, Traffic and Mobility (T2M), 12th Annual Conference, Spinoffs of Mobility: Technology, Risk & Innovation, Drexel University, Philadelphia, PA. http://t2m.org/conferences/2014-philadelphia-spinoffsof-mobility/program-philadelphia/

July 30, 2014. Panel presentation, Panel Session: Resilience Lessons Learned for the next Hurricane Sandy (the Framework), National Institute of Standards and Technology Developing a Community-Centered Approach to Disaster Resilience, Hoboken, NJ: Stevens Institute of Technology (host). http://www.nist.gov/el/building_materials/resilience/upload/5-NIST-Presentation-Zimmerman-073014-for-web-posting-Revised.pdf

July 3, 2014. Invited presentation, "Innovations for Robust Infrastructure Services in a Time of Extremes," Stevens Institute of Technology, University Seminar Series, Hoboken, NJ.

February 6, 2014. "Electric Power Delivery and Transit Infrastructure Performance Models for Sandy," Dorothy A. Reed (presenter)*, C. J. Friedland, R. Zimmerman, and S. Wang, December 9, 2020. R. Zimmerman, B. Rosenzweig, and A. Cohn, "Green Infrastructure and Stormwater Management: Opportunities and Challenges," 2nd International Conference, Water, Megacities and Global Change (EauMega2020), organized by UNESCO and others, December 7-11, 2020. Youtube https://www.youtube.com/watch?v=SaY2dt181NI 1:24:51 (introduction by chair) Presentation 1:25:57-1:34:36.

94th American Meteorological Society Annual Meeting, Atlanta, GA.

January 13, 2014. "Introduction to Transportation Infrastructure Cost Recovery Needs," in Session titled Cost Recovery Strategies for Transportation Agencies: Protecting

Transportation Infrastructure and Systems Through Financial Strength, Transportation Research Board 93rd Annual Meeting, Washington, DC.

December 10, 2013. "Network approaches to assess critical infrastructure risks," Society for Risk Analysis annual meeting, Baltimore, MD.

November 15, 2013. Presentation in the session titled, "Disasters and Planning: An Emerging Direction for Planning Education," The Association of Collegiate Schools of Planning Administrator's Conference, Ohio State University, Columbus, OH. http://www.acsp.org/sites/default/files/FINALACSP%20conference_for%20program_8.5x11_11.8.13.pdf

November 8, 2013. Introduction to "Integrating Planning and Resilient Infrastructure: The Next Frontier," panel for the 2013 APA NY Metro Chapter Conference, New York, NY. http://nyplanning.org/event_11082013.html

September 23, 2013. "Once Again, the Urban Planning Challenge Associated with Climate Change and Disasters," DIMACS/CCICADA Workshop on Urban Planning for Climate Events, DIMACS Center, Rutgers University, New Brunswick, NJ. dimacs.rutgers.edu/Workshops/Urban/program.html

June 16-20, 2013. "Network attributes of critical infrastructure, vulnerability, and consequence assessment," (published proceedings by Taylor & Francis, A.A. Balkema Publishers) 11th International Conference for Structural Safety and Reliability (ICOSSAR), Mini-Symposium: Risk Assessment of Terrorist Attack on Buildings and other Civil Infrastructure Systems, held at Columbia University, New York, NY. http://icossar2013.org/wp-content/uploads/2013/06/ICOSSAR2013_Final_Program.pdf

June 13, 2013. "Preparing Infrastructure for Extreme Weather Events," Preparing for Climate Change: Energy Storage, Emergency Services and Resilient Infrastructure, New York Institute of Technology (NYIT) 8th Annual Energy Conference, NYIT Conference Center, Old Westbury, NY. http://www.nyit.edu/conferences/energy_schedule/

June 5, 2013. Presentation on "Rapid/Collaborative Research: Collection of Perishable Hurricane Sandy Data on Weather-Related Damage to Urban Power and Transit Infrastructure," Science and Technology (S&T) Innovations in Hurricane Sandy Research, sponsored for the NSF by the U.S. DHS Command, Control, and Interoperability Center for Advanced Data Analysis (CCICADA) and the Center for Discrete Mathematics & Theoretical Computer Science (DIMACS) Special Focus on Algorithmic Decision Theory, Rutgers University, New Brunswick, NJ. http://dimacs.rutgers.edu/Workshops/Sandy/program.html; http://dimacs.rutgers.edu/Workshops/Sandy/Zimmerman.pdf

May 14, 2013. "Infrastructure and the Extremes" Public Forum Series on Sandy, Climate Change and the Future of New York City, Panel on Infrastructure, NYU Institute for Public Knowledge. http://ipk.nyu.edu/event-calendar/details/200-public-forum-infrastructure

May 11, 2013. "Opening Remarks: the New Green," NYC League of Conservation Voters Environmental Fund NYLCVEF Environmental Candidate School, New York, NY.

May 1, 2013. "Dependency of Electric Power on Information Technology and Cybersecurity," Session 5 Energy Cybersecurity II, Advanced Energy 2013, Jacob K. Javits Convention Center, New York, NY. http://www.aertc.org/conference2013/Speaker_Presentations/presentation.html#Track I\I5 Energy Cybersecurity II\Rae Zimmerman

April 18, 2013. "Roads Toward Resilience," UK Trade & Investment Mission: Hurricane Sandy Solidarity Campaign, Session 2: Utilities and Telecom, British Consulate-General, New York, NY.

April 18, 2013. "Frontiers in Assessing/Managing Risks, Strategies to minimize infrastructure disruptions from Natural Disasters," Seminar on Public Health Risks and Private Initiatives (including Infrastructure Strategies), Society for Risk Analysis Metropolitan Chapter, Columbia University Alumni Center, New York, NY. http://www.sra.org/news/seminar-public-health-risks-and-private-initiatives

April 9, 2013. "The Role of Ferries in Disaster Response and Recovery," Metropolitan Waterfront Alliance 2013Waterfront Conference, Panel: Sandy News Flash: Island People Need Ferries, Metropolitan Waterfront Alliance, New York, NY. http://www.waterfrontalliance.org/sandynewsflash

April 2, 2013. "Climate Change: Now What?" Panel: Cities and Climate Change: What is Our Future? NYU-SCPS Paul McGhee Division, New York, NY.

March 14, 2013. "Selected Factors Affecting Costs and Financing for Disasters," Conference on Futureproofing Our Cities Urban Resilience, At What Cost? Panel 1: Assessing and Minimizing the Problem: Economic Implications, Newman Real Estate Institute, Baruch College, CUNY, New York, NY.

March 12, 2013. "Sustainability Concepts in Urban Planning, Policy and Management," Interdisciplinary Perspectives on Sustainability: Transforming Curriculum in Higher Education, NYU School of Continuing and Professional Studies Paul McGhee Division and Steinhardt School Wallerstein Collaborative for Urban Environmental Education, New York, NY.

December 12, 2012. *Transport, the Environment and Security* book talk, supported by UTRC Region 2, the NYU-Wagner Rudin Center and NYU-Wagner ICIS, , New York, NY.

December 4, 2012. "Water Stories: Catastrophic Infrastructure and Environmental Failures from Water and Some Potential Directions Toward Reducing Adverse Consequences," Presented at Water. Water Everywhere: Ecology, Conservation, Adaptation, Transportation Research Board ADC60 Committee, Session 1, Sandy: The Big Picture, held at MTA NYCT, New York, NY. Posted at: http://www.trb-adc60.org/Download2.html; http://www.trb-adc60.org/downloads/1-2%20Rae%20Zimmerman%20ABBREVIATED%20due%20to%20copyright.pdf

December 3, 2012. Invited panelist, "Planning and Policy," Presented at the Panel "Hurricane Sandy and Beyond: Engineering, Ecology, and Policy Pathways in an Era of Climate Change," sponsored by the Roosevelt House Public Policy Institute at Hunter College and the City University of New York, Institute for Sustainable Cities, New York, NY: Roosevelt House, Hunter College, New York, NY. http://www.rooseveltthouse.hunter.cuny.edu/events/hurricane-sandy-and-beyond-engineering-ecology-and-policy-pathways-in-an-era-of-climate-change/

November 9, 2012. "Public Transportation System Networks to Promote Energy and Environmental Efficiency in Urban and Exurban Areas," (poster) APPAM 34th Annual Fall Research Conference, Baltimore, MD.

November 3, 2012. "Promoting Environmental and Social Connectivity Within Cities Through Transportation," ACSP 53rd Annual Conference, Cincinnati, OH. http://www.acsp.org/sites/default/files/2012_ASCP_FINAL_Program_WEB.pdf

October 3-5, 2012. "Event Diagnostics for Risk Decision and Communication Connectivity to Reduce Consequences of Infrastructure and Technological Catastrophes," National Science Foundation and Deutsche Forschungsgemeinschaft (DFG) joint conference Reckoning with the Risk of Catastrophes, Washington, DC. Posted at: http://dfg-nsf2012.mit.edu/wp-content/uploads/2012/09/Conference-brochure.pdf; http://www.dfg.de/dfg_magazin/internationales/121003_dfg-nsf_konferenz/index.html

June 4-5, 2012. Invited chairperson, Session V Managing Externalities, Lincoln Institute of Land Policy, 7th Annual Land Policy Conference on "Infrastructure and Land Policies," Cambridge, MA.

February 28, 2012. "The Geography of Transport Resiliency in the Face of Natural and Human Induced Disasters." Geography of Disaster Session, Association of American Geographers, New York, NY.

February 26, 2012. "Resilience: Emerging from Disasters," in Building Resilience to Environmental Hazards: Space, Time, and Scale, Invited panel participant hosted by the Hazards Specialty Group, Association of American Geographers, New York, NY.

February 3, 2012. "Cyber Security for Physical Infrastructure Protection," I3P Consortium Meeting, New York, NY.

January 26, 2012. "Transforming Transportation Through Information Technology: Opportunities and Vulnerabilities" (P12-5410), Panel titled, Transportation Cybersecurity: How Secure Are Your Car, Plane, and Other Transportation Systems (No. 691), Transportation Research Board annual conference panel, Washington, DC.

December 5, 2011. "Risk Perceptions and Actions of WTC Attack Survivors Compared Inside and Outside the WTC Towers," Rae Zimmerman, New York University; Martin F. Sherman, Loyola University Maryland; Robyn Gershon, Columbia University, Society for Risk Analysis annual meeting, Charleston, SC.

November 3, 2011. Panel chair (invited) Session titled, Addressing Crises and Other Thorny Policy Problems, APPAM Annual Conference, Washington, DC.

October 16, 2011. "Transportation Network Planning to Increase Infrastructure Resiliency in Disasters," Association of Collegiate Schools of Planning, Salt Lake City, UT.

June 14, 2011. Panel moderator, Conference on Alternative Fuel Vehicles and Infrastructure Requirements: Bringing Innovation to our Streets, organized by the Rudin Center for Transportation, NYU-Wagner, New York, NY.

April 5, 2011. Jointly Addressing Shared Risks to Critical Infrastructure: The role for public policy in enabling effective public-private partnerships, hosted by NYU-Wagner for the U.S. Department of Homeland Security. http://wagner.nyu.edu/events/wagner-04-05-2011, New York, NY.

March 29, 2011. Resilience Before and After Disasters. Planning the Unplanned: Disaster resilience and reconstruction, Sponsor: NYU-Wagner, Urban Planning Student Association, http://wagner.nyu.edu/events/wagner-04-05-2011, New York, NY.

March 29, 2011. Introduction. ElectriCITY: The Future of the Sustainable Grid, Sponsors: NYU-Wagner, Wagner Environmental Policy & Action (WEPA) in Partnership with NYC ACRE and NYU Sustainability, NYU-Wagner, New York, NY. http://wagner.nyu.edu/events/wagner-03-29-11

January 26, 2011. "Infrastructure: The critical link and cutting edge for disaster recovery and mitigation," Transportation Research Board Annual Meeting in panel on "Disaster Recovery/Mitigation Planning and Infrastructure Resilience," Washington, DC.

January 18-19, 2011. Invited Lectures, North Carolina State University. Presentation: Infrastructure and Social Vulnerability and Resiliency in Natural Disasters and Terrorism; Seminar: Impact of climate change on civil/urban infrastructure and related topics (e.g., quality of life, social justice), Department of Civil, Construction, and Environmental Engineering and the Seminars of Purpose (SOP) series in the College of Engineering, Raleigh, NC.

October 21, 2010, Panel presentation for the Underdome Sessions on Energy and Public Life, Session on "Risk," Columbia University Studio-X and the Van Alen Institute. New York, NY. Transcript published in Janette Kim and Erik Carver (November 3, 2015) The Underdome Guide to Energy Reform Paperback, New York, NY: Princeton Architectural Press

May 13-14, 2010. "Networks to Support Urban Infrastructure in Disasters," Poster presentation, The International School and Conference on Network Science (NetSci2010), MIT, Cambridge, MA.

