

Emerging Threats to Homeland Security

CREATE's 20th Anniversary Symposium

227 Tutor Campus Center, University of Southern California, Rosen Room

Friday, April 19, 2024, 9:30 to 2:45

[CREATE](#)'s 20th Anniversary Symposium commemorates the establishment of the Department of Homeland Security's first University Center of Excellence in 2004. Over the last two decades, CREATE has served our nation through creation of advanced models and tools for the evaluation of the risks, costs and consequences of threats to human livelihood and through assessment of strategies to mitigate risks and respond to emergencies.

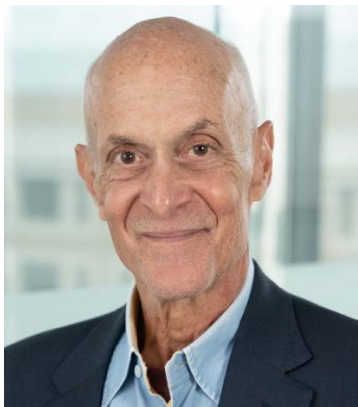
The symposium will discuss CREATE's work in the context of future threats to homeland security, including terrorism, climate induced disasters, pandemics, and threats to infrastructure and supply chains.

[Register to attend](#) by March 29.

Program

9:15	Check-in and Arrival	
9:45	Welcome	Randolph Hall
9:50	DHS S&T -- Symposium Kickoff	Wallicia Tapscott
10:10	CREATE Formation	Mel Bernstein Randolph Hall Detlof von Winterfeldt
10:35	Terrorism	Jun Zhuang Detlof von Winterfeldt
11:15	Infrastructure & Supply Chains	Samrat Chatterjee Randolph Hall
11:50	Lunch and Keynote	Michael Chertoff
1:10	Pandemics	Robin Dillon-Merrill Richard John Ralph Keeney
2:00	Climate Disasters	Ilan Noy Adam Rose
2:40	Closing Remarks	Randolph Hall
2:45	Adjourn	

Keynote Speaker: Michael Chertoff



Michael Chertoff is co-founder and executive chairman of The Chertoff Group, a global security risk management and growth advisory firm, which he co-founded after a notable career in public service, where he repeatedly addressed security issues of first impression.

As U.S. Department of Homeland Security Secretary from 2005-2009, he led the largest reorganization of the Federal civilian workforce since World War II. He gave up lifetime Federal appeals court judgeship to serve as DHS Secretary.

Earlier, at U.S. Department of Justice, he supervised investigation into the 9/11 attacks. Secretary Chertoff began his career as Federal prosecutor in New York in 1983, where he led the simultaneous prosecution of the heads of 5 major mafia crime families.

At Chertoff Group, Mr. Chertoff uses the same critical thinking discipline he used in government to help major corporations address evolving security issues, including cyber, geopolitical and physical risk. “Risk management has become the CEO’s concern,” he says. “We help our clients develop comprehensive strategies to manage risk without building barriers that get in the way of carrying on their business.”

Mr. Chertoff graduated magna cum laude from Harvard College (1975) and Harvard Law School (1978). From 1979-1980 he served as a clerk to Supreme Court Justice William Brennan, Jr. In addition to his role at Chertoff Group, Mr. Chertoff is also a senior of counsel at Covington & Burling LLP, and a member of the firm’s White Collar Defense and Investigations practice group.

He serves as an advisor to the American Bar Association’s Artificial Intelligence Task Force, as co-chair of the Transatlantic Commission on Election Integrity, on the board of trustees of the Freedom House, and as a director on the board of The Atlantic Council.

He is the author of *Exploding Data: Reclaiming Our Cyber Security in the Digital Age*.

Kickoff Speaker: Wallicia Tapscott



Executive Director, Office of Innovation and Collaboration (OIC), Department of Homeland Security Science and Technology Directorate. OIC oversees R&D efforts through Federally Funded Research and Development Centers, Industry Partnerships, International Partnerships, Office of National Laboratories, University Programs, and Technology Scouting and Transition.

