

Fourth Annual Conference on

Governance of Emerging Technologies:

Law, Policy and Ethics

May 24-26, 2016
Tempe Mission Palms Hotel
Tempe, Arizona

11:30 a.m. — 12:00 p.m.

Registration & Check-In (Palm Ballroom Foyer)

12:00 — 12:05 p.m.

Welcome (Palm DEF)

Gary E. Marchant, Center for Law, Science & Innovation, ASU

12:05 — 1:00 p.m.

Opening Keynote Address (Palm DEF)**Safety and Beyond Safety: Seeking the Wise Use of Emerging Technologies**

Mildred Z. Solomon, President, The Hastings Center

1:00 — 2:10 p.m.

Plenary Panel: Addressing Emerging Technologies Across Disciplines (Palm DEF)

Moderator: Gary E. Marchant, Center for Law, Science & Innovation, ASU

Diana Bowman, Sandra Day O'Connor College of Law & School for the Future of Innovation in Society, ASU

Huw Price, Cambridge University (Philosophy of Science)

Jason Robert, Lincoln Center for Applied Ethics, ASU (Ethics)

Karmella Haynes, Ira A. Fulton School of Biological and Health Systems Engineering, ASU (Science)

Richard Williams, Mercatus Center, George Mason University (Economics)

2:10 — 2:20 p.m.

Break

2:30 — 3:50 p.m.

Concurrent Session I**Session 1.1 — Technology and Sustainability (Campanile Room)**

Moderator: Lauren Burkhart, Center for Law, Science & Innovation, ASU

- **Adapting in the Anthropocene: Contests and Collaborations over Climate Design**
Cynthia Selin, School for the Future of Innovation in Society, ASU
- **Potential New Understandings about EU/U.S. Differences in Regards to Emerging Technologies Based on Comparison of EU and U.S. Responses to Unconventional Natural Gas Development**
Bernard Goldstein, University of Pittsburgh/University of Cologne
- **The Role of Transparency and Voluntary Standards in Nanotechnology Governance: An Update**
Lee Paddock, George Washington University Law School
- **Regulation of Chemical Risk: Has REACH (EU) Confronted the Regulatory Challenge of Scale, Uncertainty, Complexity, and Innovation?**
Floor M. Fleurke, Tilburg University

Session 1.2 – New Technologies, New Governance? (Cavetto Room)

Moderator: Jason Robert, Lincoln Center for Applied Ethics, ASU

- **Civil and Criminal Liability in the Era of Subconsciously Controlled Prosthetics Mediated by Artificial Intelligence Interfaces**
Roy Meirum, Zvi Meitar Institute for Legal Implications of Emerging Technologies, Israel
- **A Hegelian Theory of Complexity and Algorithmic Reality**
Melanie Swan, New School for Social Research, New York
- **Is Space Law Taking Off?**
Victoria Sutton, Texas Tech University School of Law
- **The Next Wave -The Blockchain Technology**
Angelic Shavit, Zvi Meitar Institute for Legal Implications of Emerging Technologies, Israel

Session 1.3 – Big Data (Dolores Room)

Moderator: Brad Allenby, Fulton School of Engineering, ASU

- **The State as Data Collector and Privacy Protector**
Paul George, Texas A&M University School of Law
- **Governance Rather than Consent in Big Data**
Christopher Robertson, University of Arizona James E. Rogers College of Law
- **Big Data, the Internet of Things and Dr. Watson in the Era of Precision Medicine: Governance and Regulatory Opportunities and Challenges**
Amalia Issa, University of the Sciences
- **A Rawlsian Approach to Big Healthcare Data: We're Still Behind the Veil So What's the Deal?**
Robert A. Bohrer, California Western School of Law

Session 1.4 — Autonomous Agents and Machines (Palm DEF)

Moderator: Huw Price, Center for the Study of Existential Risk, Cambridge University

- **Regulating Autonomous Agents: The Scope and Limits of Liability**
Peter Asaro, The New School
- **Regulating Artificial Intelligence Systems and Autonomous Machines**
Matthew U. Scherer, Buchanan Angeli Altschul & Sullivan LLP
- **Control and Responsible Innovation in the Development of AI and Robotics**
Wendell Wallach, Yale Interdisciplinary Center for Bioethics
- **Designing an Ideal Theory for Decision Behavior in Artificial Intelligence**
Kendra Chilson, Department of Philosophy, ASU

3:55 — 5:25 p.m.

