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SUMMARY

My work applies risk and decision analysis to help senior leaders in the public and private sectors evaluate policies and strategic plans. Recent efforts have focused on the areas of homeland security and counterterrorism, emergency and public health preparedness, energy and environmental policy, and management of federal research and acquisition programs.

PROFESSIONAL EXPERIENCE

2002 to Present RAND Corporation, Pittsburgh, PA
2012 – Present Director, Homeland Security and Defense Center
2010 – 2012 Associate Director, Homeland Security and Defense Center
2009 – Present Senior Policy Researcher
2006 – Present Professor, Pardee RAND Graduate School
2005 – 2009 Policy Researcher
2002 – 2005 Associate Policy Researcher

2005 to 2007 Adjunct Faculty, H. John Heinz III School of Public Policy and
Management, Carnegie Mellon University, Pittsburgh, PA

2004 to 2005 Committee Member, Market Research Committee, Pittsburgh Regional
Alliance

2003 to 2005 Core Faculty, Center for Research on Health Care, University of Pittsburgh

1998 to 2002 Graduate Research Assistant, Department of Engineering and Public Policy,
Carnegie Mellon University, Pittsburgh, PA

2001 (summer) Summer Associate, Office of Management and Budget,
Executive Office of the President, Washington, DC

1997 to 1998 Process Engineer, Killam Associates, Warrendale, PA

1995 to 1997 Project Engineer, Science Applications International Corporation (SAIC),
Middletown, PA

EDUCATION

Ph.D. Carnegie Mellon University, Pittsburgh, PA
2002 Department of Engineering and Public Policy

M.S. University of Cincinnati, School of Engineering, Cincinnati, OH
1995 Major: Environmental Engineering and Science

B.A. University of Pennsylvania, Philadelphia, PA
1993 Majors: Chemistry and Environmental Studies

AWARDS, ADVISORY BOARDS and ASSOCIATIONS

Pardee RAND Graduate School Faculty Committee on Curriculum & Appointments
(2012 to Present)
National Academy of Sciences Committee on Chem-Bio Defense S&T Capabilities (2012)
Treasurer, Pittsburgh Regional Business Coalition for Homeland Security (2011 to 2012)
Recipient of the President's Award from RAND Corporation (2011)
Committee Member, Policy Committee, Energy Alliance of Greater Pittsburgh (2011 to 2012)
Regional Finalist, White House Fellowship (2010)
Recipient of the President's Choice Award from RAND Corporation (2008)
Board Member, Three Rivers Community Foundation (2005 to 2011)
Society for Risk Analysis (2000 to Present): Chair Defense and Security Specialty Group (2011
– 2012); Editorial Board for *Risk Analysis* (2008 – Present); Communications Committee
(2005 – Present); Secretary (2009 – 2011); Organizing Committee 2nd World Congress on
Risk (2007 to 2008); Executive Committee, Risk Communication Specialty Group (2002 to
2005); Conference Program Committee (2001, 2003, 2012)
National Academy of Sciences Committee on Advanced Spectroscopic Portals (2008 – 2010)
Institute for Operations Research and Management Sciences (2001 to Present)

REFEREED PUBLICATIONS

- Curtright, A.E., D. R. Johnson, H. H. Willis, T. Skone (2012). Scenario uncertainties in estimating direct land-use change emissions in biomass-to-energy life cycle assessment. *Biomass & Bioenergy*. 47, 240 – 249.
- Faith, K.S., B. A. Jackson, and **H.H. Willis** (2011) Text Analysis of After Action Reports to Support Improved Emergency Response Planning. *Journal of Homeland Security and Emergency Management*. 8(1), Article 57.
- Simonoff, J.S., C. E. Restrepo, R. Zimmerman, Z. S. Naphtali, and **H. H. Willis** (2011). Resource Allocation and Infrastructure Density around Priority Sites. *Journal of Risk Research*, 14(5), 597–613.
- Jackson, B.A., K.S. Faith, **H.H. Willis** (2011). Are We Prepared? Using Reliability Analysis to Evaluate Emergency Response System. *Journal of Contingencies and Crisis Management*, 19(3), 147–157.
- Haphuriwat , N., V. Bier, **H. H. Willis** (2011). Deterring the Smuggling of Nuclear Weapons in Container Freight through Detection and Retaliation. *Decision Analysis*, 8(2), 88–102.
- Johnson, D., **H.H. Willis**, A.E. Curtright, C. Samaras, T. Skone (2011). Incorporating Uncertainty Analysis into Estimates of Life Cycle Greenhouse Gas Emissions from Biomass Production, *Biomass & Bioenergy*, 35(7), 2619– 2626.
- Nelson, C.; E. Chan, A. Chandra, P. Sorensen, **H. H. Willis**, S. Dulin, K. Leuschner (2010). Developing National Standards for Public Health Emergency Preparedness: Lessons from the Cities Readiness Initiative. *Disaster Medicine and Public Health Preparedness*, 4, 285–290.
- Nelson, C., **H. H. Willis**, E. Chan, S. Shelton, A. Parker (2010). Federal Initiative Increases Community Preparedness For Public Health Emergencies. *Health Affairs*, 29(12), 2286–2293.