March 22-26, 2010. Carlos E. Restrepo*, Jeffrey S. Simonoff, George D. Thurston and Rae Zimmerman, "Seasonal Ambient Concentrations of Particulate Matter and Asthma Hospitalizations in New York City," Poster Presentation, The American Association for Aerosol Research (AAAR) Specialty Conference: Air Pollution and Health: Bridging the Gap from Sources to Health Outcomes, San Diego, Ca.

February 23, 2010. Invited presentation, "Cities Coping with Disasters: Emergency Preparedness in Times of Crisis," NYU-Wagner Urban Planning Student Association Brown Bag presentation, New York, NY.

January 12, 2010. R. Zimmerman, "Transportation Protection and Recovery in an Age of Disasters," Transportation Research Board 89th Annual Meeting, Washington, DC.

January 5, 2010. R. Zimmerman, "Mobility in 2050," Envisioning a Low-Carbon Clean Energy Economy in New York, New York Academy of Sciences, New York, NY.

December 9, 2009. R. Zimmerman, C.E. Restrepo, and J.S. Simonoff, "Solving multiple risks is better than solving one: Risk-based co-benefit assessment for infrastructure investments," Society for Risk Analysis annual meeting, Baltimore, MD.

December 9, 2009. J.S. Simonoff, C.E. Restrepo,* and R. Zimmerman, "Cost consequence estimates for natural gas transmission and distribution incidents as a risk management tool," Society for Risk Analysis annual meeting, Baltimore, MD.

October 14, 2009. R. Zimmerman, "Infrastructure Dependencies, Interdependencies, and Security: Measuring Anecdotes," Infrastructure Security Workshop, Rutgers University, New Brunswick, NJ.

October 13, 2009. R. Zimmerman, "Evacuation and Transportation Planning," Infrastructure Security Workshop, Rutgers University, New Brunswick, NJ.

October 2, 2009. R. Zimmerman, "The New Sustainability: Co-benefits of Secure and Green Infrastructures for Cities and Their Regions," Association of Collegiate Schools of Planning, Washington, DC.

September 25, 2009. R. Zimmerman, "Infrastructure, Environment, Security and Social Justice," Presentation for the 2009 Biennial Planning Conference, sponsored by the American Planning Association New York Metro Chapter, New York, NY.

August 2-6, 2009. J.S. Simonoff,* C.E. Restrepo, R. Zimmerman, Z.S. Naphtali, and H. Willis, "Resource Allocation and Infrastructure Density Around Vulnerable Sites," 2009 Joint Statistical Meetings. Section on Statisticians in Defense and National Security.

July 21, 2009. R. Zimmerman, C.E. Restrepo, and J.S. Simonoff, "The Age of Infrastructure in a Time of Security and Natural Hazards," Aging Infrastructures Workshop, sponsored by the DHS S&T Directorate and Columbia University, New York, NY, published in U.S. DHS and Columbia University Proceedings July 21-23 2009, US DHS and Columbia University, pp. 88-90, available at http://www.dhs.gov/xlibrary/assets/aging-infrastructures-workshop-0721-07232009.pdf, New York, NY.

May 11, 2009. R. Zimmerman and C.E. Restrepo, "Analyzing Cascading Effects within Infrastructure Sectors for Consequence Reduction." 2009 IEEE International Conference on Technologies for Homeland Security, HST 2009, Waltham, MA. http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=05168004

May 7, 2009. R. Zimmerman and C.E. Restrepo, "Critical Infrastructure Interdependencies: A Hidden Vulnerability." NYUPoly Seed Grant conference on Collaborative Research in Information Security and Privacy, NYU-Wagner, New York, NY.

March 6, 2009. R. Zimmerman, "Transportation and Climate Change." Panel on Climate Change: Integrating Transportation, Energy, the Environment, and Health, Transportation & Infrastructure Issues for the Next Decade. Policy Research Institute, Princeton, NJ.

January 13-14, 2009. C.E. Restrepo,* R. Zimmerman, J.S. Simonoff, and Z.S. Naphtali, "Data Needs and Availability for Infrastructure Incident Analysis Vulnerability Assessment of Critical Infrastructure, With Case Studies on Power Transmission Networks and Dams," Presentation and discussion paper, University of Wisconsin-Madison (UW-Madison), Workshop on Vulnerability Assessment of Critical Infrastructure, With Case Studies on Power Transmission Networks and Dams, Madison, WI.

December 8, 2008. R. Zimmerman, J.S. Simonoff, Z.S. Naphtali, C.E. Restrepo, and H. Willis, "Measures of Critical Infrastructure Density around Vulnerable Facilities," Society for Risk Analysis annual meeting, Boston, MA.

November 6, 2008. "Securing Infrastructure Services in the Digital Age," Hooked on Technology: The Benefits and Dangers of the Digital Age, at the Fall 2008 Speakers on the Square Lecture presented by NYU Alumni Association, New York, NY.

October 24-25, 2008. Invited presentation (and subsequent paper) on "Public Investment in American Cities: Infrastructure, Services and Delivery," Shape of the American City, a conference co-sponsored by the Penn Institute for Urban Research and the American Academy of Political Science and Social Science, Philadelphia, PA.

July 15, 2008. C. Rosenzweig* and R. Zimmerman,* "Integrating Transportation, Population and Hazards Data for Risk Avoidance During Emergencies," NYC Dept. of Health and Mental Hygiene/Office of Emergency Management, New York, NY.

July 8, 2008. R. Zimmerman, C.E. Restrepo, J.S. Simonoff, Z.S. Naphtali, A. M. Culpen, "Hazards, Infrastructure Incidents and Social Equity in Urban Areas," Association of Collegiate Schools of Planning (ACSP)/Association of European Schools of Planning (AESOP) World Planning Congress, Chicago, IL.

May 21-23, 2008. Paper presentation for Security: Advancing a Framework for Enquiries (SAFE), sponsored by the European Science Foundation and NATO, Workshop 4: Management of Security: Successes and Failures, Istanbul, Turkey.

May 6, 2008. NYC Council, Task Force on Infrastructure, Oversight Hearing: "Coastal Flooding and the Lessons of New Orleans: How Will New York's Infrastructure Stand Up to a Major Weather Event?" Invited Testimony, New York, NY.

April 19, 2008. C. E. Restrepo,* Z. S. Naphtali, R. Zimmerman, J. S. Simonoff, "Using GIS to evaluate the distribution, concentration and level of risk posed by dams in the United States," American Association of Geographers 2008, Boston, MA.

March 24, 2008. R. Zimmerman, C. E. Restrepo, and J. S. Simonoff, "Infrastructure Disruptions and Recovery Rates in Disasters," ASCE Metropolitan Section Infrastructure Group Technical Seminar "New York City Infrastructure Critical Needs," Polytechnic University, Brooklyn, NY.

March 19, 2008. R. Zimmerman, C. E. Restrepo, and J. S. Simonoff, "Regression modeling and prediction of causes and consequences of oil & gas pipeline accidents and electric power outages," Second Annual Homeland Defense and Security Education Summit, University of Maryland University College, College Park, MD.

March 18, 2008. "An Educational Initiative Combining Security and Global Climate Change (GCC) Needs for Critical Infrastructure Protection," Second Annual Homeland Defense and Security Education Summit, University of Maryland University College, College Park, MD.

March 11, 2008. C. E. Restrepo,* R. Zimmerman, and J. S. Simonoff, "Risk Communication in Support of Energy, Transportation and Water Services," 2008 Risk Symposium, Santa Fe, NM.

January 14-18, 2008. "New Paradigms to Simultaneously Achieve Environmental Sustainability and Security for Infrastructure," Public Entity Risk Institute (PERI) Web Symposium, "Infrastructure Risk and Renewal: The Clash of Blue and Green, Paper posted at www.riskinstitute.org/PERI/SYMPOSIUM.

January 11, 2008. R. Zimmerman and C.E. Restrepo,* "Research Directions for Analytical Tools to Portray and Monitor Infrastructure Vulnerability for Resource Allocation," Panel on Securing Critical Infrastructures in New York York State: Directions for Research and Application, Conference on Protecting New York from Terrorism and Disaster: Taking Stock, Setting Directions, Looking Forward, Protect New York Society, Levin Institute of SUNY, New York, NY, http://protectnewyork.org/images/PNY-DraftProgram-1-4-08.pdf

January 10, 2008. R. Zimmerman* and J.S. Simonoff,* "Transportation Density and Opportunities for Expediting Recovery to Promote Security," Panel on Transportation Security in New York, Conference on Protecting New York from Terrorism and Disaster: Taking Stock, Setting Directions, Looking Forward, Protect New York Society, Levin Institute of SUNY, New York, NY, http://protectnewyork.org/images/PNY-DraftProgram-1-4-08.pdf

December 20, 2007. C. E. Restrepo,* J. S. Simonoff and R. Zimmerman, "Risk and Vulnerability Measures for Infrastructure Asset Protection: Bridges and Dams," Society for Risk Analysis annual meeting, San Antonio, TX.

November 15, 2007. R. Zimmerman with C.E. Restrepo and J.S. Simonoff, Infrastructure Impacts of Global Climate Change," Global Climate Change and Greenhouse Gases. Market Incentives, Risks, and Lessons. Interactive Seminar. Sponsored by the Society for Risk Analysis (SRA) NY Metro Chapter and Columbia Students for Environmental Action; co-Sponsored by The Louis Berger Group Inc., New York, NY.

December 9, 2020. R. Zimmerman, B. Rosenzweig, and A. Cohn, "Green Infrastructure and Stormwater Management: Opportunities and Challenges," 2nd International Conference,

Water, Megacities and Global Change (EauMega2020), organized by UNESCO and others, December 7-11, 2020. Youtube https://www.youtube.com/watch?v=SaY2dt181NI 1:24:51 (introduction by chair) Presentation 1:25:57-1:34:36.

October 17, 2007. "Status of Recovery in New York Since the World Trade Center Attacks," Invited presentation at the Disasters Roundtable Workshop, Recovering from Disaster. National Academies, Washington, DC.

October 9, 2007. R. Zimmerman, C. Restrepo, Z. S. Naphtali and J.S. Simonoff, "Impact of Infrastructure Trends & Issues on Public Transportation for a Sustainable Future," Invited presentation for the session on APTA's Visioning Initiative: Public Transportation's Role in a Sustainable, Physical & Natural Environment, American Public Transportation Association Annual Meeting, Charlotte, NC.

October 4, 2007. "Risk-Related Challenges for Ecosystem Damage and Restoration," Seminar on Natural Resource Damage Assessment Assessing & Managing Risks in Ecological Restoration Sponsored by the Society for Risk Analysis Metro Chapter (NY-NJ-CT), New York, NY.

September 18, 2007. R. Zimmerman, C.E. Restrepo, Z.S. Naphtali, J.S. Simonoff, "Analyzing Infrastructure Vulnerabilities to Multiple Hazards" Symposium on Emerging Developments in Multi-Hazard Engineering, Co-sponsored by the Architectural Engineering Institute of ASCE (AEI) and the Multidisciplinary Center for Earthquake Engineering Research (MCEER, U. of Buffalo) and sponsored by the Steel Institute of New York. McGraw Hill Conference Center, New York, NY. http://mceer.buffalo.edu/meetings/aei/default.asp.

July 12, 2007. R. Zimmerman, C.E. Restrepo,* B. Nagorsky, and A.M. Culpen, "Vulnerability of the Elderly During Natural Hazard Events," University of Colorado (Boulder), Hazards and Disasters Researchers Meeting; Vulnerable Populations in Disaster: Preparedness, Response, and Recovery Session, Boulder, CO.

July 9-11, 2007. C. E. Restrepo* and R. Zimmerman, "Spatial and Temporal Distribution of Heat Related Incidents in the United States, Consequence Measures, Vulnerable Populations and Risk Management, 1980-2005," University of Colorado (Boulder), Natural Hazards Center 32nd Annual Summer Workshop, Boulder, CO. http://www.colorado.edu/hazards/workshop/R07.pdf

April 21, 2007. C. E. Restrepo,* Z. S. Naphtali and R. Zimmerman, "Using GIS to examine the proximity of major highways to public schools in urban areas," AAG 2007, San Francisco, CA.

March 21, 2007. C. Restrepo,* J. Simonoff, R. Zimmerman, and Z. Naphtali, "Spatial Distribution of Electricity and Oil and Gas Pipeline Failures," First Annual International Federation for Information Processing (IFIP) Working Group (WG) 11.10 International Conference on Critical Infrastructure Protection, Dartmouth College, Hanover, NH.

March 20, 2007. J. Simonoff, C. Restrepo, and R. Zimmerman, "Vulnerabilities in the Oil and Gas Industry," First Annual International Federation for Information Processing (IFIP) Working Group (WG) 11.10 International Conference on Critical Infrastructure Protection, Dartmouth College, Hanover, NH.