Concurrent Session II

Session 2.1 — Impacts and Consequences of Robotics (Campanile Room)

Moderator: Huw Price, Center for the Study of Existential Risk, Cambridge University

- **If We Cannot Stop the Humanization of Robots, Can We At Least Stop the Robotization of Humans?**
Marc Saner, University of Ottawa
- **Solutions to Technological Unemployment**
Yvonne A. Stevens, Center for Law, Science & innovation, ASU
- **Is It OK to Discriminate Against A Cyborg?**
Jeremy Weisman, University of South Carolina
- **(Artificially) Intelligent Lawyers: Oxymoron or Potential Reality**
Uriel Eldan, Zvi Meitar Institute for Legal Implications of Emerging Technologies, Israel

Session 2.2 — Governance Challenges and Innovations (Cavetto Room)

Moderator: Wendell Wallach, Yale University

- **Managing Old Versus New Medical Technology**
Richard Williams, Mercatus Center, George Mason University
- **Characterizing the Variety of Developments Under the Umbrella of 3D Printing and the Future and Present Governance Challenges**
Douglas K.R. Robinson, Université Paris-Est Marne-la-Vallée, LISIS & ESIEE Paris
- **Building an Effective Governance Framework for Responsible Research and Innovation (The Example of Border-Controls Technologies)**
Robert Gianni, University of Namur, Belgium
- **Designing and Directing a Program on Synthetic Biology in Society: Lessons Learned**
Megan J. Palmer, Center for International Security and Cooperation (CISAC), Stanford University

Session 2.3 – Health IT (Dolores Room)

Moderator: Diana Bowman, College of Law & School for the Future of Innovation in Society, ASU

- **The 21st Century Cures Act: Changes on the Horizon for Research Privacy Protections in Relation to HIPAA**
Donna Hanrahan, Seton Hall University School of Law
- **Connected and Open Research Ethics**
Camille Nebeker, UC San Diego School of Medicine;
John Harlow, Center for Policy Informatics, ASU
- **Principle vs. Practice in Open Science Data-Sharing Consortia**
Alexis Abboud, Center for Biology & Society, ASU
- **Regulation of Personal Fitness and Health Data Tracking: Lessons and Examples from Credit Reporting Regulation**
Timothy S. Hall, Louis D. Brandeis School of Law, University of Louisville

Session 2.4 – National Security and Emerging Technologies (Palm DEF)

Moderator: Brad Allenby, Fulton School of Engineering, ASU

- **Shining a Regulatory Light on the Use of New Laser Technology in Armed Conflict**
Kobi Leins, Melbourne Law School / Programme on the Regulation of Emerging Military Technologies
- **New Frontiers in Wartime Data: What Are the Limits to the Mass Collection of Bio-Metric Data in Armed Conflict?**
Daniel Rothenberg, ASU Center on the Future of War
- **How Emerging Technologies Change Geopolitical Conflict**
Brad Allenby, College of Engineering, ASU
- **The Tower of Babel Revisited: Global Governance as a Problematic Solution to Existential Threats**
Craig S. Lerner, George Mason University School of Law

5:30 — 6:30 p.m.

Dinner (Cloister Room)

6:30 — 8:30 p.m.

Discussion of National Geographic's Documentary: "The Age of Aging" (Palm DEF)

Aaron Traywick, COO, Global Healthspan Policy Institute
Janko Nikolich-Zugich, Arizona Center on Aging, University of Arizona College of Medicine

Wednesday, May 25

7:30 — 8:30 a.m.

Breakfast (Cloister Room)**Special Session on Existential and Catastrophic Risks (Palm DEF)****Introduction: Why Are We Talking About Existential/Catastrophic Risks?****Case One: Environmental/Climate Change**

Moderator: Brad Allenby, ASU
Charlie Kennel, Scripps
Karen Bradshaw Schulz, ASU

9:45 — 10:00 a.m.

Break

Wednesday, May 25 (cont.)