Ms. Tapscott has driven positive change within the Homeland Security Enterprise, leading to substantial increases in funding, diversity, and mission success for the enterprises under her oversight. She is distinguished for promoting accountability and customer service in R&D organizations, fostering partnerships with federal, academic, vendor, and business stakeholders globally, and building cooperative relationships through purposeful teambuilding efforts.

During her tenure, OIC achieved groundbreaking international collaborations in chemical and biological defense, explosives detection, and gas-forming reactions, showcasing OIC's commitment to global partnerships. Further, OIC secured key patents for innovations in rapid cyanide exposure detection, explosives simulants technology, and enhanced sample deposit quality for trace detection systems. The resiliency of critical infrastructure against evolving threats was strengthened through impactful research on labor trafficking, animal models for SARS-CoV-2 therapeutic approaches, and mass casualty impact of fentanyl exposure.

Prior to her role at OIC, Ms. Tapscott served over 13 years at S&T in key positions, including Business Director of the Program Executive Office Unmanned Aerial Systems (PEO UAS) and Deputy Director of the Explosives Division. Prior to her Federal service, Ms. Tapscott served in management for Fortune 500 companies as well as several nonprofits and government contracting organizations. Ms. Tapscott holds a Bachelor of Science in Accounting from Hampton University, a Master of Business Administration from the University of Phoenix, and a Master's Certificate in Program Management from Regis University. Her commitment to leadership excellence was recently recognized with the 2023 Secretary's Award for Leadership Excellence.

Other Speakers

Mel Bernstein is a Distinguished Senior Fellow, and formerly the Chief Operating Office, at the Global Resilience Institute at Northeastern University. Previously, he was Senior Vice Provost for Research and Graduate Education at Northeastern, Vice President for Research at the University of Maryland and Provost at Brandeis University. In 2003, Dr. Bernstein created The Department of Homeland Security's Office of University Programs, where he served as its Director. In that role, he led the establishment of a growing and integrated network of merit-based national centers. He also served as Acting Director of the Office of Research and Development at DHS.

Samrat Chatterjee is a Chief Data Scientist and Team Lead with the Data Sciences and Machine Intelligence Group at U.S. Department of Energy's Pacific Northwest National Laboratory (PNNL) in Richland, Washington. He serves as PI/PM and key technical staff on national security and computational science research efforts in support of multiple sponsors (DHS, DOE, and DoD), with focus on infrastructure network resilience modeling, homeland security risk and decision analytics, and multi-agent learning and optimization. Dr. Chatterjee is an Affiliate Professor at Northeastern University-Boston and previously conducted postdoctoral research at CREATE. He has authored two books, six book chapters, and over 90 peer-reviewed journal articles, conference papers, and technical reports. He is a Senior Member of IEEE and holds a doctorate in Civil Engineering from Vanderbilt University.

Robin L. Dillon-Merrill is a Professor and the Operations and Analytics Area Chair in the McDonough School of Business at Georgetown University. In her research, Professor Dillon-Merrill seeks to understand and explain how and why people make the decisions that they make under conditions of uncertainty and risk. This research specifically examines critical decisions that people have made following near-miss events. From 2015-2017, she served as the co-chair of the Georgetown Environment Initiative, and from 2017-2019, she served as the National Science Foundation Program Director for Humans, Disasters, and the Built Environment in the Engineering Directorate.

Randolph Hall is Dean's Professor in USC's Epstein Department of Industrial and Systems Engineering and Director of CREATE. Along with Dr. von Winterfeldt, he

co-founded CREATE. As VP of Research for 14 1/2 years, Hall led research for all of USC, overseeing research advancement, administration, and research ethics. His current research focuses on how universities innovate in their practices for education, research, and clinical care, and how they overcome obstacles to change, as well as supply chain resilience and control of infectious disease. Dr. Hall has written and edited books on Transportation Science, Queueing, Patient Flow and Healthcare System Scheduling. His book *Managing Change Inside Universities* will be published this year. With Anthony Boccanfuso, he is preparing a new book: *University-Industry Collaboration -- Innovation at the Interface*,

Richard John is a Professor of Psychology and the Area Head for Quantitative Methods and Computational Psychology at USC and Senior Research Fellow at CREATE, where he has conducted research since 2004. He is currently affiliated with and funded by two other DHS Centers of Excellence -- Soft Target Engineering to Neutralize the Threat Reality (SENTRY) and the Center for Accelerating Operational Efficiency (CAOE). His research focuses on (1) Risk perception and decision making for extreme events, (2) Modeling adaptive adversaries, (3) Decision making in forensic and legal contexts, and (4) Decision and risk analysis methodology development. He has consulted on several large projects involving expert elicitation, including analysis of nuclear power plant risks (NUREG 1150) and analysis of cost and schedule risk for tritium supply alternatives. He has published over 130 refereed journal articles, book chapters, and proceedings papers.