January 22, 2007. University Research in Transportation Security Planning, Presentation for the panel, Adapting Transportation Planning to Homeland Security, Transportation Research Board annual conference, Washington, DC.

December 4-6, 2006. R. Zimmerman, A. Kling, G. Foltin, and I. Portelli, "A Comparison of Risk Communication Structures for Two Attack Scenarios," Society for Risk Analysis (SRA) Annual Meeting. Baltimore, MD.

December 4-6, 2006. Organizer and Chair, Symposium for CREATE, four paper presentations, Decision Analysis for Risk Management of Catastrophic Events, SRA Annual Meeting. Baltimore, MD.

December 4-6, 2006. L. B. Lave, A. Z. Rose, C. E. Restrepo, J. S. Simonoff, R. Zimmerman, M. R. Greenberg, "Approaches to Integrated Risk and Economic Analysis for Electric Power Disruption," SRA Annual Meeting. Baltimore, MD.

December 4-6, 2006. J. S. Simonoff,* C.E. Restrepo, and R. Zimmerman, "Measures of Risks of Failure of Oil and Gas Facilities for Energy Risk Management," SRA Annual Meeting. Baltimore, MD.

December 4-6, 2006. C. E. Restrepo,* Z. S. Naphtali and R. Zimmerman, "Traffic Hotspots, Highways and Proximity to Sensitive Receptors as Inputs to Environmental Health Risk Management in the South Bronx," New York, SRA Annual Meeting. Baltimore, MD.

November 9-12, 2006. R. Zimmerman and C. Restrepo, "Connectivity and Consistency of Environmental Decision Tools for Community Planning," Association of Collegiate Schools of Planning (ACSP) 2006 Annual Conference, Fort Worth, TX.

November 10-11, 2006. Panel on "The New York City Region and the University," Terrorism and the University Conference, John Jay College, New York, NY.

November 5-8, 2006. R. Zimmerman, C.E. Restrepo,* J.S. Simonoff, Z.S. Naphtali, "Modeling Spatial Concentration of Transportation Systems to Assess Vulnerability to Natural Hazard and Terrorist Threats," INFORMS, Pittsburgh, PA.

September 26, 2006. "Evacuation of the Elderly in Disasters." ICIS poster and handouts for the Rudin Center Conference, "Good to Go Transit Options for Older Adults."

September 15, 2006. "World Trade Center Evacuation and Communication and Transportation," World Trade Center Evacuation Study Scientific Meeting, Translating Research into Practice, Columbia University Mailman School of Public Health, New York, NY.

September 2-6, 2006. R. Zimmerman, A. Kling, G. Foltin, and I. Portelli, "Communicating Risk to Reduce Human Loss in Large Scale Disasters," International Conference on Environmental Epidemiology and Exposure (co-organized by the International Society for Environmental Epidemiology (ISEE) and the International Society of Exposure Assessment (ISEA), Paris, France. Abstract published as: R. Zimmerman, A. Kling, I. Portelli, and G. Foltin. 2006. Communicating Risk to Reduce Human Loss in Large Scale Disasters. Abstract published in: International Conference on Environmental Epidemiology and Exposure. International Society for Environmental Epidemiology & International Society for Exposure Assessment. Paris, France. *Journal of Epidemiology*, 17(6), S197-S198.

July 11-16, 2006. R. Zimmerman and C.E. Restrepo,* "Planning Tools to Protect Border Area Infrastructure," 2006 World Planning Schools Congress, Mexico City, Mexico.

June 28, 2006. "Vulnerabilities and Critical Infrastructure," Terrorism, Small Arms and Infrastructures Symposium, The New School, New York, NY.

June 21-24, 2006. C. Restrepo,* J. Simonoff, G. Thurston and R. Zimmerman, "A spatial analysis of asthma hospitalization rates and socioeconomic and land use variables in New York City." Sponsored by the American College of Epidemiology, the American Public

Health Association (Epidemiology section) and the Society for Epidemiologic Research, Seattle, WA.

June 8, 2006. R. Zimmerman (with others), Poster presentation entitled "Trends and Patterns in Oil and Gas Industry Vulnerabilities," 2nd I3P Process Control System Security Workshop, Torrey Pines Hotel, San Diego, CA.

May 23, 2006. R. Zimmerman (with others), Zoning Compatibility With Open Space Planning Along The Bronx River, Bronx River, New York, 2006 Metropolitan Waterfront Conference, New York, NY.

May 14-17, 2006. R. Zimmerman and C.E. Restrepo, "Information Technology (IT) and Critical Infrastructure Interdependencies for Emergency Response," Third International Conference on Information Systems for Crises Response and Management (ISCRAM) 2006, New Jersey Institute of Technology, Newark, NJ.

April 23, 2006. R. Zimmerman, "Sustainability and Security," Presentation for American Planning Association 2006 National Planning Conference panel on Local Strategies to Achieve Sustainability, San Antonio, TX.

April 18, 2006. "Hurricane Katrina: Societal Impacts of Civil & Environmental Infrastructure in New Orleans," Hurricane Katrina Roundtable, NYU-Wagner, New York, NY.

March 21, 2006. C.E. Restrepo,* J. S. Simonoff and R. Zimmerman, "Analyzing Vulnerabilities in the Oil and Gas Sector from Incident Data," presented at the Los Alamos National Laboratories Risk Symposium 2006 – "Risk Analysis for Homeland Security and Defense: Theory and Application," Sante Fe, NM.

March 10, 2006. Z. S. Naphtali, C. E. Restrepo,* and R. Zimmerman, "Land Use, Demographics and Industrial Facilities: Using GIS to Support Improved Land Use Initiatives and Policies in South Bronx, New York City," presented at the Association of American Geographers 2006 Annual Meeting, Chicago, IL.

February 21, 2006. "NYC Electricity: Achieving Security and Sustainability," panel presentation for "Energy System Research & Innovation: New York City Electricity-Past, Present, Future." Co-sponsored by the NY Academy of Sciences Environmental Sciences Section, Metropolitan Engineering Society's Council (MESC), and the Association of Energy Engineers NY Chapter (NY-AEE). Web posting available on the New York Academy of Sciences web site, New York, NY.

January 4, 2006. C.E. Restrepo, J.S. Simonoff, and R. Zimmerman, "Unraveling Geographic Interdependencies in Electric Power Infrastructure," Hawaii International Conference on System Sciences, Kauai, HI.

December 7, 2005. R. Zimmerman (with others), "Estimating Risks and Consequences of Catastrophic Energy and Electricity Outages," Society for Risk Analysis annual meeting, Orlando, FL.

November 14, 2005. "Global Climate Change Impacts on Coastal Infrastructure Services," U.S. Climate Change Science Program (CCSP) Workshop: Climate Science in Support of Decisionmaking, Washington, DC. http://www.climatescience.gov/workshop2005/posters/P-CO1.4_Zimmerman.pdf

October 30, 2005. "Environmental Dimensions of Terrorism and Natural Hazards," Association of Collegiate Schools of Planning 46th annual conference, Kansas City, MO.

July 13, 2005. "Robust Transportation and Future Threats: from Terrorism to Climate Change," Presentation for the U.S. DOT, FHWA Advanced Research Forum, Boston, MA.

April 27, 2005. R. Zimmerman, Carlos E. Restrepo, Nicole Dooskin, Jeremy Fraissinet, Ray Hartwell, Justin Miller and Wendy Remington. Poster presentation, "Diagnostic Tools to Estimate Consequences of Terrorism Attacks Against Critical Infrastructure," U.S. Department of Homeland Security conference, "Working Together: Research and Development Partnerships in Homeland Security," Boston, MA.

April 22, 2005. R. Zimmerman, Invited panelist, "Security Planning: Protecting Infrastructure and the Public Realm," American Planning Association, Metropolitan Chapter annual conference, New National Challenges – New York Solutions – A Survival Guide for Planners. http://www.nyplanning.org/conf2005/full_proceedings.pdf, New York, NY.

January 14-15, 2005. "Outside of the Box: Indicator-based Assessments for Terrorist Attacks," Terrorism Risk Analysis, CREATE Research Symposium, Los Angeles, CA. http://www.usc.edu/dept/create/events/2005_02_03/Indicator_Based_Assessments_for_Terrorist_Attacks_Against_Critical_Infrastructure.pdf

December 5-8, 2004. R. Zimmerman (with others), "Consequence Assessment Methods for Terrorist Acts Against Critical Infrastructure" for "Risk Analysis in the Age of Terrorism and Homeland Security" panel, Society for Risk Analysis annual meeting, Moderator: Hall; Discussant: von Winterfeldt; Papers: Zycher; Zimmerman; Bier and Nagaraj; Willis, Morral, Medby, and Kelly. www.sra.org, Palm Springs, CA.

November 18, 2004. Presentation, "Protecting Critical Infrastructure from Terrorism: A Risk-Based Multi-Hazard Approach to Vulnerability Assessment," at CREATE conference on Reducing the Costs and Consequences of Terrorism, USC, Los Angeles, CA. http://www.usc.edu/dept/create/news.php?id=11

November, 8-9, 2004. Presentation on critical infrastructure protection at DHS "Critical Infrastructure Protection Modeling & Simulation Workshop," Arlington, VA.

October 21-23, 2004. "Planning for Urban Security with Green Technologies," paper presentation at the ACSP 2004 Annual Conference, Portland, OR. www.acsp.org

October 20-22, 2004. Carlos E. Restrepo,* Zvia Segal Naphtali and Rae Zimmerman, " Poster presentation, "Asthma hospitalization rates, poverty, demographics and industrial land use in Bronx County, New York," The International Society for Urban Health's Third International Conference on Urban Health: "The Global Urban Health Agenda: Setting Priorities and Building Infrastructure."

August 23-24, 2004. Invited Presentation on the role of the first homeland security center of excellence, the Center for Risk and Economic Analysis of Terrorism Events, and its critical infrastructure mission, National Academy of Sciences Committee on Disaster Research in the Social Sciences workshop, Washington, DC. http://dels.nas.edu/dr/DRSSWorkshopAgenda.html

August 2-4, 2004. "The Epidemiology of Extreme Events: Health and Safety Impacts of Cascading Infrastructure Failures," International Society of Environmental Epidemiology (ISEE) at New York University, New York, NY.

June 22, 2004. "Infrastructure and Health," Disasters Roundtable workshop, "Public Health Risks of Disasters: Building Capacity to Respond," National Academy of Sciences, Washington, DC. http://dels.nas.edu/dr/f11.html

May 27, 2004. Discussant, Comments on Green Transit, Panel, "Urban Design: Journalism and Education," Institute of Urban Design, Governor's Island, NY.

May 20, 2004. Discussant, workshop entitled "Optimizing Resource Allocation for Transportation Infrastructure Protection," University of Wisconsin (Madison) Center for

Human Performance and Risk Analysis, Madison, WI. http://www.chpra.wisc.edu/infra2004.php

May 12, 2004. Invited presentation on Post-9/11 projects related to Lower Manhattan. Association of the Bar of the City of New York – committee on Lower Manhattan issues, New York, NY.

May 6, 2004. Panel presentation, "Promoting Flexibility in Transportation to Reduce Vulnerability in the Aftermath of Terrorism," at a symposium on transportation security entitled, "Balancing Security and Mobility: A Symposium on Innovative Approaches to Transportation Security," held by the U.S. Department of Transportation's Volpe Center, Cambridge, MA. http://www.volpe.dot.gov/ourwork/dimensions/workshops.html

April 22, 2004. Paper, "Development Patterns, Infrastructure Interdependencies, and the Security of Rail and Road-based Transportation Systems," at the IEEE Conference on Technologies for Homeland Security, Cambridge, MA. http://www.ieeeboston.org/homeland.htm

March 9, 2004. Presentation at the Department of Homeland Security (DHS) Industry Forum, panel on University Programs. Washington, DC. http://www.ctc.org/DHSIF/DHS.html

February 23, 2004 Beyond September 11th: An Account of Post-Disaster Research NSF Media Briefing https://www.nsf.gov/news/newsmedia/beyond911/index.jsp https://www.nsf.gov/news/newsmedia/beyond911/beyond911_about.jsp

December 9, 2003. "New and Emerging Risks of Alternative Development Patterns," Society for Risk Analysis annual meeting, Baltimore, MD.

November 18, 2003. Invited presentation on ICIS miscellaneous projects, Association of the Bar of the City of New York – Transportation Committee, New York, NY.

July 14, 2003. Paper presentation, "Service Implications of Managing Infrastructure Distribution Systems in Crises," ASCE International Pipeline 2003 Conference, Baltimore, MD.

June, 23, 2003. Speaker, Breakout Session on Terrorism and Extreme Events, World Congress on Risk, Brussels, Belgium.