REFEREED PUBLICATIONS (continued)

- Willis, H. H.**, J. MacDonald, R. Shih, S. Geschwind, S. Olmstead, J. Hu, A. E. Curtright, G. Cecchine, and M. Moore (2010). Prioritizing Environmental Health Risks in the UAE. *Risk Analysis*, 20(12), 1842–1856.
- Willis, H. H.** and T. LaTourrette (2009). Challenges of benefit-cost analyses for terrorism security regulations: observations from regulatory analysis of the Western Hemisphere Travel Initiative. In H.W. Richardson, P. Gordon and J.E. Moore II, *Global Business and the Terrorist Threat*. Cheltenham, UK: Edward Elgar Publishing.
- Willis, H. H.**, G. Lester, and G. F. Treverton (2009). Information Sharing for Infrastructure Risk Management: Barriers and Solutions. *Intelligence and National Security*, 24(3), 339–365.
- Ortiz, D. S., L. Ecola, and **H. H. Willis** (2009). *Freight Transportation Resilience: How A Systemwide Perspective Can Help Metropolitan Planning Organizations and Departments Of Transportation*. Report prepared as part of the National Cooperative Highway Research Program, Project 0836, Task 73, Adding Resilience to the Freight System in Statewide and Metropolitan Transportation Plans: Developing A Conceptual Approach, Transportation Research Board, Washington, DC.
- Willis, H. H.** and T. LaTourrette (2008). Using Probabilistic Terrorism Risk Modeling For Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment. *Risk Analysis*, 28, 325 – 339.
- H. H. Willis** (2008). Using Risk Analysis to Inform Intelligence Analysis In *Wiley Handbook of Science and Technology for Homeland Security*, Ed. John Voeller, John Wiley and Sons, Hoboken, New Jersey.
- Willis, H. H.**, M. L. DeKay (2007). The role of group membership and worldviews in environmental risk perceptions. *Risk Analysis*, 27, 1365–1380.
- Willis, H. H.** (2007). Guiding Resource Allocations Based on Terrorism Risk. *Risk Analysis*, 27, 597–606.
- Bronfman, N. C., L. A. Cifuentes, M. L. DeKay, **H. H. Willis** (2007). Accounting for Variation in the Explanatory Power of the Psychometric Paradigm: The Effects of Aggregation and Focus. *Journal of Risk Research*, Vol 10, No. 4, 527 – 554.
- van de Voort, M., **H. H. Willis**, D. S. Ortiz, S. E. Martonosi (2007). Applying risk assessment to secure the containerized supply chain. In I. Linkov, R. J. Wenning, G. A. Kiker, *Managing Critical Infrastructure Risk*. Dordrecht, The Netherlands: Springer.
- Martonosi, S. E., D. S. Ortiz, **H. H. Willis** (2005). Evaluating the viability of 100 percent container inspections at America’s ports. In H.W. Richardson, P. Gordon and J.E. Moore II, *The Economic Impacts of Terrorist Attacks*. Cheltenham, UK: Edward Elgar Publishing.
- Willis, H. H.**, M. L. DeKay, B. Fischhoff, M. G. Morgan (2005). Aggregate- and individual-level analysis of risk perception data. *Risk Analysis*, 25, 405 – 428.
- Willis, H. H.**, M. L. DeKay, B. Fischhoff, P. S. Fischbeck, H. K. Florig, M. G. Morgan (2004). Ecological risk ranking: Evaluation of a method for improving the quality of public participation in environmental decision making. *Risk Analysis*, 24, 363–378.

REFEREED PUBLICATIONS (continued)

- Willis, H. H.**, H. K. Florig (2002). Potential exposures and risks from beryllium-containing products. *Risk Analysis*, 22, 1019–1033.
- H. H. Willis** (2002) An integrated approach for ranking ecological and human health risks. In E. F. ten Heuvelhof (Ed.), *Proceedings of the first International Doctoral Consortium on Technology, Policy and Management* (pp. 253-267). TU Delft, Netherlands.
- Fischhoff, B., **H. H. Willis** (2002). Adolescent vulnerability: Measurement and priority setting. *Journal of Adolescent Health*, 31, No. 1, 58 – 75.
- Fischhoff, B., **H. H. Willis** (2001). Adolescent vulnerability: Measurement and priority setting. In B. Fischhoff, E. O. Nightingale & J. G. Iannotta (Eds.), *Adolescent risk and vulnerability: Concepts and measurement* (pp. 109–144). Washington, DC: National Academy Press.
- Spencer, J.N., A. Grushow, T.F. Ganunis, K.N. Allot, S.P., Kneizys, **H. Willis**, S. Puppala, C.M. Salata, A.I. Zafar, B.J. Stein, L.C. Hahn (1989). Solvent Effects on the Thermodynamics of the Formation of Hydrogen-Bonded Complexes of Meta-Cresol 3, *Journal of Solution Chemistry*, 18(5), 471–480.