Ralph Keeney is Research Professor Emeritus of Business Administration, Duke University, and Research Professor Emeritus of Industrial and Systems Engineering, University of Southern California. His areas of expertise are the decision sciences, risk analysis, and systems management. He is an authority on decision analysis, decision making with multiple objectives, and value-focused thinking. During his professional career, Dr. Keeney has consulted on a wide range of decisions including corporate management problems, public policy, environmental problems, and energy decisions. Dr. Keeney's books include *Decisions with Multiple Objectives* with Howard Raiffa, *Value-Focused Thinking: A Path to Creative Decisionmaking*, *Smart Choices: A Practical Guide to Making Better Decisions*, with John S. Hammond and Howard Raiffa and *Give Yourself a Nudge*. Dr. Keeney is a member of the National Academy of Engineering.

Ilan Noy is the chair in the Economics of Disasters and Climate Change and a professor of economics in the Wellington School of Business and Government at Te Herenga Waka-Victoria University of Wellington. Dr. Noy and his research group study disasters—including earthquakes, epidemics, droughts, and cyclones—and other phenomena related to climate change. Between 2015-2017, he was a member of the United Nations Working Group on National Risk Assessments and is now serving on the Scientific Advisory Board of EMDAT. In 2017, he co-founded a new Springer Journal, *Economics of Disasters and Climate Change*. Dr. Noy has also consulted for international organizations and national governments, including the IMF, the World Bank, the Asian and Inter-American Development Banks, and the OECD.

Adam Rose is a Research Professor in the USC Sol Price School of Public Policy and a Senior Research Fellow and Director Emeritus at CREATE. He spearheaded development of CREATE's economic consequence analysis framework and has done pioneering research on resilience. He has completed dozens of case studies of disaster consequences, including the 9/11 attacks and COVID-19. He has also worked on climate change policy design and implementation. Dr. Rose is the author of several books and over 250 professional papers, including *Defining and Measuring Economic Resilience from a Societal, Environmental and Security Perspective*, *Economic Consequence Analysis Tool*, and *The Economics of Climate Change Policy*. He is the recipient of several honors including the International Society for Integrated Disaster Risk Management Distinguished Research Award. He is a Fellow of the Society for Risk Analysis and of the Regional Science Association international.

Detlof von Winterfeldt is the J.A. Tiberti Chair of Ethics and Decision Making and Professor in the Epstein Department of Industrial and Systems Engineering. He holds a joint appointment as Professor in the Price School of Public Policy. Along with Dr. Hall, he co-founded CREATE, the first university-based center of excellence funded by the US Department of Homeland Security. He has served as Director of the International Institute for Applied Systems Analysis (2009-2012) and as Centennial Professor of the London School of Economics and Political Science (2008-2012). His research interests are in decision and risk analysis applied to technology development, environmental risks, natural hazards and

terrorism. He is the co-author of two books, three edited volumes, and author or co-author of over 120 refereed articles and chapters.

Jun Zhuang is the Morton C. Frank Professor and serves as the Director of Graduate Studies and the Director of the Decision, Risk & Data Laboratory in the Department of Industrial and Systems Engineering at the School of Engineering and Applied Sciences (SEAS) at the University at Buffalo (UB). His research integrates operations research, big data analytics, game theory, and decision analysis to enhance mitigation, preparedness, response, and recovery in the face of natural and man-made disasters. Dr. Zhuang has been principal investigator for more than 30 research grants funded by the U.S. National Science Foundation (NSF), the Department of Homeland Security (DHS), the U.S. Department of Energy (DOE), the U.S. Air Force Office of Scientific Research (AFOSR), and the National Fire Protection Association (NFPA).