May 22, 2003. Invited Responder for the Education for Green Cities panel, The Institute for Urban Design Fellows Program. The Century Club, New York, NY.

April 25, 2003. "The Intersection of Sustainability and Security" with illustrations from Response and Recovery in Lower Manhattan. Invited Presentation for the Panel, Paradigm of Progress: Social Responsibility and Environmental Strategies. NYU School of Continuing and Professional Studies, New York, NY.

March 30, 2003. Presentation and Professional Development Workshop Organizer, "Decision-making Tools for Complex Projects," 2003 National American Planning Association Conference, Denver, CO.

January 15, 2003. Invited Presentation sponsored by the UCI Department of Urban and Regional Planning and the Institute of Transportation Studies, University of California-Irvine, "Planning for Resilient and Sustainable Infrastructure in the Face of Extreme Events: Experiences from Sept. 11, 2001." Irvine, CA.

January 14, 2003. Invited Presentation for the Panel, "How Are Universities Enhancing Academic Programs and Curricula to Meet the Changing Needs of the Transportation Profession?", Transportation Research Board 2003 Annual Meeting, Washington, DC.

December 8-11, 2002. "Social and Technological Risk Tradeoffs Associated with Infrastructure Failures in Extreme Events," Society for Risk Analysis annual meeting, New Orleans, LA.

November 21-24, 2002. "Are We Ready? Infrastructure Plans and Planning Processes For Extreme Events: Experiences from September 11th", Association of Collegiate Schools of Planning Annual conference, Baltimore, MD.

November 18, 2002. Invited presentation on public perceptions of waste facilities and their influence on waste to energy policy. Panel entitled, "Managing NYC's Waste: A Scientific and Policy Analysis of the Waste-to-Energy Option," New York Academy of Sciences, New York, NY.

November 14, 2002. Invited lecture "Building Resilient Infrastructure to Combat Terrorism: Lessons from September 11th" at the Counterterrorism and Technology: Technology and Policy Program Seminar Series sponsored by the Engineering Systems Division at MIT, Boston, MA. http://web.mit.edu/mitworld

November 3-6, 2002. Invited presentation entitled, "Making Sustainability and Security Compatible: New Approaches to Public Infrastructure Services for the 21st Century," Sustainable Communities and Smart Growth panel at the ASCE 2002 national conference, Washington, DC.

October 1-2, 2002. Invited presentation entitled, "Transportation and Global Climate Change" at the U.S. DOT, U.S. EPA, U.S. DOE, U.S.GCRP Research Workshop on the Potential Impacts of Climate Change on Transportation (held by the U.S. DOT Center for Climate Change and Environmental Forecasting), Brookings Institution, Washington, DC.

June 24-25, 2002. Presentation entitled, "Enhancing Resilience of Integrated Civil Infrastructure Systems," Presented at "Lessons from the World Trade Center Terrorist Attack: Management of Complex Civil Emergencies and Terrorism-Resistant Civil Engineering Design," conference sponsored by the Multidisciplinary Center for Earthquake Engineering Research (SUNY-Buffalo) and co-sponsored by ICIS and the National Academy of Sciences-National Research Council. http://mceer.buffalo.edu/meetings/wtc/default.asp. Workshop Proceedings: *Proceedings of the Workshop on Lessons from the World Trade Center Terrorist Attack – Management of Complex Civil Emergencies & Terrorism – Resistant Civil Engineering Design*, edited by Michel Bruneau, University of Buffalo Multidisciplinary Center for Earthquake Engineering Research, Buffalo, NY, October 18, 2002. http://mceer.buffalo.edu/publications/sp_pubs/02-SP08/default.asp

June 6-7, 2002. Presentation and panel organizer on Green Infrastructure at "The Humane Metropolis: People and Nature in the 21st Century City," sponsored by the EcoCities Project of the University of Massachusetts and Co-sponsored by the Lincoln Institute, the NYU Environmental Conservation Education program, ICIS, and others. New York University School of Law, New York, NY.

May 21, 2002. "Implications of trends in and opportunities for undergrounding of utility distribution systems for urban planning," in Track II, Session 2A (Underground Space and Policies for Infrastructure Networks), North American Tunneling 2002 Conference, Seattle, WA.

May 3, 2002. "Urban Mobility and Global Climate Change," ASCE/ASEE Engineers Forum on Sustainability, Washington, DC.

April 18, 2002. Invited Panelist, Session III: Responses by Higher Education Institutions: Education, Training, Research and Policy, "The Role of Universities-Post 9/11 A Summary." Strategic Responses to Risks of Terrorism, University of Virginia, Charlottsville, VA.

April 15, 2002. Presentation and Professional Development Workshop Organizer, "Decision-making Tools for Complex Projects," 2002 National American Planning Association Conference, Chicago, IL.

April 14, 2002. Presentation, "A Framework for the Evaluation of Social Equity in Public Infrastructure Facilities," for Panel on "Equality in Public Infrastructure Services," 2002 national American Planning Association Conference, Chicago, IL.

April 12, 2002. R. Zimmerman and V. M. Bier, "Risk Assessment for Extreme Events," Paper presented at Columbia/Wharton-Penn Roundtable on Risk Management Strategies in an Uncertain World, Palisades, NY, Wharton Risk Management and Decision Processes Center, Columbia Center for Hazards and Risk Research, Columbia Earth Institute (hosts), April 12, 2002. http://www.ldeo.columbia.edu/chrr/documents/meetings/roundtable/white_papers/zimmerman_wp.pdf.

March 1, 2002. "Japanese Disaster Experts View the September 11th Response" symposium sponsored by the Japanese Ministry of Science and Education and the Institute of Public Administration (discussant), New York, NY.

February 27-March 1, 2002. Member of the Planning Committee and Contributor to the September 11th Case Study for *Responding to the Unexpected*, edited by Yigal Arens and Paul Rosenbloom, University of Southern California, Information Sciences Institute, September 26, 2002. http://www.isi.edu/crue/

February 4, 2002. Presentation on September 11th disaster to Societe Anonyme de Gestion des Eaux de Paris (SAGEP), Paris, France.

February 1, 2002. Presentation on September 11th disaster at the Ecole Nationale des Ponts et Chaussees-Laboratoire Techniques Territoires Sociétés (ENPC – LATTS), Marne-la-Vallée, Paris, France.

January 23-24, 2002. "Urban Hazards Forum" – John Jay College of Criminal Justice, CUNY funded by the Federal Emergency Management Agency (FEMA), presentation entitled, "Research Directions for Disaster Response and Recovery after September 11th", New York, NY.

December 6, 2001. Panel organizer and paper presentation, "Equity in Environmental Infrastructure and Effects of Disasters on Service Delivery," workshop entitled, Planning and Managing Equity in Public Infrastructure, Metropolitan Chapter of the American Planning Association Annual Conference, New York, NY.

December 4, 2001. "Risks of Information Technology to Infrastructure Systems," Society for Risk Analysis annual meeting, Seattle, WA.

November 12, 2001. Panel organizer and moderator. "A forum on The Technical Implications of the World Trade Center Collapses," with the Columbia University Department of Civil Engineering and Engineering Mechanics (as lead), the Columbia Center for Hazards and Risk Research, the American Society of Civil Engineers, and the American Society of Mechanical Engineers. ICIS' panel was entitled "Hazards and Risk Implications" planned to feature experts from the NYC DEP, Con Edison, and the insurance industry.

October 18, 2001. Participation in Community forum, "Environmental Health Issues Related to the World Trade Center Disaster," organized by the NYU School of Medicine with the NIEHS centers at NYU, Rutgers and Columbia and the NY Academy of Sciences. The purpose of this forum was to engage in an interactive communication with the public about health issues. http://www.med.nyu.edu/environmental/assets/wtc2001.pdf

September 10-11, 2001. "People, Pipes And Natural Disasters: Understanding and Avoiding Mutually Reinforcing Catastrophes," Paper presented at the Workshop on Mitigating the Vulnerability of Critical Infrastructures to Catastrophic Failures, jointly sponsored by CRIS, DRM, IIIT and NSF, The Lyceum, Alexandria, VA.

September 9, 2001. "Sustainability and Infrastructure," Presentation at the American Public Works Association (APWA) Conference, Philadelphia, PA, Session on International Efforts toward Sustainable Infrastructure.

April 29-30, 2001. "Thoughts on Extreme Events," Short paper for the National Science Foundation Workshop on Extreme Events, Washington, DC.

February 14, 2001. Regional Technology Leadership Network of the New York Academy of Sciences, speaker on "Transportation and Regional Competitiveness," New York, NY.

December 7, 2000. ADPSR/NY Conference theme: Infrastructure in NYC. Opportunities, realities, impacts, held at the van Alen Institute in NYC, New York, NY.

December 5, 2000. Panel on: "Wastewater in the State: Projects, projections, and costs," Empire State Report, conference theme – Infrastructure, New York, NY.

August 15, 2000. "Social Dimensions of Sustainable Infrastructure Technology," presentation at the CERF International Symposium and Innovative Technology Tradeshow 2000. Washington, DC.

August 14, 2000. Workshop organizer and presenter, "The Social Dimensions of innovative Infrastructure Technology," at the CERF International Symposium and Innovative Technology Tradeshow 2000. Washington, DC.

June 26-27, 2000. "The Socio-Economic and Political Contexts of Cutting-Edge Infrastructures," Urban Technologies Institute and NY Academy of Sciences Moving People, Goods, and Information in the 21st Century: Urban Technology, the New Economy, and Cutting-Edge Infrastructures conference, New York, NY.

May 31, 2000. "Global Climate Change implications for infrastructure and land use in the Metropolitan New York Area," ENO Transportation Foundation's Global Climate Change Luncheon Series, Washington, DC.

May 9, 2000. Panelist, "Educating Future Leaders," Women's Transportation Seminar. WTS 2000 Leadership for the 21st Century, New York, NY.

January 12, 2000. "Future Directions in Environmental Health," Environmental and Occupational Health Sciences Institute (Rutgers and the University of Medicine and Dentistry of NJ) millennium conference on Environmental Health in the Twenty-first Century: Opportunities and Challenges, New Brunswick, NJ.

January 5, 2000. Panelist, "Involvement of Underrepresented Groups in Transportation Decision Making," at the Transportation Research Board 2000 Annual Meeting, Washington, DC.

December 15, 1999. Invited presentation on "Thinking about Sustainable Urban Infrastructure – What Does it Mean, How to Achieve It" at the University of Southern California's Environmental Sciences Policy and Engineering Sustainable Cities Program seminar series, Los Angeles, CA.

December 8, 1999. "The Public Sector Role in Internet Infrastructure," New York City and the Digital Economy, Conference sponsored by the NYC Office of the Comptroller in cooperation with the Wagner School and the Stern Graduate School of Business with various industry co-sponsors. New York, NY.

November 5, 1999. "Urban and Regional Responses to Environmental Policy Pile-Up: Infrastructure Solutions to Urban Estuary Restoration in Long Island Sound, NY," Paper presented at the APPAM Annual Research Conference, Washington, DC.

October 21-22, 1999. "Infrastructure Planning and the Quality of Coastal Environments," Paper presented, Association of Collegiate Schools of Planning Annual Meeting, Chicago, IL.

July13-22, 1999. Paper presentation. Aspen Global Change Institute, Integrating Human and Natural Systems to Understand Climate Change Impacts on Cities, Aspen, CO.

February 19, 1999. "Infrastructure and Waste Management: An Integrated Perspective," Paper presented at the Columbia University NYC Environmental Task Force workshop on urban waste management, New York, NY.

January 8, 1999. "The New York Experience with Infrastructure," Invited paper, New York City Area Consortium for Earthquake-Loss Mitigation (NYCEM) workshop on Loss Estimation Methodologies for Disaster Risk Reduction, Palisades, NY.

December 7, 1998. "Potential Health Risks from Urban Infrastructure Activities," paper presented at the Society for Risk Analysis annual meeting, Phoenix, AZ.

November 23, 1998. "Historical and Future Perspectives on Risk Perception and Communication," Plenary address at the 1st China-Japan Conference on Risk Assessment and Risk Management, Beijing, China.

November 19, 1998. "Protecting Environmental Health through Infrastructure Management," paper presentation in the Public Health, Infrastructure Management and Water Quality Session, American Public Health Association 126th Annual Meeting.

October 31, 1998. "Managing Urban Sustainability: Connecting Infrastructure to Communities," Panel Organizer and Chair for the 20th Annual Research Conference of the Association for Public Policy Analysis and Management (APPAM), New York New York, NY.

October 29, 1998. "Environmental Equity: A Retrospective." Paper presented at the 20th Annual Research Conference of the Association for Public Policy Analysis and Management (APPAM), New York, NY.