10:00 — 11:00 a.m.

Case Two: Bio

Moderator: Yvonne Stevens, ASU
George Poste, ASU
Marcy Darnovsky, Center for Genetics & Society

11:00 a.m. — 12:00 p.m.

Case Three: Artificial Intelligence

Moderator: Subbarao Kambhampati, ASU
Victoria Krakovna, Harvard
Wendell Wallach, Yale

12:00 — 1:50 p.m.

Lunch Panel (Palm DEF)

Panel: How Concerned Should We Be With Catastrophic Risks?

Moderator: James Weinstein, ASU
Andrew Maynard, ASU
Seán Ó hÉigearthaigh, Cambridge University

2:00 — 3:30 p.m.

Concurrent Session III

Session 3.1 — Improving Humans? (Campanile Room)

Moderator: Yvonne Stevens, Center for Law, Science & Innovation, ASU

- **Gene Editing Technologies and the Calibration of Regulation to Risk**
Eileen Kane, Penn State Law School
- **A Novel Cause of Action to Discourage Detrimental Genetic Selection**
Dov Greenbaum, Zvi Meitar Institute for Legal Implications of Emerging Technologies
- **The Regenerative Generation (and Its Governance)**
Natasha Vita-More, University of Advancing Technology
- **Restoring Optimal Functioning in the Human Healthspan**
Aaron Traywick, Global Healthspan Policy Institute

Session 3.2 — Innovative Public Engagement (Cavetto Room)

Moderator: Diana Bowman, College of Law & School for the Future of Innovation in Society, ASU

- **Frankenstein, Transmedia Storytelling, and Building Engagement and Efficacy in Science, Technology, and Society**
Ed Finn, Center for Science in the Imagination, ASU
- **Consumers' Willingness to Purchase GM and Nano Foods**
John Patrick Roberts, School of Public and International Affairs, North Carolina State University
- **Simulating a Global Coordinating Council Meeting in 2016**
Robert Horn, H-STAR Stanford University

Session 3.3 — Governing Algorithms (Dolores Room)

Moderator: Wendell Wallach, Yale University

- **Algorithms and the Law**
Deven R. Desai, Georgia Institute of Technology, Scheller College of Business
- **Can an Algorithm Be Personal? Management Through Individualization and What We Can Do About It**
Alex Reiss-Sorokin, New York University School of Law
- **Regulating Complex Medical Algorithms**
W. Nicholson Price II, UNH School of Law
- **The Need for Dynamic Governance of Algorithm-Based Technologies**
Gary E. Marchant, Center for Law, Science & Innovation, ASU

3:30 — 3:45 p.m.

Break

PROGRAM

3:45 — 5:15 p.m.

Wednesday, May 25 (cont.)

Concurrent Session IV

Session 4.1 — Neuroscience (Campanile Room)

Moderator: Cynthia Selin, School for the Future of Innovation in Society, ASU

- **Nowhere Man Please Listen**
Gregory Garvey, Quinnipiac University
- **Neuroscience, Sincerity, and the Law**
Jonathan Kahn, Mitchell | Hamline School of Law
- **Neuroprediction in Forensic Contexts: Legal and Ethical Implications**
Lyn M. Gaudet, Mind Research Network
- **Biomarkers for PTSD: Legal Implications**
Betsy Grey, Sandra Day O'Connor College of Law, ASU (Law)

Session 4.2 – The Role of Formal Decision Making Tools in the Governance of Emerging Technologies (Cavetto Room)

Moderator: Gregory E. Kaebnick, The Hastings Center

- **What Do We Mean When We Talk about Weighing the Costs and Benefits of an Emerging Technology?**
Gregory E. Kaebnick, The Hastings Center
- **The Role for CBA in the Coordinated Governance of Synthetic Biology**
Wendell Wallach, Yale University
- **Expanding the Definition Of Costs and Benefits: A Role for Public Engagement?**
Michael K. Gusmano, The Hastings Center
- **Disinfecting Cost-Benefit Analysis of Hidden Value-Laden Constraints**
Adam Finkel, University of Pennsylvania

Session 4.3 – Cybersecurity (Dolores Room)