PEER-REVIEWED RAND PUBLICATIONS

- Samaras, C. and **H. H. Willis** (2013). *Capabilities-Based Planning for Energy Security at Department of Defense Installations*, RR-162, RAND Corporation, Santa Monica, CA.
- Willis H. H.**, D. Potoglou, W. Bruine de Bruin, S. Hoorens (2012). The validity of the preference profiles used for evaluating impacts in the Dutch National Risk Assessment. TR-1278, RAND Europe, Cambridge, UK.
- Morral, A.R., C. C. Price, D. S. Ortiz, B. Wilson, T. LaTourrette, B.W. Mobley, S. McKay, **H. H. Willis** (2012). *Modeling Terrorism Risk to the Air Transportation System An Independent Assessment of TSA's Risk Management Analysis Tool and Associated Methods*. MG-1241, RAND Corporation, Santa Monica, CA.
- Greenfield, V.A., **H.H. Willis**, T. LaTourrette (2012). *Assessing the Benefits of U.S. Customs and Border Protection Regulatory Actions to Reduce Terrorism Risks*. CF-301-DHS, RAND Corporation, Santa Monica, CA.
- Predd, J., **H. H. Willis**, C. Setodji, C. Stelzner (2012). *Using Pattern Analysis and Systematic Randomness to Allocate U.S. Border Security Resources*. TR-1211-DHS, RAND Corporation, Santa Monica, CA.
- Morral, A.R., **H. H. Willis**, P. Brownell (2011). *Measuring Illegal Border Crossings Between Ports of Entry: An Assessment of Four Promising Approaches*. OP-328, RAND Corporation, Santa Monica, CA.
- Jackson, B.A., K. Sullivan Faith, **H. H. Willis** (2010). *Evaluating the Reliability of Emergency Response Systems for Large-Scale Incident Operations*. MG-994-FEMA, RAND Corporation, Santa Monica, CA.
- Willis, H. H.**, J. B. Predd, P. K. Davis, W. P. Brown (2010). *Measuring the Effectiveness of Border Security Between Ports-of-Entry*, TR-837-DHS, RAND Corporation, Santa Monica, CA.

PEER-REVIEWED RAND PUBLICATIONS (continued)

- Curtright, A. E., **H. H. Willis**, D. R. Johnson, D. S. Ortiz, N. Burger, C. Samaras (2010). *Documentation For The Calculating Uncertainty In Biomass Emissions Model, Version 1.0 (CUBE 1.0): Contents And Use*. DOE/NETL-2010/1403. National Energy Technology Laboratory, Department of Energy.
- Willis, H. H.**, C. Nelson, S. R. Shelton, A. Parker, J. A. Zambrano, E. W. Chan, J. Wasserman, B. A. Jackson (2009). *Initial Evaluation of the Cities Readiness Initiative*. TR-640-CDC. RAND Corporation, Santa Monica, CA.
- Mosher, D. E., B. E. Lachman, M. D. Greenberg, T. Nichols, B. Rosen, **H. H. Willis** (2008). *Green Warriors Army Environmental Considerations for Contingency Operations from Planning Through Post-Conflict*. MG-632-A. RAND Corporation, Santa Monica, CA.
- Nelson C., E Chan, A Chandra, P Sorensen, **H. H. Willis**, K Comanor, H Park, K Ricci, L Caldarone, M Shea, J Zambrano & L Hansell (2008). *Recommended Infrastructure Standards for Mass Antibiotic Dispensing*. TR-553-DHHS. RAND Corporation, Santa Monica, CA.
- Weatherford, B. A., **H. H. Willis**, D. S. Ortiz (2008). *The State of U.S. Railroads: A Review of Capacity and Performance Data*. TR-603-SCPC. RAND Corporation, Santa Monica, CA.
- Willis, H. H.**, T. LaTourrette, T. K. Kelly, S. C. Hickey, S. Neill (2007). *Terrorism Risk Modeling for Intelligence Analysis and Infrastructure Protection*. TR-386-DHS. RAND Corporation, Santa Monica, CA.
- Ortiz, D. S., B. Weatherford, **H. H. Willis**, M. Collins, N. Mandava, C. Ordowich (2006) *Increasing the Capacity of Freight Transportation: U.S. and Canadian Perspectives: Summary of the Volcker Initiative, Canadian Consulate General Workshop*. CF-228-ISE. RAND Corporation, Santa Monica, CA.
- Greenberg, M., P. Chalk, **H. H. Willis**, I. Khilko, D. S. Ortiz (2006). *Maritime Terrorism: Risk and Liability*. MG-520-CTRMP. RAND Corporation, Santa Monica, CA.
- Willis, H. H.**, T. LaTourrette, T. K. Kelly, S. C. Hickey, S. Neill (2006). *Terrorism Risk Modeling for Intelligence Analysis and Infrastructure Protection*. TR-386-DHS (Unclassified/Proprietary). RAND Corporation, Santa Monica, CA.
- Willis H. H.**, N. G. Castle, E. M. Sloss, J. Szalajda, J. T. Bartis (2006). *Protecting Emergency Responders Volume 4: Personal Protective Equipment Guidelines for Structural Collapse Events*. MG-425-NIOSH, RAND Corporation, Santa Monica, CA.
- Willis, H. H.**, J. Bonomo, P. K. Davis, R. J. Hillestad (2006). *Capabilities Analysis Model for Missile Defense: User's Guide*. TR-218-MDA, RAND Corporation, Santa Monica, CA.
- Willis, H. H.**, A. R. Morral, T. K. Kelly, J. J. Medby (2005). *Estimating Terrorism Risk*. MG-388-RC, RAND Corporation, Santa Monica, CA.
- Sleeper, S., **H. H. Willis**, E. Landree (2005). *Measuring and Understanding Economic Interdependence in Allegheny County*. TR-200-HE, RAND Corporation, Santa Monica, CA.