October 29, 1998. "Planning and the History of Urban Infrastructure in New York City and the New York Region," Paper presentation for Planning and the New York Metropolitan Region in the 21st Century, 1998 Conference sponsored by the American Planning Association (APA) New York Metro Chapter, New York, NY.

September 18, 1998. "Infrastructure And The Health Of Cities And Regions," Paper to be Presented at Meeting the Urban Health Challenge: A Joint Public Health and Urban Planning Conference, sponsored by the Hunter College Center for Occupational & Environmental Health, New York, NY.

September 18, 1998. "Enlarging the Questions and Energizing the Solutions in Managing Infrastructure Risks," Invited Plenary Address, International Probabilistic Safety Assessment and Management Conference, New York, NY.

September 17, 1998. "Interdisciplinary Approaches to Safety and Risk in Urban Infrastructure Systems," International Probabilistic Safety Assessment and Management Conference, New York, NY.

August 30, 1998. "Managing Urban Development Through Innovative Infrastructure and Environmental Systems Planning." 38th Congress of the European Regional Science Association, Wirtschaftsuniversitat Wien,Vienna, Austria.

March 23, 1998. "Human Scenarios", plenary paper, Columbia University, Earth Institute, Metropolitan East Coast Climate Change Workshop, New York, NY.

December 1997. "Attitudes of Agricultural Researchers vs. Farm Operators with Respect to Risks of Pesticide Use," (with Prof. Erik Lichtenberg, U. of Maryland), Society for Risk Analysis annual meeting.

June 16, 1997. "Edging Toward a Millennium: What Will the Future Risks Be (How will we Know Them and Manage Them)?" Invited Plenary Paper, The Society for Risk Analysis-Europe, Stockholm, Sweden.

March 6, 1997. "Farmers' Perceptions of Pesticide Risks," (with E. Lichtenberg), Paper presented at the Risk Assessment & Policy Association meeting, Alexandria, VA.

December 9, 1996. "Application of Selected Management Principles to Infrastructure Risks," (with others), Society for Risk Analysis annual meeting, New Orleans, LA.

November 19, 1996. "Health Experiences and Environmental Attitudes: A Comparison of Farm Operators, Agricultural Experts, and the General Public," (with E. Lichtenberg). American Public Health Association Conference, New York, NY.

November 2, 1996. Panel on interdisciplinary approaches to urban infrastructure performance at the 18th Annual Conference of the Association of Public Policy Analysis and Management (APPAM), Pittsburgh, PA.

June 3, 1996. "Risk Management Strategies for Urban Infrastructure," Society for Risk Analysis-Europe 1996 Annual Meeting, University of Surrey, Guildford, Surrey, UK.

December 4, 1995. "The Role of Knowledge and Information in Agricultural Pesticide Usage Practices," Society for Risk Analysis annual meeting, Honolulu, Hawaii.

November 3, 1995. "Historical Developments in the Social Dimensions of Environmental Concern and their Impact on Environmental Policy," APPAM Annual Conference, Washington, DC.

June 13, 1995. "Farm Operator Perceptions of Water Quality Protective Pest Management Practices: Selected Survey Findings" (with Prof. Erik Lichtenberg and the Survey Research Center, U. of Md.), National Association of Environmental Professionals, Annual Meeting, Washington, DC.

June 12, 1995. "Integrating Environmental Justice (EJ) Methodologies into Environmental Impact Assessment," National Association of Environmental Professionals, Annual Meeting, Washington, DC.

December 6, 1994. "Risks of Rain: Linking Risk Management and Risk Assessment for Flood Damage Control," Society for Risk Analysis annual meeting, Baltimore, MD.

October 31, 1994. Issues of Environmental Equity at Hazardous Waste Sites," Annual Symposium on Environmental Risk Equity: Is Life "Fair"? held by the Research Triangle Park Chapter -Society for Risk Analysis. University of North Carolina, Chapel Hill, NC.

November 3, 1994. "Land Use and Infrastructure Planning" for "Metropolitan New York in the Greenhouse: Infrastructure Planning for an Uncertain Future," conference organized by the Metropolitan Section of the American Society for Civil Engineers, New York, NY.

March 3, 1994. "Environmental Injustice: Who Are Its Victims in the Cities?" Panel presentation, Symposium on Urban Environmental Justice. Fordham Urban Law Journal and the Stein Center for Ethics and Public Interest Law, New York, NY.

February 10, 1994. "Socioeconomic Characteristics of Populations Surrounding National Priority List (NPL) Sites in U.S. EPA, Region 2," Poster at the Symposium on Health Research and Needs To Ensure Environmental Justice, Washington, DC. Sponsored by six federal agencies.

December 7, 1993. "An Assessment of Methodological Issues in Environmental Equity," panel convenor and presentor, Society for Risk Analysis annual meeting, Savannah, GA.

October 30, 1993. "A Critical Geography of Inactive Hazardous Waste Sites on the National Priorities List," Panel convenor and presenter, Association of Collegiate Schools of Planning 35th Annual Meeting, Philadelphia, PA.

October 29, 1993. "Convergence of Procedural and Distributional Equity in Hazardous Waste Management," Panel convenor and presenter, Association for Public Policy Analysis and Management 14th Annual Research Conference, Washington, DC.

October 26, 1993. "Programmatic Applications of Environmental Justice," National Environmental Justice/GIS Forum, sponsored by the U.S. EPA, Washington, DC.

December 7, 1992. "Social Equity and Environmental Risk," Society for Risk Analysis annual meeting, San Diego, CA.

June 14-17, 1992. "The Social Setting of Controversy at Hazardous Waste Sites," ECO WORLD '92, sponsored by the American Society for Mechanical Engineers.

May 15-17, 1992. "Risk and Public Controversy at Hazardous Waste Sites," invited paper, Environmental Racism/Equity/Justice in Williamsburg, VA, organized by the American Bar Association, Standing Committee on Environmental Law, Washington, DC.

December 11, 1991. "Public Perceptions of Environmental Health Risks," Society for Risk Analysis annual meeting, Baltimore, MD.

July 11, 1991. "Globalization of Local Environmental Crises: Lessons and Solutions from Hazardous Waste Management and Planning," Association of Collegiate Schools of Planning-Association of European Schools of Planning Joint International Congress, Oxford Polytechnic, Oxford, UK.

November 7, 1990. "Hazardous Waste Policy and Controversy," Invited presentation, New York Academy of Sciences, New York, NY.

October 10, 1990. "Strengthening Health Risk Assessment Data with Epidemiological Rules of Evidence: Applications to Benzene, Dioxin, and Formaldehyde," Society for Risk Analysis annual meeting, New Orleans, LA.

October 1, 1990. "Superfund Decisions Ten Years Later: Health Priorities and Solutions," American Public Health Association Annual Meeting, New York, NY.

June 26, 1990. "Fine-Tuning Environmental Health Risk Assessments (HRAs) at Hazardous Waste Disposal Sites," 1990 Air & Waste Management Association Conference, Pittsburgh, PA. Paper Number 90-182.5. (Copyrighted by AWMA)

March 18-22, 1990. "The Influence of Skills, Knowledge and Abilities of Governmental Environmental Health Professionals on Safety Procedures." Paper based on the NJIT grant, "Public Acceptability of Risk Assessment," American Institute of Chemical Engineers, Health and Safety Symposium, Orlando, FL.

November 3-4, 1989. Second International Conference on Industrial and Organizational Crisis Management, Stern School of Business, NYU. Panel Organizer and Chairperson, "Community Responses to Chemical Crises"; Paper presentation, "The Aftermath of Chemical Crises: Post Cleanup Responses of Communities at Hazardous Waste Sites."

October 29-November 1, 1989. "Selected Determinants of Controversy at Hazardous Waste Sites," Society for Risk Analysis annual meeting, San Francisco, CA.

October 31, 1988. "When Risk Management Fails: Diagnosing the Causes and Consequences of Industrial Accidents and Their Implications for Human Resources Management," 1988

Society for Risk Analysis annual meeting, October 30-November 2, 1988, Washington, DC.

June 13-17, 1988. "Current Directions for Risk Assessment and Risk Management," First Gordon Research Conference on Risk Assessment of Chemical Substances, Wolfeboro, NH.

May 26, 1988. "Industrial Accidents and Human Resources Management," 2nd Annual Conference of the New Technologies Safety and Health Institute on New Technologies in Established Industries: Lessons in Hazard Management, Worcester, MA.

May 16-19, 1988. "Enhancement of Public Acceptability of Hazardous waste Materials through Decentralization of Treatment and Isolation of Disposal," 1988 Hazardous Material Spills Conference, sponsored by AIChE and the National Response Team, Chicago, IL.

March 30, 1988. "Industrial Crisis Management," Safety Executives of New York Annual Professional Development Conference. Briarcliff Manor, NY.

November 12, 1987. Presentation on Risk Assessment. Pace University School of Law. White Plains, NY.

October 30, 1987. Session Organizer and Chairperson, Management of Industrial Accidents; Presentation on "Effect of Governmental Regulatory Programs on the Role of Human Error in Industrial Accidents," APPAM 1987 Research Conference. Washington, DC.

September 25, 1987. "Risk Management for Crisis Prevention and Preparedness," Seminar on Industrial Crisis Management of the Industrial Crisis Institute, New York, NY.

September 1987. "Population Projections for the Water Resources Management Strategy Plan of the Delaware/Lower Hudson Region." Appendix A in Delaware-Lower Hudson Region Water Resources Management Study, by Hazen and Sawyer. Albany, NY: NYS Department of Environmental Conservation.

November 9-12, 1986. "Reducing Analytical Uncertainties Through the Use of Comparative Health Risk Assessment for the Evaluation of Hazardous Waste Management Alternatives." Paper presented at the 1986 Society for Risk Analysis annual meeting, Boston, MA.

November 9-12, 1986. "Profile of Chemical Industry Hazards." Paper presented at the 1986 Society for Risk Analysis annual meeting, Boston, MA.

September 5 and 6, 1986. "Government Resources for Crisis Management." Paper presented at the International Conference on Industrial Crisis Management, New York, NY: NYU Graduate School of Business Administration.

November 2, 1985. "Integrating Environmental Risk Assessment into the Planning Process," presented at the 27th Annual Conference of the Association of Collegiate Schools of Planning, Atlanta, GA.

October 25, 1985. "Environmental Risk Assessment," Presentation at the Association for Public Policy and Management, Washington, DC.

November 1985. "Experience Levels and Professional Communication Patterns Among Public Sector Risk Managers." Presentation, Society for Risk Analysis, Washington, DC.

August 1-2, 1985. "Risk Assessment Procedures for Waste Treatment Management." Proceedings of the Second Conference on Industrial Waste By-Product Conversion, Resource Recovery and Waste Management Technology, Tulane University Medical Center, Department of Environmental Health Sciences, New Orleans, LA.

April 22, 1985. "Local Approaches to Groundwater Management." Paper presented at the 1985 International Planning Conference sponsored by the American Planning Association and other planning organizations, Montreal, Canada.

October 1984. "A Conceptual Framework for Infrastructure Planning." Paper presented at the ACSP Annual Conference. New York, NY.

April 1984. "Risk Assessment and Environmental Health." Environmental Planning Quarterly (October 1983), pp. 5-7. Reprinted in edited form: SNREA News, Vol. 7, No. 2.

October 26-28, 1983. Panel presentation and summary paper for Panel on "Toxics Management: Public Perception vs. Scientific Truth," ASPA Regions I & II Conference. Providence, Rhode Island.

April 18, 1983. "A Synopsis: Integrating Approaches to Risk Management in the Context of Toxic Substance Cases-Uncertainty and Risk Relationships." Paper presented at the 44th Annual National Conference, American Society for Public Administration, New York, NY.

June 12-13, 1980. "Hierarchical Principles in the Study of Administrative Organizations and Implications for Conflict Resolution and Spatial Dispersion of Economic Activity." Paper presented at the Conference on Hierarchy Theory, International Congress of Arts & Sciences, Cambridge, MA, Harvard Law School.

1979. "Intergovernmental Aspects of Land and Water Resource management." Paper presented at the 1979 ASPA Conference in the Section: Management of Conservation and Natural Resources: Guiding Land Use, Baltimore, MD.

January 1978. "Institutional Aspects of Public Service Delivery and Water Quality in New York City." Issue paper prepared in connection with a public forum on Water Quality Management Issues in the City of New York. New York, NY: New York University, Public Policy Research Institute Working Papers Number 7.

January 1978. "The Regionalization Question and Water Quality Management in New York City." Issue paper prepared in connection with a public forum on Water Quality Management Issues in the City of New York. New York, NY: New York University, Public Policy Research Institute Working Papers Number 7.

March 1978. "An Evaluation of a Public Forum on Water Quality Issues in New York City." Report prepared in connection with a public forum on Water Quality Management Issues in the City of New York. New York, NY: New York University, Public Policy Research Institute Working Papers Number 7.