Moderator: Gary Marchant, Center for Law, Science & Innovation, ASU

- **Tallinn 2.0 and Cyber Activities**
Eric Talbot Jensen, J. Reuben Clark Law School, Brigham Young University
- **Cyber Fiduciary Duty: Overcoming Barriers to Oversight Liability for Data Breach**
Lyrrisa Lidsky, University of Florida Levin College of Law
- **Post-Cyber: Regulating the Aftermath of Cyber-Conflict**
Brian Orend, University of Waterloo
- **The Emergence of Pharmaco-Electronics**
Joseph R. Carvalko, Quinnipiac University School of Law
Cara C. Morris, Nationwide Patents

5:15 — 6:00 p.m.

Keynote Address (Palm DEF)

The Internet of Things: Present and Future

Daniel Christensen, Intel

6:00 — 7:00 p.m.

Poster Presentation Reception (Courtyard East)

Thursday, May 26

7:30 — 8:30 a.m.

Breakfast (Cloister Room)

8:30 — 9:10 a.m.

Keynote Address (Palm DEF)

Creating an Ethics Advisory Panel for an AI Company

Kay Firth-Butterfield, Chief Officer, Ethics Advisory Panel, Lucid.ai
Corporate Ethics Advisory Committees for Emerging Technologies: Roles, Opportunities and Choices

Thursday, May 26 (cont.)

9:15 — 10:45 a.m.

Concurrent Session V

Session 5.1 — Autonomous Weapons (Campanile Room)

Moderator: Lauren Burkhart, Center for Law, Science & Innovation, ASU

- **How To (Not) Trust an Autonomous Weapons System: The Limits of Trust in Autonomous Weapons Systems**
David Danks, Carnegie Mellon University
Heather Roff, ASU; University of Oxford
- **The Human as Placebo and the Path to Offensive Autonomous Weapons**
Chris Jenks, SMU Dedman School of Law
- **Beyond the Fog: Autonomous Weapon Systems in Context of the International Law of Armed Conflict**
Metodi Hadij-Janev, Military Academy "Mihajlo Apostolski," Macedonia
- **The Pitfalls and Promise of Artificial Intelligence: Artificial Intelligence Governance Model (AIG)**
Ina Wanca, Crime Commission of New York City

Session 5.2 — Managing New Technology Risks (Cavetto Room)

Moderator: Cynthia Selin, School for the Future of Innovation in Society, ASU

- **New Technologies and Catastrophic Risks: Hubris in the Anthropocene**
Majia Nadesan, Arizona State University, West Campus
- **The Current State of Autonomous Vehicles Laws and Ways of Moving Forward**
Yaniv Heled, Georgia State University College of Law
- **Risk Management-Based and Prevention-Based Governance for Emerging Materials and Threats**
Timothy Malloy, UCLA School of Law
- **How Governments Can Encourage Automated Driving**
Bryant Walker Smith, University of South Carolina School of Law

Session 5.3 — Biotechnology and Gene Drives (Dolores Room)

Moderator: Yvonne Stevens, Center for Law, Science & Innovation, ASU

- **Policy and Regulatory Issues for Use of Gene Drives to Control Insect-borne Human Disease and Insect Agricultural Pests**
Robert M. Friedman, J. Craig Venter Institute
- **Rejecting Revival? Media Content Analysis of De-extinction**
Rene Valdez, North Carolina State University
- **Will Genetic Editing of Biotech Crops Survive Emerging Risks of Economic Liability?**
Thomas Parker Redick, Global Environmental Ethics Counsel, LLC
- **International Coordination of Gene Editing Regulation**
Gary E. Marchant, Center for Law Science & Innovation, ASU

10:45 — 11:00 a.m.

Break

11:00 a.m. — 12:30 p.m.

Plenary Panel: Resilience in Regulatory Policy: Exploring Its Significance as a Parallel Goal to Efficiency and Equity (Palm DEF)

Moderator: Philip J. Weiser, Dean, University of Colorado Law School

Pierre de Vries, Silicon Flatirons Center, University of Colorado Law School

Ellen P. Goodman, Rutgers University School of Law

Sonny Cave, ON Semiconductor Corporation

Gary E. Marchant, Center for Law Science & Innovation, ASU

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