Fifth Annual Conference on

Governance of Emerging Technologies: Law, Policy and Ethics

May 17-19, 2017

Beus Center for Law and Society | Phoenix, AZ

8:00–8:30 a.m.	**Breakfast**
	W. P. Carey Foundation Armstrong Great Hall
8:30–9:00 a.m.	**Welcome & Opening Address**
	W. P. Carey Foundation Armstrong Great Hall

- Gary Marchant, Sandra Day O'Connor College of Law, Arizona State University
- Brad Allenby, School of Sustainable Engineering and the Built Environment, Arizona State University

9:00–10:15 a.m.	**Plenary Session 1**

Emerging Technologies and Existential/Catastrophic Risks

W. P. Carey Foundation Armstrong Great Hall
Moderator: James Weinstein, Sandra Day O'Connor College of Law, Arizona State University

- Anthony Barrett, Global Catastrophic Risk Institute
- Haydn Belfield, Centre for the Study of Existential Risk, University of Cambridge
- Margaret E. Kosal, Sam Nunn School of International Affairs, Georgia Institute of Technology
- Catherine Rhodes, University of Cambridge

10:15–10:30 a.m.	**Break**
10:30 a.m.–12:00 p.m.	**Concurrent Session 1**

Session 1: New Perspectives on Precaution

Room 150
Moderator: Daniel Bodansky, Sandra Day O'Connor College of Law, Arizona State University

1. **Precaution, Risk and Provisionality**
   Jonathan B. Wiener, Duke University Law School
2. **Precaution and Cost-Benefit Analysis**
   Gregory E. Kaebnick, Hastings Center for Bioethics
3. **Precaution and the Politics of Health Technology Assessment**
   Michael K. Gusmano, Hastings Center for Bioethics
4. **Responsible Promising? Groundwork for an Ethics of Promising Technologies**
   Robert Smith, Department of Global Health & Social Medicine, King's College London

Session 2: Health Big Data

Room 240
Moderator: Michael Saks, Sandra Day O'Connor College of Law, Arizona State University

1. **Evaluation of Effective Consent Strategies for Patients and Behavioral Health Conditions**
   Adela Grando, College of Health Solutions, Arizona State University
   Anita Murcko, College of Health Solutions, Arizona State University

2. **Third Party Clearinghouses: Protecting Big Data in the Medical Internet of Things**
   Dov Greenbaum, Yale University

3. **An Incompatible Mix: Big Health Data and Health Privacy.**
   Brad Allenby, School of Sustainable Engineering and the Built Environment, Arizona State University

4. **Does Whole Genome Sequencing Create a New Duty of Recontact?**
   Gary Marchant, Sandra Day O'Connor College of Law, Arizona State University

Session 3: Governing Emerging Technologies

Room 250

Moderator: Wendell Wallach, The Hastings Center & Yale Interdisciplinary Center for Bioethics

1. **Cannabis – Governing a New Reality and Emerging Markets: Lessons from Canada**
   Dr. Shane H. Morris, The Hydropothecary, Inc

2. **Governance of Emerging Technologies through Online Deliberation**
   Michael Hoffman, School of Public Policy, Georgia Institute of Technology

3. **Preventing Replication of the Replications Crisis: How Law Should Treat Probability Models**
   Joseph D'Agostino, Savannah Law School

4. **Jetpack Regulation – It's Coming**
   Vickie Sutton, School of Law, Texas Tech University

12:20–1:05 p.m. ## Lunch Keynote: Stuart Russell

Electrical Engineering and Computer Sciences, University of California, Berkeley

W. P. Carey Foundation Armstrong Great Hall

1:10–2:25 p.m. ## Plenary Session 2

Responsible Development of AI

W. P. Carey Foundation Armstrong Great Hall

Moderator: Jason Robert, Lincoln Center for Applied Ethics, Arizona State University

- Wendell Wallach, The Hastings Center & Yale Interdisciplinary Center for Bioethics
- Subbarao Kambhampati, School of Computing, Informatics & Decision Systems Engineering, Arizona State University
- John C. Havens, The IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems
- Spring Berman, Ira A. Fulton Schools of Engineering, Arizona State University
- Commentary: Stuart Russell, Electrical Engineering and Computer Sciences, University of California, Berkeley

2:35–4:05 p.m.