March 1977. "Intergovernmental Aspects of Regulation and Service Delivery for Water Pollution Control in the Delaware River Basin." Paper presented at the American Society for Public Administration, National Conference, Atlanta, GA, March 30-April 2, 1977. New York, NY: NYU, Public Policy Research Institute Working Paper Number 3.

1975. "The Federal Water Pollution Control Act Amendments of 1972 and Land Use Management" (with M. R. Greenberg). Paper presented at the American Association for the Advancement of Science Conference, New York, NY.

1974. "Environmental Impacts of the Vacation Home Market." Paper presented at the Tenth American Water Resources Association Annual Meeting, Puerto Rico.

1974. "Energy Resource Management, Environmental Impacts and the Competition for Land." Paper presented, American Institute of Planners Conference, Denver, CO.

Invited Workshop Participant or Session Organizer (since 2000)

December 4, 2019: Invited Participant, NSF-funded "City-as-Lab" Research Coordination Network (RCN) for the Study of the Food, Energy, and Water Nexus for Sustainable and Resilient Urban Development (NSF #1856032) at New York Institute of Technology

2018: Invited Member, U. of Colorado (Boulder) Earth Lab, Extremes Working Group

April 25, 2016. Invited speaker and panelist on infrastructure finance. Transforming Infrastructure in NYC for Sustainability: Critical Needs and Opportunities Workshop, Hunter College (lead), other co-sponsors: EDF, UN, Norwegian Consulate General.

April 20, 2016. Future of Freight Transportation Forum, SUNY Global Center.

February 29, 2016. Invited participant, Coastal Community Resiliency Roundtable, organized by the Preparedness Leadership Council International. The Down Town Association, New York, NY.

November 4-5, 2015. Invited member, NSF funded workshop, Food Energy Water System (FEWS) nexus. The Ohio State University, Columbus, Ohio.

May 27, 2015. Workshop Participant, Transformation Resilience on the Urban Coast (TRUC). Hosted by the CUNY Institute for Sustainable Cities and Hunter College with the United Nations University and University of Stuttgart, New York, NY, Hunter College.

Fall 2014. Co-host on behalf of NYU-Wagner of three New York League of Conservation Voters Education Fund policy forum series "Dig Deep for a Greener New York." Part I Green Infrastructure (October 9), Part II Policy Forum: Funding An Equitable Park System (November 6), and Part III Food Waste (December 10).

October 14, 2014. Roundtable participant. The McGraw Hill Financial Global Institute and Autodesk, The Future of Cities. Preparing for Growth and Future Threats and How to Build Resilient Infrastructure. New York, NY, McGraw Hill.

June 25-26, 2014 Global Risk Forum – New York 2014 Radical Regional Resilience: Critically Needed New Strategies & Vital Alliances for the Next Disruption New York University Global Center for Academic and Spiritual Life, Fifth Floor Colloquium, 238 Thompson Street, New York, NY.

June 12-13, 2014. Transitions to a Low Carbon Urban Future in an Era of Extreme Events. Hosted by the Urbanization and Global Environmental Change Project and CUNY-Institute for Sustainable Cities, New York, NY, Hunter College.

May 21-23, 2014. Sustainable Adaptive Gradients in the Coastal Environment (SAGE): Reconceptualizing the Role of Infrastructure Resilience, Workshop 2014. Lead: U. of Massachusetts Amherst, Regional Planning) Funded by the NSF Research Collaboration Network (RCN) : Science, Engineering and Education for Sustainability (SEES), Brooklyn, New York, Pratt Institute.

November 8, 2013. Organizer and moderator, "Integrating Planning and Resilient Infrastructure: The Next Frontier," panel, 2013 APA NY Metro Chapter Conference, New York, NY.

October 10, 2013. Town and Gown, "Policy, Meet Design," session on "10 Things Public Policy Analysts Should Know about Design + 10 Things Designers Should Know about Public Policy," New York, NY: Center for Architecture.

September 17, 2013. After Hurricane Sandy: Lessons Learned for Bolstering Energy Resilience," Global Risk Network – Americas Forum, International Center for Enterprise Preparedness (InterCEP) New York 2013, New York, NY, NYU.

September 10, 2013. H209 Forum 2013, Workshop: "Finding new ways for protecting critical functions and infrastructure," Workshop chair.

June 25, 2013. "After Superstorm Sandy: Lessons Learned for Bolstering Transportation Resilience," Kostas Research Institute for Homeland Security, Northeastern University and Stevens Institute of Technology, Stevens Institute of Technology, Hoboken, NJ.

October 3-5, 2012. 7th Annual DFG-NSF Conference, "Reckoning with the Risk of Catastrophe, Washington, DC. Presentation on "Event Diagnostics for Risk Decision and Communication Connectivity to Reduce Consequences of Infrastructure and Technological Catastrophes."

November 9-10, 2011. National Climate Assessment, U. S. Department of Energy, Workshop on Climate Change, Infrastructure, Energy Systems, and Vulnerabilities, Panel on Infrastructures and Urban Systems, Washington, DC, hosted by Oak Ridge National Laboratories.

October 24-25, 2011. National Climate Assessment Workshop Technical Report on U.S. Cities and Climate Change: Urbanization, Infrastructure, and Vulnerabilities, Columbia University, New York, NY.

April 8, 2011. The Urban Institute *Infrastructure Initiative Roundtable*, Washington, DC.

March 2, 2011. New York Academy of Sciences panel organizer and moderator. *Facing the Elements: Transportation Resiliency Given Extreme Weather Events and Climate Change*. Greening Transportation and Infrastructure symposium series. http://www.nyas.org/TransportationSystem.

November 30, 2010. *The Economist*, Economist Intelligence Unit, The Green City Index Expert Panel Discussion, New York. Co-sponsored by Siemans.

October 26, 2010. Co-Host of and Participant, Workshop on *Mobilizing Your Community for Emergency Evacuations: Vulnerable Populations/Workshop on Regional Planning for Carless and Special Needs Evacuation Planning*. Evacuation planning workshop for city and regional senior government officials, sponsored by the University of New Orleans and Virginia Tech, funded by the Federal Transit Administration.

October 3-4, 2010. Invited Member, *Workshop on Interdisciplinary Studies in Information Security and Privacy (WISSP10),* NYUAD, Abu Dhabi, UAE, Panel on Digital Security of Critical Infrastructure. http://crissp.poly.edu/wissp10/

February 3, 2010. *Smart Grid for Smart Cities: Opportunities and Challenges,* hosted by the Sallan Foundation, CUNY Institute for Urban Systems (CIUS), the NY League of Conservation Voters, and the NYU-Wagner, Institute for Civil Infrastructure Systems. (Co-host and co-organizer)

January 5, 2010. *Envisioning a Low-Carbon Clean Energy Economy in New York*, New York, New York Academy of Sciences, cosponsored by Brookhaven National Lab, NYAS, NYSERDA, NYSDEC.

November 17-19, 2008. *Urban Climate Change Research Network's International Panel on Climate Change in Cities (IPC3) workshop*, New York, Columbia University, SIPA.

November 14, 2008. *Making the Connection: Transit Oriented Development – A Blueprint for Success*, NYU-Wagner Rudin Center for Transportation Policy & Management, with sponsors and in association with NYU-Wagner ICIS and others.

October 28-30, 2008. U.S. Department of Homeland Security, Science & Technology Directorate, *Workshop on Future Directions in Critical Infrastructure Modeling & Simulation*, Virginia Modeling, Analysis & Simulation Center (VMASC), Suffolk, VA.

October 24, 2008. "Making Infrastructure Competitive in a Changing World Through Investment," Conference on *The Shape of the New American City*, sponsored by the Penn

Institute for Urban Research and the American Academy of Political and Social Science. Philadelphia, PA: University of Pennsylvania.

September 24 (Solar Power), October 21 (Wind Power), and December 11 (Nuclear Power), 2008. *Greening the Empire State: Powering the Future*, The New York League of Conservation Voters Education Fund, with co-sponsors, NYU-Wagner School and its Institute for Civil Infrastructure Systems. New York, NY: NYU.

September 16, 2008. Conference on *Greening the Iron Ribbon: Redefining the Northeast Corridor*. AIA New York Chapter, NYU-Wagner ICIS a sponsor.

May 21-23, 2008. *Security: Advancing a Framework for Enquiries (SAFE),* Istanbul, Turkey. Sponsored by the European Science Foundation and NATO. Workshop 4: Management of Security: Successes and Failures.

January 10-11, 2008. *Protecting New York from Terrorism and Disaster: Taking Stock, Setting Directions, Looking Forward*, Protect New York Society, Levin Institute of SUNY, New York, NY

October 17, 2007. Disasters Roundtable of the National Academies, *Recovering From Disaster: A Summary of the October 17, 2007 Workshop of the Disasters Roundtable*, National Research Council of the National Academies, 2008, pp. 5-6. http://books.nap.edu/openbook.php.

February 15, 2007. *Institute for Information Infrastructure Protection* (*I3P) Control Systems Security Workshop*, Houston, TX: Sheraton Houston Brookhollow Hotel.

November 10-11, 2006. Panel on "The New York City Region and the University," *Terrorism and the University Conference*, John Jay College, New York, NY.

October 12, 2006. Transportation Research Board, Division on Earth and Life Studies, *Conference on Climate Change Impacts on U.S. Transportation*, The National Academy of Sciences, Washington, DC. http://onlinepubs.trb.org/onlinepubs/sr/sr290.pdf

June 8, 2006. *2nd Institute for Information Infrastructure Protection* (*I3P) Process Control System Security Workshop*, San Diego, CA: Torrey Pines Hotel.

June 29, 2005. *Civil Infrastructure Protection (CIP) R&D Workshop for Academic and Federal Lab R&D Providers*, U.S. Department of Homeland Security and the National Science Foundation, Washington DC.

June 2-3, 2005. *I3P SCADA Security Workshop*, U.S. Department of Homeland Security through Dartmouth College, Houston, TX.

April 20, 2004. *New York Regional Energy-Water Workshop*, Columbia University Earth Institute, Brookhaven National Laboratories, EPRI, New York, NY.

February 24, 2004. *Critical Infrastructure Protection Decision Support System*, U.S. Department of Homeland Security, Washington, DC.

January 30, 2004. Real Estate Roundtable, *Building Security Task Force*, Washington, DC.

October 29-30, 2003. *Urban Biosphere & Society: Partnership of Cities*, Columbia University and UNESCO, New York, NY.

August 7-8, 2003. *Enhancing Security in the Wastewater Sector: A Research Agenda*, Water Environment Research Foundation Security Symposium, Washington, DC.

July 17-18, 2003. *Accident Precursors: Linking Risk Assessment with Risk Management*, sponsored by the National Academy of Engineering, Washington, DC.

June 22-25, 2003. *First World Congress on Risk*, sponsored by the Society for Risk Analysis with numerous co-sponsoring organizations, Brussels, Belgium. www.sra.org.

February 5-6, 2003. *Water Security Research and Technical Support Action Plan* meeting, sponsored by the U.S. EPA, Washington, DC.

November 21-22, 2002. *The Constructional Engineering Professional 2020*, sponsored by the U. of Colorado, Boulder and Virginia Polytechnic Institute with NSF funding, Chicago, IL.

November 6, 2002. Representative for the American Planning Association for the conference on *September 11th issues and communications*, sponsored by the Federal Communications Commission, Washington, DC.

November 1, 2002. *New York as a Biosphere Reserve*, sponsored by the Goddard Institute of Space Studies, Columbia University.

October 1-2, 2002. U.S. DOT, U.S. EPA, U.S. DOE, U.S.GCRP Research Workshop, *Potential Impacts of Climate Change on Transportation* (held by the U.S. DOT Center for Climate Change and Environmental Forecasting), Brookings Institution, Washington DC.

June 24-25, 2002. *Lessons from the World Trade Center Terrorist Attack: Management of Complex Civil Emergencies and Terrorism-Resistant Civil Engineering Design*, conference sponsored by the Multidisciplinary Center for Earthquake Engineering Research (SUNY-Buffalo) and co-sponsored by ICIS and the National Academy of Sciences-National Research Council. http://mceer.buffalo.edu/meetings/wtc/default.asp

June 6-7, 2002. *The Humane Metropolis: People and Nature in the 21st Century City*, sponsored by the EcoCities Project of the University of Massachusetts and co-sponsored by the Lincoln Institute, the NYU Environmental Conservation Education program, ICIS, and others. New York University School of Law.

May 3, 2002. *ASCE/ASEE Engineers Forum on Sustainability*, Washington, DC.

April 12-13, 2002. *Risk Management Strategies in an Uncertain World*, Columbia-Wharton/Penn Roundtable.