PEER-REVIEWED RAND PUBLICATIONS (continued)

- Sloss, E. M., N. G. Castle, G. Cecchine, R. Labor, **H. H. Willis**, J. T. Bartis (2005). *Review of Literature Related to Exposures and Health Effects at Structural Collapse Events*. TR-309-NIOSH, RAND Corporation, Santa Monica, CA.
- Tanielian T. L., K. Ricci, M. Stoto, D. J. Dausey, L. M. Davis, S. Myers, S. Olmsted, **H. H. Willis** (2005). *Exemplary Practices in Public Health Preparedness*. TR-239-DHHS, RAND Corporation, Santa Monica, CA.
- MacDonald, J., D. S. Knopman, N. B. Clancy, J. McEver, **H. H. Willis** (2004). *Transferring Army BRAC Lands Containing Unexploded Ordnance: Lessons Learned and Options for the Future*. MG-199A, RAND Corporation, Santa Monica, CA.
- MacDonald J., D. S. Knopman, J. N. B. Clancy, J. McEver, **H. H. Willis** (2004). *Army land containing unexploded ordnance : options for BRAC 2005*. MR-1674, RAND Corporation, Santa Monica, CA.
- Porche I., **H. H. Willis**, M. Ruszkowski (2004). *Framework for quantifying uncertainty in electric ship design*. DB-407, RAND Corporation, Santa Monica, CA.
- Sleeper S., **H. H. Willis**, S. Rattien, A. Lanczos (2004). *A Research Agenda for Assessing the Impact of Fragmented Governance on Southwestern Pennsylvania*. TR-139-HE, RAND Corporation, Santa Monica, CA.
- Willis, H. H.**, D. S. Ortiz (2004). *Evaluating the Security of the Global Containerized Supply Chain*. TR-214-RC, RAND Corporation, Santa Monica, CA.

WORKING PAPERS

- Willis, H. H.**, A Chandra, C. Nelson (2012). Developing Standards for National Health Security, submitted to *Biosecurity and Bioterrorism*.
- Willis, H. H.**, M. Moore (2012). *Improving the Value of Analysis for Biosurveillance*, submitted to *Decision Analysis*.
- Greenfield, V. A., **H. H. Willis**, T. LaTourrette (2012). Can Logic Models Be Used to Better Understand and Assess the Effects of Terrorism Security Regulations? An Exploration of the Possible with the Western Hemisphere Travel Initiative. Submitted to *Regulation & Governance*.
- Johnson, D. R., A. E. Curtright, **H. H. Willis** (2012). Uncertainty in Greenhouse Gas Sources and Sinks from Biomass Feedstocks for Energy Production. Submitted to *Environmental Science and Technology*.
- Winkelman, Z., **H. H. Willis**, B. A. Jackson (2012). Using Automated Sentiment Analysis of Reactions to TSA Security Measures to Understand Public Attitudes Towards Security. Submitted to *Journal of Homeland Security and Emergency Management*.

CONGRESSIONAL TESTIMONY

- H. H. Willis** (2008). *Challenges of Applying Risk Management to Terrorism Security Policy*. Testimony submitted for the record to the House Homeland Security Committee, Subcommittee on Transportation Security and Infrastructure Protection on June 24, 2008.