Concurrent Session 2

Session 1: Roundtable/Book Panel: Technology, Employment, and the Future of Human Work

Room 150

Moderator: Kevin LaGrandeur, NYIT and The Institute for Ethics and Emerging Technology

1. **Introduction: An Overview of Emerging Technology and Employment in the Early Twenty-First Century**
   Kevin LaGrandeur, NYIT and The Institute for Ethics and Emerging Technology

2. **Policy Solutions to Technological Unemployment**
   Yvonne Stevens, Sandra Day O'Connor College of Law, Arizona State University

3. **Rethinking Education in the Face of Technological Unemployment**
   David Gunkel, College of Liberal Arts and Sciences, Northern Illinois University

4. **Unconditional Basic Income as a Solution to Technological Unemployment**
   Scott Santens, independent author and coordinating committee member, U.S. Basic Income Guarantee Network

Session 2: Modified Humans

Room 240

Moderator: Ellen Feigal, NDA Partners & Sandra Day O'Connor College of Law, Arizona State University

1. **Genetic Paparazzi**
   Yaniv Heled, College of Law, Georgia State University
   Liza Vertinsky, Emory Law

2. **Australian Regulation of Mitochondrial Donation**
   Karinne Ludlow, Monash University

3. **Emerging Humanities and the Narcissism of Small Differences**
   Wayne Borody, Nipissing University

4. **Alternative Model for Regenerative Generations**
   Natasha Vita-More, Graduate Studies, University of Advancing Technology

Session 3: Responsible Research and Innovation

Room 250

Moderator: Erik Fisher, School for the Future of Innovation in Society, Arizona State University

1. **Responsible Research and Innovation in Practice – National Challenges Within a Global Framework**
   Tess Doezema, School for the Future of Innovation in Society, Arizona State University

2. **Experiments in Governance: Lessons for RRO from Engagement with a Synthetic Biology (xenobiology) Laboratory**
   Alberto Aparicio, Department of Science and Technology Studies, University College London

3. **The Value of Processes in the Development of Emerging Technologies: RRI Beyond Principles**
   Hannot Rodriguez, Department of Philosophy, University of the Basque Country

4. **Governing Assisted Living Technologies through Ethical Impact Assessment**
   Erik Thorstensen, University of College of Applied Sciences, Oslo and Akershus University

4:05–4:15 p.m.   **Break**

4:15–5:00 p.m.   **Keynote 2: Shobita Parthasarathy**

The Gerald R. Ford School of Public Policy, University of Michigan

W. P. Carey Foundation Armstrong Great Hall

5:10–6:40 p.m.   **Concurrent Session 3**

Session 1: International Governance

Room 150
Moderator: Wendell Wallach, The Hastings Center & Yale Interdisciplinary Center for Bioethics

1. **The Global Law of Internet Governance**
   Thomas Streinz, Institute for International Law, NYU School of Law

2. **Transnational Co-ordination, Formative Evaluation, and Participant Tracking across Six Countries and Three Emergent Medical Technologies: Project Design, Methodology, and Preliminary Results from the Evaluation of the H2020 SMART-Maps Project on Responsible Innovation'**
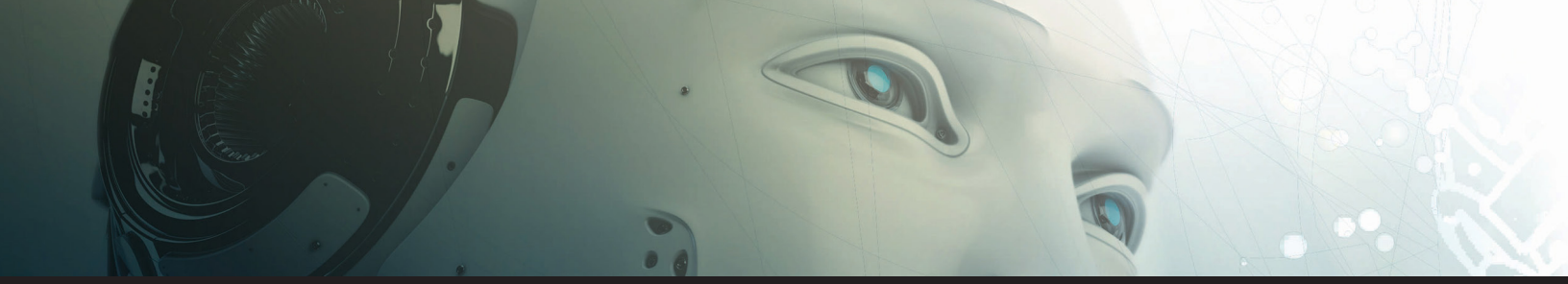   Sally Randles, Institute of Innovation Research, Manchester Metropolitan University