March 14, 2002. *The Public Health Impact of September 11, 2001*, sponsored by The Hunter College Program in Urban Public Health with ICIS co-sponsorship www.hunter.cuny.edu/health/uph/911.htm

February 27-March 1, 2002. *Responding to the Unexpected*, NSF-funded workshop organized by the University of Southern California (co-leader of 9/11 Track).

January 23-24, 2002. *Urban Hazards Forum*, John Jay College of Criminal Justice, CUNY funded by the Federal Emergency Management Agency (FEMA http://www.jjay.cuny.edu/urbanhazardsforum

January 18, 2002. *Rebuild New York/America Roundtable*, the Bond Market Association. Planning Committee member.

November 12, 2001. *The Technical Implications of the World Trade Center Collapses*. Columbia University Department of Civil Engineering and Engineering Mechanics (as lead), the Columbia Center for Hazards and Risk Research, the American Society of Civil Engineers, the American Society of Mechanical Engineers, NYU-Wagner/ICIS.

October 18, 2001. *Environmental Health Issues Related to the World Trade Center Disaster*, a community forum organized by NYU School of Medicine with the National Institute of Environmental Health Science (NIEHS) centers at NYU, Rutgers and Columbia and the NY Academy of Sciences. NYU Law School, Tishman Auditorium (expert panelist)

April 29-30, 2001. *Extreme Events Decision-making Workshop*. National Science Foundation and SUNY-Albany, Arlington, VA.

Workshops Organized by the Institute for Civil Infrastructure Systems, 1998-2002

2nd Annual Conference on Infrastructure Priorities: Advancing Innovation – Educating Infrastructure Professionals to Make a Difference

Learning from Urban Disasters: NSF Response and Opportunities for Future Research

1st Annual Conference on Infrastructure Priorities: National Infrastructure Research Agenda

Bringing Information Technology to Infrastructure

International Research Seminar: Social Sustainability of Technological Networks

National Forum on Advanced GIS Applications and Database Needs for Civil Infrastructure Systems

Workshop on Civil Infrastructure Systems (CIS) Education

Coordinated Renewal of Civil Infrastructure Systems for Sustainable Human Environments

Selected Workshop Activities (Participation) Prior to 2000

July 13-22, 1999. Aspen Global Change Institute, *Integrating Human and Natural Systems to Understand Climate Change Impacts on Cities*, Aspen, CO.

January 7-8, 1999. New York City Area Consortium for Earthquake-Loss Mitigation (NYCEM), *Workshop on Loss Estimation Methodologies for Disaster Risk Reduction*, Palisades, NY

September 23, 1998. Sandia National Laboratories, *Workshop on Surety Science & Engineering*.

March 24-25, 1998. Carnegie Mellon University for the California Department of Health Services and the California Public Health Foundation, *Ethical and Environmental justice Considerations in Electromagnetic Fields (EMF) Policy*, (prepared presentation materials for others to present, schedule conflict prevented attending workshop).

March 23-24, 1998. Columbia University, Earth Institute, *Metropolitan East Coast Climate Change Workshop*, (presented a plenary paper on "Human Scenarios"; member of planning committee, co-chair of Infrastructure Panel) [NSF and other sponsors]

March 19-20, 1998. American University, *Urban Approaches Open Forum* [funded by NSF].

March 4-5, 1998. U.S. Department of Energy, National Low Level Waste Management Program, *Risk Communication Symposium. Understanding Community Decision Making: Engaging the Public in Constructive Dialogue*.

November 13-14, 1997. University of Illinois at Urbana-Champaign, The Beckman Institute for Advanced Science and Technology, and NSF, *Toward Human-Centered Systems for Solving National Challenge Problems.*

August 1997, September 1998. New York City Office of Management and Budget, *Risk Assessment Workshops for the Proposed New York City Croton Water Filtration Plant*.

March 1997. NSF/University of Virginia. *Workshop on When and How Can you Specify a Probability Distribution When You don't Know Much, II*.

November 3-4, 1994. *Metropolitan New York in the Greenhouse: The Baked Apple?* Held at the Port Authority of NY and NJ.

1993. Invited Member and Participant, symposium on *Health Research and Needs to Eliminate Environmental Inequities*, NIEHS and other federal agencies.

1993. Invited Participant, *Crossroads of Humanity Series Workshop* on environmental issues Medical University of S. Carolina, Environmental Hazards Assessment Program.

1989. Invited Facilitator on Public Policy Trends, Stevens Institute of Technology, Center for Environmental Studies conference on "Environmental Challenges: 2000 and Beyond".

1988-89. Invited member, Organizing Committee for the Second International Conference on Industrial and Organizational Crisis Management, November 3-4, 1989, Stern School of Business, NYU.
1988. Invited participant and Rapporteur, World Bank Workshop on Safety Control and Risk Management, sponsored by the World Bank and the Governments of Denmark, Sweden and Holland.
1988. Invited member, U.S. Environmental Protection Agency Hazardous Substance Research Center Review Panel.
1988. Invited speaker, First Gordon Research Conference on Risk Assessment of Chemicals, Wolfeboro, New Hampshire.
1987. Workshop co-Chairperson, New York City Charter Revision Commission on Neighborhoods, Land Use and the City Charter, Columbia University (sponsored by the NYC Charter Revision Commission).
1986-87. Invited participant, National Council on Public Works Improvement workshops:
Thinker session on infrastructure needs studies (November 1986)
New Directions in Technology and Infrastructure Symposium (June 1987)
Role of Risk Analysis in Public Works Decisionmaking (July 1987).
1986-88. Member, Advisory Committee, National Science Foundation infrastructure and natural hazards study, U. of North Carolina.
1987. Member, Planning Committee, American Planning Association conference.
1985. Member, Advisory Committee, "A Feasibility Study for Establishing an NYS Research & Development Center for Hazardous Waste Management," Rockefeller Institute of Government.
1985. Member, Ad-Hoc Committee on Hunter's Point, American Planning Association, New York Metropolitan Chapter. Environmental component.
1984. Invited Participant, NSF-sponsored "U.S.-Japan Workshop on Risk Management," Tsukuba Science City, Japan (Vanderbilt U., U. of Tsukuba).
1984. Society for Risk Analysis; Social Sciences Coordinator, 1984 National Conference, Knoxville, TN.
1983-1984. American Society for Public Administration (ASPA), Natural Resources & Environmental Administration Section: Nominations Committee Chair.
1984. Association of Collegiate Schools of Planning, Member of the Conference Coordinating Committee, 1984 national conference.

SELECTED CONSULTANTSHIPS

Directed studies for or advised federal, state and local government agencies on planning and implementation of environmental policies primarily in waste management and water resources management. These projects and programs have usually been performed under the auspices of engineering, planning and environmental professional organizations.
The work performed has covered environmental impact assessment, socioeconomic impact evaluations, risk assessment, institutional analysis (legal, financial, and administrative arrangements for program implementation), public participation and/or public perception studies and surveys applied to:
Homeland security
Critical infrastructure protection
Security issues associated with the built environment

Environmental health risk management
Environmental health
Energy infrastructure
Areawide water quality management planning
Sewage sludge management
Combined sewer overflow facilities
Wastewater treatment facilities
Water resources, including water supply and watershed management strategies
Resource recovery
Solid waste management
Hazardous waste management
Nuclear waste repository siting
Infrastructure development (primarily roads, bridges and mass transit)
Risk analysis and risk communication
Climate change
Coastal zone management

Sponsors (either directly or through engineering, planning and environmental organizations or universities):
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Department of Commerce, National Oceanic and Atmospheric Administration
U.S. Congress, Office of Technology Assessment
U.S. Department of Justice, U.S. Attorney, Southern District of New York
National Academies, Transportation Research Board
National Science Foundation
National Commission on Water Quality
New York State Department of Environmental Conservation
New York State Department of Transportation
New York City Department of Environmental Protection
New York City Department of Sanitation
New York City Office of Management and Budget
New York Metropolitan Transportation Council
Port Authority of NY and NJ
Town of Carmel, Putnam County, New York
NJ Transit
Jersey Central Power and Light
NJ Institute of Technology Hazardous Substance Research Center
Delaware Valley Regional Planning Commission
Columbia University

SELECTED CONSULTING ACTIVITIES (since 1985)

Preparation of environmental and planning related research reports primarily for federal, state and local government agencies usually under the auspices of engineering and environmental consulting companies.

Transportation Research Board risk communication guidebook under the auspices of John Jay College. Charles Jennings, Norman Groner, Chaim Roberts, Andrea Fatica, Michael Hildebrand, Greg Noll, and Rae Zimmerman (2014) Hazardous Materials Cooperative Research Program HMCRP 14 Guide for Communicating Emergency Response Information for Natural Gas and Hazardous Liquids Pipelines, Washington, D.C: The National Academies, Transportation Research Board. HMCRP Report 14.
Main report available at:
http://onlinepubs.trb.org/onlinepubs/hmcrp/hmcrp_rpt_014.pdf
Appendices available at:
http://onlinepubs.trb.org/onlinepubs/hmcrp/docs/HM-15_HMCRPReport14_Appendices1-3.pdf

Climate Change Related Research (2014) Argonne National Laboratory

Risk Management Courses (2009, 2010, 2011). Argonne National Laboratory for the U.S. DHS.

Risk Analysis for Value Engineering (1997, 2003, 2007, 2008, and 2009) studies in connection with public facility and infrastructure siting and rehabilitation, NYC and Toronto.

World Trade Center Evacuation Study (2002-2007) for the Columbia University Center for Public Health Preparedness, funded primarily by the Centers for Disease Control with publications and presentations through 2012.

Small Communities Outreach Program on Environmental Issues (SCOPe) – Lead-Bridges and Structures Regulatory Development (2001) for the National Association of Schools of Public Affairs and Administration (NASPAA) for the U.S. EPA, 2001. Technical consultant on the production of a manual and discussion guide on lead-based paint on steel structures.

MetroEast Climate Change and a Global City (The Potential Consequences of Climate Variability and Change) (2001), Columbia University Earth Institute and Goddard Institute of Space Studies. Institutional assessment.

Superfund Hazardous Waste Site Redevelopment Reports (1998). Review for the U.S. EPA, Office of Emergency and Remedial Response. Critical review of documents describing the redevelopment of remediated Superfund sites for commercial use.

Workshops for the New York City Croton Water Filtration Plant, process, siting and storage evaluations (August 1997, 1998). Risk analyst consultant for the NYC Office of Management and Budget (through KCM, Inc.).

Ethical and Environmental Justice Considerations in Electromagnetic Fields (EMF) Policy (March 24-25, 1998). Carnegie Mellon University for the California Department of Health Services and the California Public Health Foundation (prepared workshop materials).

Risk Communication Symposium. Understanding Community Decision Making: Engaging the Public in Constructive Dialogue (March 4-5, 1998), paper presenter and participant for the U.S. Department of Energy, National Low Level Waste Management Program.

Environmental equity/justice analyses of areas in proximity to inactive hazardous waste sites (1993-present). For the U.S. Environmental Protection Agency, Region 2 (New York) office. Demographic analyses (including property value analysis) of the location and regulatory activities of inactive hazardous waste sites (Superfund sites) on the National Priorities List and non-NPL sites on CERCLIS. Support of regional and agency activities in environmental justice.

Environmental permit evaluations and support activity (1993). For the development of clean coal technology, co-generation facilities in the Western U.S., primarily for air quality permits under the Clean Air Act Amendments of 1990.

Paerdegat Basin Water Quality Facility Plan, New York City, NY (1986-93). For the City of New York, Department of Environmental Protection through Hazen & Sawyer, Engineers. This project involved the development of a water quality facilities plan involving the upgrading of combined sewers and a pumping station.

- Organization of technical material and preparation of public participation documents (work plan, responsiveness summaries) for the public participation program;
- Preparation of the City Environmental Quality Review Act (CEQR) Project Data Statement; Review of CEQR EIS scope of work
- Uniform Land Use Review Process (ULURP) requirements (NYC)
- Federal and State environmental permits.

Sludge Management Plan for the City of New York (1988-1991). For the City of New York, Department of Environmental Protection through Hazen & Sawyer, Engineers.

- Design and implementation of a risk perception survey of New York City residents to ascertain the level and nature of public opinion regarding sludge management issues in the context of overall attitudes toward the environment and social and economic characteristics of respondents;
- Review of the Cornell University survey of public groups in upstate New York;
- Organization of technical material and preparation of public participation documents (work plan, responsiveness summaries) for the public participation program;
- Environmental impact assessment reviews for the City's program to find land-based alternatives to the ocean disposal of sewage sludge;
- Evaluation of federal, state and local regulations for implementation of sludge management alternatives, including an indepth review of risk assessments performed for new federal regulations under 40 CFR Part 503.

