

## Emerging Threats to Homeland Security CREATE's 20th Anniversary Symposium

227 Tutor Campus Center, University of Southern California, Rosen Room  
Friday, April 19, 2024, 10:00 to 3:00

[CREATE](#)'s 20<sup>th</sup> 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 22**.

### **Program**

|              |                                |  |
|--------------|--------------------------------|--|
| 9:45         | Check-in and Arrival           |  |
| 10:00        | Welcome                        | Randolph Hall  |
| 10:10        | CREATE Formation               | Mel Bernstein<br>Randolph Hall<br>Detlof von Winterfeldt |
| 10:35        | Terrorism                      | Jun Zhuang<br>Detlof von Winterfeldt                     |
| 11:15        | Infrastructure & Supply Chains | Samrat Chatterjee<br>Randolph Hall                       |
| <b>11:50</b> | <b>Lunch and Keynote</b>       | <b>Michael Chertoff</b>                                  |
| 1:10         | Pandemics                      | Robin Dillon-Merrill<br>Richard John<br>Ralph Keeney     |
| 2:00         | Climate Disasters              | Wandi Bruine de Bruin<br>Matthew Kahn<br>Adam Rose       |
| 2:50         | Closing Remarks                | Randolph Hall  |

## Keynote Speaker: Michael Chertoff



Michael Chertoff is Co-Founder and Executive Chairman of the Chertoff Group.

While Secretary of the U.S. Department of Homeland Security from 2005 to 2009, Michael Chertoff led the country in blocking would-be terrorists from crossing our borders or implementing their plans if they were already in the country. He transformed the Federal Emergency Management Agency (FEMA) into an effective response organization in the aftermath of Hurricane Katrina. Some of his greatest successes did not make headlines, because the important news was what did not happen.

At Chertoff Group, Mr. Chertoff provides high-level strategic counsel to corporate and government leaders on a broad range of security issues, from risk identification and prevention to preparedness, response, and recovery. “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.”

Before leading the Department of Homeland Security, Mr. Chertoff served as a federal judge on the U.S. Court of Appeals for the Third Circuit. Earlier, during more than a decade as a federal prosecutor, he investigated and prosecuted cases of political corruption, organized crime, corporate fraud, and terrorism – including the investigation of the 9/11 terrorist attacks.

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 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*.

## **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.

**Wändi Bruine de Bruin** is Provost Professor of Public Policy, Psychology, and Behavioral Science and director of the USC Behavioral Science and Well-Being Policy initiative. Her research aims to understand and inform how people make decisions about risks in the domains of health, climate change, and financial well-being. She has published more than 150 peer-reviewed publications. She recently served on the National Academy of Sciences committee on Respiratory Protection for the Public and Workers without Respiratory Protection Programs at their Workplaces and she previously served on expert panels on Communicating Science Effectively and Health Product Risk Communication.

**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.

**Matthew E. Kahn** is a Provost Professor of Economics at USC. He is also a research associate at the National Bureau of Economic Research and a research fellow at IZA, Senior Fellow at the Schaeffer Center for Health Policy and Economics and a Senior Research Fellow at CREATE. He has taught at Columbia, the Fletcher School at Tufts University, UCLA, and Johns Hopkins. Dr. Kahn holds a Ph.D. in Economics from the University of Chicago. Dr. Kahn has published eleven books, including: *Green Cities: Urban Growth and the Environment*, *Heroes and Cowards: The Social Face of War* (with Dora L. Costa), *Climatopolis*, *Blue Skies over Beijing: Economic Growth and the Environment in China* (with Siqi Zheng), *Adapting to Climate Change*, *Unlocking the Potential of Post Industrial Cities* (with Mac McComas) and *Going Remote*. His research focuses on urban and environmental economics.

**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.

**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).