3. **Constructing Universal Principles of Good Governance**
   Marc Saner, Institute for Science, Society and Policy, University of Ottawa

4. **Beyond GDP - Wellbeing for Ethical AI**
   John C. Havens, The IEEE Global Initiative for Ethical Considerations in Artificial Intelligence and Autonomous Systems

Session 2: New Dimensions of Privacy

Room 240

Moderator: Gary Marchant, Sandra Day O'Connor College of Law, Arizona State University

1. **Neuro Exceptionalism" and Fourth Amendment Exceptions: Law Enforcement Freedom to Gather Brain-Based Evidence in Warrantless Searches**
   Marc H. Blitz, Oklahoma City University

2. **"A New World of Data": Opportunities and Challenges for Sensor Technologies in Brazil**
   Ana Paula Camelo, Fundação Getúlio Vargas Law School (Brazil)

3. **Biometric Recognition – Legal, Policy and Ethical Issues**
   James L. Wayman, Biometric Identification Research Program, San Jose State University

4. **It's Not Always About You: Protecting Corporate Knowledge Assets**
   K Royal, TRUSTe

Session 3: Driverless Cars

Room 250

Moderator: Betsy Grey, Sandra Day O'Connor College of Law, Arizona State University

1. **Machine Learning, Social Learning and Driverless Cars**
   Jack Stilgoe, University College London

2. **A Self-Driving Car is Not a Car: A View from the Sidewalk**
   Robert Kirkman, Ivan Allen College of Liberal Arts, Georgia Institute of Technology

3. **Mapping Institutional Dynamics to Anticipate (and govern) the Transformation Potential of Innovations: The Case of Autonomous Driving**
   Torsten Fleischer, Institute of Technology Assessment and Systems Analysis & Jens Schippl, Karlsruhe Institute of Technology

4. **Ethical Considerations with Autonomous Vehicles**
   Robert Larson, Exponent

8:00–8:30 a.m.   **Breakfast**
W. P. Carey Foundation Armstrong Great Hall

8:30–9:45 a.m.   **Plenary Session 3**

Gene Drives, Trade and International Regulations

W. P. Carey Foundation Armstrong Great Hall
Moderator: Diana Bowman, Sandra Day O'Connor College of Law, Arizona State University

- Gary Marchant, Sandra Day O'Connor College of Law, Arizona State University
- Andrew Maynard, Risk Innovation Lab, Arizona State University
- Jennifer Kuzma, Genetic Engineering and Society, North Carolina State University
- Greg Kaebnick, Hastings Center for Bioethics
- Marc Saner, Institute for Science, Society and Policy, University of Ottawa

9:45–10:30 a.m.   **Keynote 3: Gillian Hadfield**

School of Law, University of Southern California

W. P. Carey Foundation Armstrong Great Hall

10:30–10:40 a.m.   **Break**

10:40 a.m.–12:10 p.m.   **Concurrent Session 4**

Session 1: Roundtable: Hyperloop One and Autonomous Transportation: A Test Case for Innovative Governance

Room 150
Moderator: Gillian Hadfield, School of Law, University of Southern California
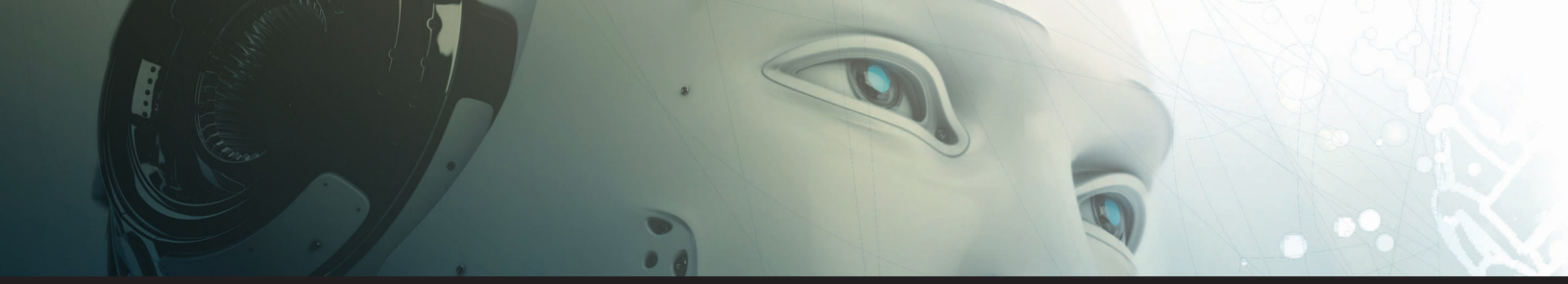- Omeed Tabiei, PinPoint Strategies
- Andrew Maynard, Risk Innovation Lab, Arizona State University
- Jennifer Kuzma, Genetic Engineering and Society, North Carolina State University
- Diana Bowman, Sandra Day O'Connor College of Law, Arizona State University