CONGRESSIONAL TESTIMONY (continued)

- H. H. Willis** (2007). *Risk-Informed Resource Allocation at the Department of Homeland Security*. Testimony presented before the House Appropriations Committee, Subcommittee on Homeland Security on February 7, 2007.
- H. H. Willis** (2006). *Analyzing Terrorism Risk*. Written testimony submitted to the House Financial Services Committee, Subcommittee on Oversight and Investigations, and the House Homeland Security Committee, Subcommittee on Intelligence, Information Sharing, and Terrorism Risk Assessment on July 25, 2006.
- H. H. Willis** (2005). *Analyzing Terrorism Risk*. Testimony presented before the House Homeland Security Committee, Subcommittee on Intelligence, Information Sharing, and Terrorism Risk Assessment on November 17, 2005.

OP-ED ARTICLES AND COMMENTARY

- Willis, H. H.** (2012). *More Secure or Less Free?*. RAND Blog, <http://www.rand.org/blog/2012/12/more-secure-or-less-free.html>, December 18, 2012.
- Willis, H. H.** (2012). *Revisiting 100% Inspection*. RAND Blog, <http://www.rand.org/blog/2012/07/revisiting-100-percent-inspection.html>, July 6, 2012.
- Everingham, S., S. Olmsted, **H. H. Willis** (2010). *The Upside of Snowmageddon*. Pittsburgh, Post Gazette, March 28, 2010, Pittsburgh, PA.
- Riley, K. J., **H. H. Willis** (2006). *Speed Low-Risk Travelers Through Increased Security*. Los Angeles Business Journal, September 4, 2006, Los Angeles, CA.
- Willis, H. H.**, D. Ortiz (2006). *Securing America's Ports*. San Diego Union-Tribune, March 26, 2006, San Diego, CA.
- Ortiz, D., **H. H. Willis** (2005). *Katrina Shows Supply Chain Needs National Attention*. Los Angeles Business Journal, September 26, 2005, Los Angeles, CA.
- Willis, H. H.** (2004). *Prosperity Versus Growth*. Pittsburgh Post-Gazette, September 26, 2004, Pittsburgh, PA.

EDITORIAL AND GRANT REVIEW PANELS

Member of Editorial Board for *Risk Analysis* (2008 – Present), *Behavioral Sciences of Terrorism and Political Aggression* (2007 – 2009); Adhoc Reviewer for: *Biosecurity and Bioterrorism*; *Environmental Science & Technology*; *Journal of Occupational and Environmental Medicine*; *National Academies of Science*; *Public Understanding of Science*; *Risk Analysis*; *Socio-Economic Planning Sciences*; *Terrorism Research*; *Wiley Handbook of Science and Technology for Homeland Security*; *Management Science*; *Decision Analysis*; Grant Reviewer for: Great Lakes Protection Fund, Innovation Canada, National Science Foundation

TEACHING EXPERIENCE

Course Instructor, *Risk Analysis: Methods and Applications*, Pardee RAND Graduate School

Executive Education Course Instructor

- *Best Practices in Conducting and Using Strategic National Risk Assessments*, Course for Crown Prince Court, Abu Dhabi
- *Evaluating the Effectiveness of Security Measures*, CREATE Executive Program in Counterterrorism
- *Risk Analysis Concepts for Public Policy*, California Energy Commission
- *Multi-Resolution, Multi-Perspective Modeling* at a MORs Symposium, Columbia, MD.

Course Instructor, Systems Synthesis II, H. J. Heinz III School of Public Policy and Management, Carnegie Mellon University.

Workshop Instructor, Taught a half-day course entitled, *Risk perception, risk communication, and public participation in environmental decision making* at the Society of Environmental Toxicology & Chemistry Annual Meeting, Baltimore.

Project Manager, Engineering and Public Policy Project Course, Carnegie Mellon University – Guided students through semester long, team-based policy research project.

Teaching Assistant, Introduction to Engineering and Public Policy, Carnegie Mellon University – Led recitation sections for first-year course on technology policy analysis.

PRESENTATIONS

Willis, H. H. (2013). *Adapting to Future Hurricane Risk in New Orleans Under Climate Change Uncertainty*. Paper presented at the Transportation Research Board Annual Meeting, Washington, DC, January 15, 2013.

Willis, H. H. (2013). *Adapting to Future Hurricane Risk in New Orleans Under Climate Change Uncertainty*. Paper presented at the National Council for Science, Policy, and the Environment Annual Meeting, Washington, DC, January 15, 2013.

Willis, H. H. (2012). *Improving Risk Regulation through Retrospective Analysis Incorporating Logic Modeling*. Paper presented at the Society for Risk Analysis Annual Meeting, San Francisco, CA, December 12, 2012.

Willis, H. H. (2012). *National Risk Assessments: Analysis to Guide Risk Management Around the World*. Plenary talk presented at the Society for Risk Analysis Annual Meeting, San Francisco, CA, December 11, 2012.