Long Island Expressway Capacity Improvement Project. Draft Design Report and Environmental Impact Statement. (1991) For the NYS Department of Transportation through Parsons Brinckerhoff Quade & Douglas, Inc. Quality control review for portions of the EIS on baseline and impact analyses for water resources, ecology, hazardous waste and permitting.

Central Artery/Third Harbor Tunnel, Boston, MA (1989). For the Massachusetts Department of Public Works, through Parsons Brinckerhoff Quade & Douglas, Engineers.

- Conducted an environmental health risk assessment for alternative disposal techniques and sites for construction material from the proposed transportation project - the assessment was conducted to conform with city, state and federal regulatory requirements for material disposal;
- Review of the draft environmental impact assessment for the haul road.

Outer Harbor (NYC) Combined Sewer Overflow Facility Plan, New York City, NY. (1988-1992). For the City of New York, Department of Environmental Protection through Hazen & Sawyer, Engineers. Public participation consultant.

Inner Harbor (NYC) Combined Sewer Overflow Facility Plan, New York City, NY. (1988-1991). For the City of New York, Department of Environmental Protection through Hazen & Sawyer, Engineers. Organization of technical material and preparation of public participation documents (work plan, responsiveness summaries) for the public

participation program for the development of a water quality facilities plan involving the upgrading of combined sewers.

Feasibility Study for an Infrastructure Development District, NJ. (1988). For NJ Transit, through Edwards & Kelcey, engineers. Evaluation of the legal and technical feasibility of applying impact fees to a proposed transportation interchange facility in New Jersey, including a review of court cases applicable to impact fees.

Site Selection for a Waste Materials Incinerator (1987). For the Environmental Institute of Waste Management Studies, U. of Alabama. Participant in the development of hazardous waste siting criteria for a small research incinerator in Alabama.

Water Resources Management Strategy for the Delaware/Lower Hudson Sub-State Region (with an emphasis on water supply) (1986-87). For the NYS Department of Environmental Conservation through Hazen & Sawyer, Engineers. Estimation and analysis of demographic patterns as a basis for water supply planning and management for downstate New York State.

Risk Assessment Procedures for Organic Solvent Disposal in Landfills and Their Uncertainties (1985-87). Open File Report prepared for the Environmental Institute for Waste Management Studies, University of Alabama. Application of risk assessment techniques and risk perception to the land disposal of organic solvents.

Exploratory Shaft in Salt, Nuclear Waste Repository (1983-87). For the Office of Nuclear Waste Isolation (ONWI). Member of the Design Review Board through preliminary and final design. Responsible for the review of environmental analyses for siting decisions at one of the proposed repository sites. For Parsons Brinckerhoff Quade & Douglas, Inc.

Resource Recovery Facilities (1985-88). For the NYC Department of Sanitation through Parsons Brinckerhoff Quade & Douglas, Engineers. Assessment and organization of environmental information (including water quality and air quality data) for a review of federal, state and local environmental and land use regulations pertaining to resource recovery facilities; preparation of permit implementation plans and schedules for four potential sites in New York City including the identification of permit forms and technical submission requirements; member of the health-effects working group to assess the potential health effects of resource recovery facilities.

Fresh Kills Landfill Upgrading Environmental Impact Statement (1984-85). For the NYC Department of Sanitation through Parsons Brinckerhoff Quade & Douglas, Engineers. Performed water quality baseline and impact analyses; this included a review of hydrogeological investigations and an analysis of environmentally sensitive lands for the proposed landfill upgrading to meet NYS solid waste facility permit requirements under 6 NYCRR Part 360.

Wastewater and waste characterization (1985). For a proposed power plant site in New York State through Parsons Brinckerhoff Quade & Douglas, Engineers. Performed an evaluation of hazardous waste cleanup requirements in order for the development of the site to conform with federal and state laws.

Proposed Office Development in Brooklyn, NYC (1985). For an office developer through Parsons Brinckerhoff Quade & Douglas, Engineers. Analysis and interpretation of sampling data for lead in air and soil to determine conformance with National Ambient Air Quality Standards and the public health code.

MEDIA COVERAGE

Rae Zimmerman, *News Mentions and Interviews*

Newspapers and Periodicals

Harry Goldstein, "Trends/Analysis: Institute for Civil Infrastructure Systems – ICIS Integrates Research and Policy," *Inside R&D* (Wiley), February, 1998.

Civil Engineering, News Briefs, "Civil Infrastructure Institute Formed at NYU," March 1998, p. 8.

"Crolli e incidenti: la citta cade a pezzi? /Gli esperti rassicurano: "Nessun pericolo," *America Oggi*, April 20, 1998.

Rebecca Mashaw, "Avoiding Infrastructure Nightmares," *Public Power*, May-June 1998. Pp. 30-31.

Maureen Fan, "Gotham's Dilemma. Report Says City is Falling Down," *Daily News*, August 26, 1998. Pp. 20-21.

David Kirby, "The Tourist Trap," *New York Times*, City Section, September 27, 1998. Pp. 1,12,13.

Korky Koroluk, "New US Institute: An Educated Approach to Infrastructure," *Daily Commercial News* (Canada), January 29, 1999. Pp. 14-15.

NYC Comptroller, Alan G. Hevesi, *News Release*, "NYC Comptroller Announces formation of Rebuild America Chapter in NYC: Details on Infrastructure Initiative Given During Rebuild America Coalition Press Conference in Washington, DC." Appointment of Zimmerman as one of five co-chairs of the NYC chapter. January 27, 1999.

University of Nebraska, Center for Infrastructure Research, "Integrating Infrastructure," *Contacts*, February or March, 1999. 2 p. interview.

Douglas Martin, "Report Warns New York of Perils of Global Warming," *New York Times*, June 30, 1999. P. B5, L edition.

Alan Elsner, "Crumbling Infrastructure a Nationwide Problem," Reuters.

Joanne Furio, "What's next for the Trade Center site?" *The Journal News*, September 22, 2001, p. 1-2E.

Amanda Paulson, "In New York, more traffic - but less attitude" *The Christian Science Monitor*, October 3, 2001.

Sandeep Junnarkar, Staff Writer, *CNET News*, NY Bureau Chief of News.com. "Lessons: Keeping networks alive in New York," electronic newsletter, August 28, 2002.

Lelani Arris, Senior Editor, "Mitigation Will Affect Adaptation Outcomes," in *Global Change*, Dunster, British Columbia, Fall 2002.

Robert Ingrassia, "Nonstop rush hour as projects pile up," *Daily News*, 10/7/02, p. 5. http://www.nydailynews.com/news/v-pfriendly/story/24913p-23605c.html

R. Zimmerman, "NYC Needs Systems to Blunt New Blackouts," *Newsday*, August 27, 2003, p. A31.

Mark Berkey-Gerard, "Keeping the City Running," in *Gotham Gazette*, October 6, 2003. http://www.gothamgazette.com/article/issueoftheweek/20031006/200/550

Cara Trager, "Security, environment require change in plans," Crain's New York Business, February 16, 2004, p. 28. http://www.hearstcorp.com/tower/news/040218.html

Consortium of Social Science Associations (COSSA) Washington Update September 13, 2004. http://www.cossa.org/volume23/23.15.htm#nas

Josee Valcourt, “Port reopens amid ruins,” *The Clarion-Ledger*, September 25, 2005. www.clarionledger.com/apps/pbcs.dll/article?AID=/20050925/BIZ/509250354/1005
Justin Rocket Silverman, “Experts: Residents not ready for emergency,” AMNY, May 23, 2006. http://www.amny.com/news/local/am-secu0523,0,4645941.story?coll=am-topheadlines
Luis Perez, “Blame spread for Ground Zero stall,” *Newsday*, June 11, 2006. Newsday.com http://www.newsday.com/ny-stpoll11,0,4956.story?coll=ny-top-headlines
and reprinted in the *LA Times*: http://www.latimes.com/news/printedition/asection/la-na-tradecenter11jun11,1,7886557.story?coll=la-news-a_section&ctrack=1&cset=true
Daniel Altman, “Terror-Proof, Except for All the Vulnerabilities,” *New York Times*, August 20, 2006, Business Section, p. 3. http://www.nytimes.com/2006/08/20/business/yourmoney/20view.html
Luis Perez, “Officials trace mystery smell to NJ,” *Newsday.com*, January 9, 2007. http://www.newsday.com/news/local/newyork/am-gas0109,0,732579,print.story?coll=ny-top-headlines
Wayne Barrett, “All Wet. Bloomberg's man Dan Doctoroff has an answer for rising seas: more coastal condos!” *The Village Voice*, March 20, 2007 12:23 PM. http://www.villagevoice.com/news/0712,barrett,76113,2.html/3
Bradley Hope, “Storm Spurs Talk of Climate Shift. A Nor'easter's Wide Impact,” *New York Sun*, April 16, 2007. http://www.nysun.com/article/52490
Jennifer Barrios, “Pipeline fire unlikely, experts say. JFK Terror Plot. The Actual Danger,” *Newsday* New York City, June 5, 2007, p. A22. http://www.newsday.com/search/am-pipe0605,0,2335768.story
Bill Sanderson, “Even More ‘Dark’ Days Lie Ahead,” *New York Post*, July 13, 2007, p. 27. http://www.nypost.com/seven/07132007/news/regionalnews/even_more_dark_days_lie_ahead_regionalnews_bill_sanderson.htm
American Public Transportation Association (APTA), “Forum Addresses Transit's Role in Greenhouse Gas Reduction,” *Passenger Transport*: The Weekly Newsletter of the Public Transportation Industry. October 15, 2007. http://www.apta.com/passenger_transport/thisweek/archive_search.cfm (Archives/ title).
DHS Student & Alumni Network News, October 2007 http://www.dhsnetwork.org/documents/DHSOct2007NetworkNewsletter.pdf, p. 3.
Dana Rubinstein, “Downtown movin’ up: Skyscapers tower over same old infrastructure,” *The Brooklyn Paper*, November 10, 2007: Vol. 30, No. 44, Brooklyn.com. http://www.brooklynpaper.com/stories/30/44/30_44dtowninfrastructure.html
Sandra A. Swanson, “Urban Sensibility,” *PM Network* magazine, November 2007, pp. 29-36. http://www.pmi.org/PDF/PMN1107Cover.pdf
Thomas K. Grose, “’Patch and Pray’”, *PRISM magazine*, American Society of Engineering Education, November 2007, Vol. 17, No. 3. http://www.prism-magazine.org/nov07/feature_patch-and-pray.cfm
Mike Muller, “A City by the Sea -- or Under It?” Gotham Gazette, March 10, 2008 http://www.gothamgazette.com/article/issueoftheweek/20080310/200/2460
Ken Belson, “Tunnel Milestone, and More to Come,” *The New York Times*, April 6, 2008. http://www.nytimes.com/2008/04/06/nyregion/nyregionspecial2/06RtunnelNJ.html
Ruschell Boone, “City Reflects On Lessons From 2003 Blackout,” NY1, 08/13/2008, 10:06pm
Mike Muller, “Preparing for the Great New York Earthquake,” *Gotham Gazette*, 29 September 2008. http://www.gothamgazette.com/article//20080929/200/2660

Amanda Kersey, “Data says state buildings not green yet,” *Washington Square News*, Tuesday, March 24, 2009. http://www.nyunews.com/news/city-state/data-says-state-buildings-not-green-yet-1.1626304

Simon Akam, “Report Finds L.I. Beach Plagued By Pollution,” *The New York Times*, July 29, 2009 http://cityroom.blogs.nytimes.com/2009/07/29/report-finds-li-beach-is-states-most-polluted/?scp=1&sq=beach%20water%20quality%20Simon%20Akam%20&st=cse

Michiko Kakutani, “Warming is Real. Now What?” by Books of The Times, *New York Times*, August 2, 2010. http://www.nytimes.com/2010/08/03/books/03book.html

Darius Dixon of ClimateWire, “Sea levels are rising, but so is New Yorkers' awareness of climate change,” *The New York Times*, August 25, 2010. http://www.nytimes.com/cwire/2010/08/25/25climatewire-new-yorkers-begin-to-see-how-much-they-have-51507.html.

Emily Yang, “In an effort to be green, student volunteers paint rooftops white,” *Washington Square News*, September 27, 2010. http://nyunews.com/news/2010/09/26/27roofs/

Claire Zajdel, “City announces water efficiency program,” *Washington Square News*, March 26, 2012. http://nyunews.com/news/2012/03/26/26flush/

Jessie Morrison, “Green appliance rebates successful, *Washington Square News*, March 29, 2012. http://nyunews.com/news/2012/03/29/29rebate/

Amanda Young, “Consortium marks 10 years of research, growth,” *The Dartmouth*, November 2, 2012, http://thedartmouth.com/2012/11/02/news/i3p

Tony Chau, “Sandy Raises Concerns about Climate Change,” *Washington Square News*, November 6, 2012, http://nyunews.com/index.php/2012/11/06/future/10609

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