Session 2: New Risk Governance Approaches

Room 240
Moderator: Gary Marchant, Sandra Day O'Connor College of Law, Arizona State University

1. **Incorporation of Emerging Technologies into Governance – The Use of In Silico Computational Models and Molecular-based In Vitro High-Throughput Screening Assays in the Endocrine Disruptor Screening Program**
   Alexis Abboud, Arizona State University

2. **Conservative Risk Estimates Can be Harmful to Public Health**
   Richard Williams, Senior Affiliated Scholar with Mercatus Center

3. **Instrument Choice for Adaptive Regulation of Emerging Technologies**
   Lori S. Bennear Nicholas School of the Environment, Duke University & Jonathan B. Wiener, Duke University School of Law

4. **Risk-Based Governance Options for Improving NFL Worker Health**
   Adam M. Finkel, University of Michigan School of Public Health

Session 3: Precision Medicine

Room 250

Moderator: David Feigal, NDA Partners & Sandra Day O'Connor College of Law, Arizona State University

1. **Transparency in DNA Biobanking: What Does That Mean to Biobank Donors**
   Richard Sharp, Mayo Clinic Biomedical Ethics Research Program

2. **Revisiting Racial Patents in an Era of Precision Medicine**
   Jonathan Kahn, Mitchell Hamline School of Law

3. **Should Parents be Allowed to Map the Genome of Their Fetus? Ethical Reflections on the Future of Prenatal Testing**
   Ravitsky Vardit, School of Public Health, University of Montreal

4. **Cultivating Innovation in Precision Medicine through Regulatory Flexibility at the FDA**
   Jordan Paradise, School of Law, Loyola University Chicago

Session 4: AI and Security

Room 550

Moderator: Jim Hennessy, Center for Law, Science & Innovation, ASU Law

1. **States' Right and Obligations under International Law and Autonomous Weapon Systems**
   Metodi Hadju-Janev Military Academy, Macedonia & Kiril Hristovski, Arizona State University

2. **Ensuring Safe AI via a Moral Emotion Motivational & Control System**
   Mark Waser, Digital Wisdom

3. **Inclusive Artificial Intelligence: Technology and Policy and a Diverse Urban Future**
   Brandie M. Nonnecke, University of California, Berkeley, CITRIS

4. **Post-Cyber: Regulation the Aftermath of Cyber-Conflict**
   Brian Orend, International Studies, University of Waterloo

12:30–1:45 p.m.

Plenary Session 4 (w/lunch)

Responsible and/or Permissionless Innovation

W. P. Carey Foundation Armstrong Great Hall
Moderator: Wendell Wallach, The Hastings Center & Yale Interdisciplinary Center for Bioethics
- Ellen-Marie Forsberg, College of Applied Sciences, Høgskolen i Oslo og Akershus
- Adam Thierer, George Mason University

1:50–3:20 p.m.

Concurrent Session 5

Session 1: Biotechnology

Room 150
Moderator: Guy Cardineau, Sandra Day O'Connor College of Law, Arizona State University
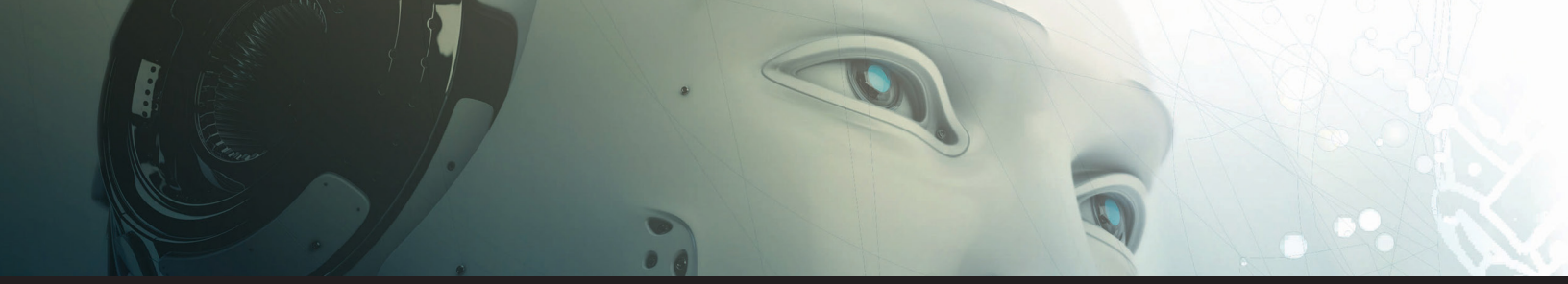
1. **Biotechnology Risk and Consumer Decision-Making**
   Joanna K. Sax, California Western School of Law