Willis, H. H. (2012). *Reflecting Public Values in National Risk Assessments*. Plenary talk presented at the Society for Risk Analysis Annual Meeting, San Francisco, CA, December 10, 2012.

Willis, H. H. (2012). *Incorporating Deterrence into Security Planning*. Paper presented at the 2012 Maritime Risk Summit, University of Southern California, Los Angeles, November 15, 2012.

PRESENTATIONS (continued)

- Willis, H. H.** (2012). *Strategic Planning for Complex Security Threats*. Paper presented to the Committee on Evaluating the Effectiveness of the Global Nuclear Detection Architecture of the National Academy of Sciences, Washington, DC, June 28, 2012.
- Willis, H. H.** (2012). *Managing Risks from Catastrophic Terrorism and Disasters*. Paper presented at the Decision Making Under Risk and Uncertainty meeting of the National Academy of Sciences Government-University-Industry Research Roundtable, Washington, DC, June 20, 2012.
- Willis, H. H.,** D. Groves, J. Fischbach, D. Johnson, and L. Andrews (2011). *Adapting to Future Hurricane Risk in New Orleans Under Climate Change Uncertainty*, Paper presented at the Society for Risk Analysis Annual Meeting, Charleston, South Carolina, December 7, 2011.
- Willis, H. H.** (2011). *The Science of Listening: How Understanding Risk Perceptions Can Lead to Better Policy*, Paper presented at the Security and Human Behavior 2011 Conference, Pittsburgh, Pennsylvania, June 18, 2011.
- Willis, H. H.,** R. Lundberg (2011). *Setting Priorities for Protecting Transportation Systems: Comparing Risks from Accidents, Disasters and Terrorism*. Paper presented at the DHS University Programs Summit, Washington, DC, April 1, 2011.
- Willis, H.H.,** C. Samaras, A.E. Curtright, D.R. Johnson, D.S. Ortiz, A. Litovitz (2010). *Modeling GHG Emissions Uncertainty and Infrastructure Decisions in Utilizing Biomass-Based Energy*, Paper presented at the Society for Risk Analysis Annual Meeting, Salt Lake City, Utah, December 6, 2010.
- Willis, H. H.** (2010). *The Science of Listening: How Understanding Risk Perceptions Can Lead to Better Policy*, Paper presented at the Society for Risk Analysis Annual Meeting, Salt Lake City, Utah, December 8, 2010.
- Willis, H.H.** (2010). *What Have We Learned About Assessing the Benefits of Security?*, Plenary Address to the Annual Meeting of the Security Analysis and Risk Management Association, Arlington, VA, October 5, 2010.
- Willis, H.H.** (2010). *Managing the Unimaginable: Lessons from Terrorism Security and Disaster Response Planning*, Paper presented at the International Disaster Risk Conference, Davos, Switzerland, June 2, 2010.
- Willis, H. H.** (2010). *Allocating Law Enforcement Resources for Information Gathering*. Paper presented at the DHS University Programs Summit, Washington, DC, March 11, 2010.
- Willis, H. H.** (2010). *The Science of Listening: How Understanding Risk Perceptions Can Lead to Better Policy*, Paper presented at the USC CREATE Workshop on Risk Perception and Risk-Related Behaviors: Anticipating and Responding to Crisis, Los Angeles, CA, March 6, 2010.
- Willis, H.H.** (2009). *Concerns about Environmental Health Risks in the UAE*, Paper presented at the Society for Risk Analysis Annual Meeting, Baltimore, MD, December 9, 2009.
- Willis, H.H.,** (2009). *Issues and Opportunities in Homeland Security Research*, Paper presented at the INFORMS Annual Meeting, San Diego, CA, October 12, 2009.

PRESENTATIONS (continued)

- Willis, H.H.,** J. E. Predd (2009). *Bandits for Border Security*, Paper presented at the INFORMS Annual Meeting, San Diego, CA, October 12, 2009.
- Willis, H. H.,** (2009). *Cost-benefit Analysis of Security Regulations*, Military Operations Research Society Special Meeting Workshop, Incorporating Assessments of Terrorism Risk in Homeland Security Resource Allocation Decision Making, Arlington, VA, April 16, 2009.
- Willis, H. H.,** (2009). *Perspectives on Terrorism Risk Assessment Challenges*, Plenary Address, Military Operations Research Society Special Meeting Workshop, Incorporating Assessments of Terrorism Risk in Homeland Security Resource Allocation Decision Making, Arlington, VA, April 15, 2009.
- Willis, H. H.,** (2009). *Limitations of Qualitative Reporting of Threat Assessments*, Military Operations Research Society Special Meeting Workshop, Incorporating Assessments of Terrorism Risk in Homeland Security Resource Allocation Decision Making, Arlington, VA, April 15, 2009.
- Willis, H. H.,** R. Lundberg (2008). *Using Risk Analysis to Support Law Enforcement Intelligence Targeting*, Invited paper at the Intelligence and Risk Analysis Symposium, December 16, 2008.
- Willis, H. H.,** C. MacKenzie (2008). *Using Risk Analysis and Constructive Simulation to Evaluate Border Security Technologies*, Paper presented at Society for Risk Analysis Annual Meeting, December 9, Boston, MA.
- H. H. Willis** (2008). *Applying Principles of Risk Management to Federal Programs*, Invited Panelist at the Federal Enterprise Risk Management Summit, October, 29, Arlington, VA.
- Willis, H. H.,** C. MacKenzie (2008). *Using Risk Analysis and Constructive Simulation to Evaluate Border Security Technologies*, Paper presented at INFORMS Annual Meeting, October 12, Washington, DC.
- Willis, H. H.,** B. Weatherford (2008). *Moving Ahead: Public Choices About U.S. Railroad Performance Capacity and Cost*. RAND Congressional Briefing, September, 8, Washington, DC.
- Willis, H. H.,** B. Jackson (2008) *Assessing the Benefits of Terrorism Security*. Paper presented at the Security Analysis and Risk Management Association Annual Meeting, May 13, Arlington, VA.
- Willis, H. H.,** T. LaTourrette (2008) *Challenges of Benefit-Cost Analyses for Terrorism Security Regulations: Observations From Regulatory Analysis of the Western Hemisphere Travel Initiative*. Paper presented at the DHS University Programs Summit, Washington, DC.
- Willis, H. H.,** T. LaTourrette (2008) *Challenges of Benefit-Cost Analyses for Terrorism Security Regulations: Observations From Regulatory Analysis of the Western Hemisphere Travel Initiative*. Paper presented at the Los Alamos Risk Symposium 2008, Santa Fe, NM.

PRESENTATIONS (continued)

- H. H. Willis** (2008) *Applying Optimal Capital Allocation Methods to Homeland Security Resources: A Case Study of California's Allocation of the Buffer Zone Protection Program Grants*. Invited paper presented at the ER One Institute's 5th Annual Emergency Preparedness Conference, March 3, Washington, DC.
- H. H. Willis** (2008). *Challenges of Applying Risk Management to Terrorism Security Policy*. Invited paper presented at the Treasury Board Secretariat Conference on Regulatory Risk Assessment, February 21, Ottawa, Ontario, Canada.
- Willis H. H., D. Kleinmuntz, D. von Winterfeldt** (2008). *Applying Optimal Capital Allocation Methods to Homeland Security Resources: A Case Study of California's Allocation of the Buffer Zone Protection Program Grants*. Invited paper presented at the DyDAN Homeland Security Seminar, Piscataway, NJ.
- Willis, H. H., T. LaTourrette** (2007) *Challenges of Benefit-Cost Analyses for Terrorism Security Regulations: Observations From Regulatory Analysis of the Western Hemisphere Travel Initiative*. Paper presented at Society for Risk Analysis Annual Meeting, December 12, San Antonio, TX.
- Willis, H. H., T. LaTourrette** (2007) *Challenges of Benefit-Cost Analyses for Terrorism Security Regulations: Observations From Regulatory Analysis of the Western Hemisphere Travel Initiative*. Paper presented at INFORMS Annual Meeting, November 4, Seattle, WA.
- Willis, H. H.** (2007) *Homeland Security Risk Management Challenges Faced by Federal Agencies*. Invited paper presented at Comptroller General Expert Forum on Risk, October 25, Washington, DC.
- Willis, H. H., T. LaTourrette** (2007) *Challenges of Benefit-Cost Analyses for Terrorism Security Regulations: Observations From Regulatory Analysis of the Western Hemisphere Travel Initiative*. Paper presented at Economic Symposium on Global Business and Terrorism, August 17, University of Southern California, Los Angeles, California.
- H. H. Willis** (2007). *Guiding Resource Allocations Based on Terrorism Risk*. Paper presented at the Decision and Risk Analysis Conference, May 21, University of Texas-Dallas, Dallas, Texas.
- Willis H. H., D. Kleinmuntz, D. von Winterfeldt** (2007). *Applying Optimal Capital Allocation Methods to Homeland Security Resources: A Case Study of California's Allocation of the Buffer Zone Protection Program Grants*. Paper presented at the Los Alamos National Laboratories Risk Symposium, Santa Fe, NM.
- Willis H. H., D. Kleinmuntz, D. von Winterfeldt** (2007). *Applying Optimal Capital Allocation Methods to Homeland Security Resources: A Case Study of California's Allocation of the Buffer Zone Protection Program Grants*. Paper presented at the DHS University Programs Summit, Washington, DC.
- H. H. Willis** (2006). *Guiding Resource Allocations Based on Terrorism Risk*. Paper presented at the Society for Risk Analysis Annual Meeting, Baltimore, MD.
- H. H. Willis** (2006). *Guiding Resource Allocations Based on Terrorism Risk*. Paper presented at the Institute for Operations Research and Management Science Annual Meeting, Pittsburgh, PA.