2. **Beyond Product or Process: The Role of Context in Regulating Genetically-Modified Organisms**
   Lalitha Sundaram, University of Cambridge

3. **Public Response to Proposed Field Trial of Genetically Engineered Mosquitoes in the United States**
   Cinnamon S. Bloss, University of California San Diego

4. **International Governance Synthetic Biology under the Convention of Biological Diversity: Outcomes of the 14th Meeting of the Conference of the Parties, December 2016, and Issues Facing the 15th Meeting in 2018**
   Robert M. Friedman, J. Craig Venter Institute

Session 2: Big Data and the Individual

Room 240
Moderator: Diva Galan, LG Tech-Link Global and Center for Law, Science & Innovation at ASU Law

1. **Who Owns "You"?: The Need to Craft a Means of Personal Ownership for One's Digital Self**
   Jeremy Weissman, College of Arts and Sciences, University of South Carolina

2. **The Artificial Revolution: Rethinking the Future of Intellectual Property in a World Without Limits**
   Aviv Gaon, Osgoode Hall Law School, York University

3. **Coming to Grips with Evidence-Based Policing: Body Worn Video Recorders and Beyond**
   Katina Michael, School of Computing and Information Technology, University of Wollongong, Australia

4. **Stakeholder Engagement at the Intersection of Big Data and Criminal Justice**
   Kimberly Gardner, School of Public Service, Boise State University

Session 3: Fintech

Room 250
Moderator: Brad Biddle, Center for Law, Science & Innovation at ASU Law

1. **Too-Big-To-Fail 2.0: Cybersecurity & Key Digital Service Providers**
   Nizan Geslevich Packin, City University of New York

2. **Legal Governance of Blockchain Token Sales**
   Josh Boehm, Perkins Coie LLP

3. **Bitcoin, Libertarian Revolution and History of Monetary Technology**
   Knut Jorgen Vie, Oslo and Akershus University

4. **Conceptualizing Cryptolaw**
   Carla L. Reyes, Stetson University College of Law

3:20–3:30 p.m.	**Break**
3:30–4:45 p.m.	**Plenary Session 5**

Big Data

W. P. Carey Foundation Armstrong Great Hall
Moderator: Charlie Kennel, University of California San Diego

- George Poste, School of Life Sciences, Arizona State University
- Pilar Ossorio, University of Wisconsin
- Emily Shuckburgh, University of Cambridge
- Anupam Chander, School of Law, University of California Davis

4:45–5:30 p.m. **Keynote 4: Craig Shank**

VP & Assistant General Counsel, Microsoft

W. P. Carey Foundation Armstrong Great Hall

5:30–7:00 p.m. **Poster Presentation & Reception**
Room 544 & Yavapai Nation Courtyard

Special Session: **Cybersecurity**

W. P. Carey Foundation Armstrong Great Hall

8:00–8:30 a.m. **Breakfast**

8:30–9:00 a.m. **Introduction**

Yvonne Stevens, Sandra Day O'Connor College of Law, Arizona State University

9:00–10:15 a.m. **Plenary Session 1**

Domestic Cybersecurity

Moderator: Jamie Winterton, Strategy at Global Security Initiative, Arizona State University
- James Melendres, Partner at Snell & Wilmer
- Joe Gervais, Lifelock/Symantec
- Caroline Lynch, Cybersecurity, National Security and Criminal Law, Arizona State University
- Jessica Solper, NCC Group

10:15–10:30 a.m. **Coffee Break**

10:30–11:45 a.m. **Plenary Session 2**

International Cybersecurity

Moderator: Daniel Rothenberg, New America Foundation, Arizona State University
- Brad Allenby, School of Sustainable Engineering and the Built Environment, Arizona State University
- Andrew Gordon, Partner, Coppersmith & Brockelman, PLC
- Josephine Wolff, New America Cybersecurity Initiative Fellow

11:45 a.m.–12:30 p.m. **Keynote Address: Katina Michael**

School of Computing and Information Technology, University of Wollongong

W. P. Carey Foundation Armstrong Great Hall

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