PRESENTATIONS (continued)

- H. H. Willis** (2006). *Maritime Terrorism: Risk and Liability*. Presentation at the Wharton Roundtable on Enhancing Interdependent Global Supply Chain Effectiveness: Information Sharing and Economic/Security Trade-Offs, November 3, Philadelphia, PA.
- Willis, H. H.**, P. K. Davis (2006). *Methods for Portfolio Analysis in Defense Planning*. Paper Presented at the International Seminar on Defense Finance and Economics, New Delhi, India.
- H. H. Willis** (2006). *Maritime Terrorism: Risk and Liability*. RAND Congressional Briefing, Washington, DC.
- H.H. Willis** (2006). *Evaluating the Security and Efficiency of the Global Containerized Supply Chain* Paper presented at the CSCMP Symposium: China: Myths, Realities and Potential at the University of Southern California, April 25, Los Angeles, CA.
- H. H. Willis** (2006). *How Much is Enough: Guiding Resource Allocations Based on Terrorism Risk*. Paper presented at the Los Alamos Risk Symposium 2006, Risk Analysis for Homeland Security and Defense: Theory and Application, Santa Fe, NM.
- H.H. Willis** (2006). *Can Risk Analysis Help the Intelligence Community?* Paper presented at the University of Southern California-CIA Intelligence Conference, February 2-3, Los Angeles, CA.
- Willis, H. H.**, D. S. Ortiz, S. E. Martonosi (2005). *Evaluating the Security and Efficiency of the Global Containerized Supply Chain: A Case Study of 100% Screening*. Paper presented at the Society for Risk Analysis Annual Meeting, Orlando, FL.
- Willis, H. H.**, D. S. Ortiz, S. E. Martonosi (2005). *Evaluating the Security and Efficiency of the Global Containerized Supply Chain*. Paper presented at the International Federation of Operation Research Societies Meeting, Oahu, HI.
- Willis, H. H.**, B. Wilson, P. Vu, M. van Lent, J. Matsumura (2005). *Explainable Artificial Intelligence: Assessing a Tool for Understanding Complex Emergent Behaviors in OneSAF Objective System*. Paper presented at the Military Operations Research Society Annual Symposium, West Point, NY.
- Willis, H. H.**, A. R. Morral, T. K. Kelly, J. J. Medby (2005). *Robust Terrorism Risk Assessment to Inform Resource Allocation Decision Making*. Paper presented at the University of Southern California Symposium on Terrorism Risk Analysis, Los Angeles, CA.
- Willis, H. H.**, A. R. Morral, T. K. Kelly, J. J. Medby (2004). *Risk-based allocation of counter-terrorism resources*. Paper presented at the Society for Risk Analysis Annual Meeting, Palm Springs, CA.
- Willis, H. H.**, M. L. DeKay (2002, December). *The role of group membership and worldviews in environmental risk perceptions*. Paper presented at the Society for Risk Analysis Annual Meeting, New Orleans, LA.
- Willis, H. H.**, M. L. DeKay, P. S. Fischbeck, B. Fischhoff, H. K. Florig, M. G. Morgan, C. Palmgren (2001, December). *Evaluation of a method to improve the quality of public participation in environmental decision making*. Paper presented at the Society for Risk Analysis Annual Meeting, Seattle, WA.

PRESENTATIONS (continued)

- Willis, H. H.**, M. L. DeKay (2001, November). *The roles of group membership and worldview in ecological risk perception*. Poster at the Society for Judgment and Decision Making Annual Conference, Orlando, FL.
- Willis, H. H.**, M. L. DeKay, P. Fischbeck, B. Fischhoff, H. K. Florig, M. G. Morgan, C. Palmgren (2001, November). *Evaluation of a method to improve the quality of public participation in environmental decision making*. Paper presented at the Institute for Operations Research and Management Sciences Annual Meeting, Miami, FL.
- Willis, H. H.**, M. L. DeKay, P. S. Fischbeck, B. Fischhoff, H. K. Florig, M. G. Morgan, C. Palmgren (2000, December). *Extension of the Carnegie Mellon risk ranking test-bed to include environmental and ecological factors*. Paper presented at the Society for Risk Analysis Annual Meeting, Arlington, VA.
- Willis, H. H.**, H. K. Florig, B. Morel (1999, November). *Public health risks of commercially-used beryllium*. Paper presented at the Metal, Minerals, and Materials Society Annual Meeting, Cincinnati, OH.