

## **J. Benjamin Hurlbut**

Title: Associate Professor, School of Life Sciences  
Center for Biology and Society  
Affiliate Faculty, School for the Future of Innovation in Society

### **Education**

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Harvard University, Ph.D. 2010, History of Science  
General Exam Fields: Science and Technology Studies; History of Modern Medicine;  
History of Biology

Stanford University, A.B. 2001 (with distinction), Classics, minor in History

### **Academic Positions**

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2017- Associate Professor, School of Life Sciences, Arizona State University;  
Affiliate, School for the Future of Innovation in Society

Spring 2018 Visiting Scholar, Faculty of Law, Cambridge University

2010-2017 Assistant Professor, School of Life Sciences, Arizona State University;

Summer 2013 Visiting Scholar, Program on Science, Technology and  
Society, Stanford University

2009-2010 Postdoctoral Fellow, Program on Science, Technology and Society, John F.  
Kennedy School of Government, Harvard University  
Lecturer, Department of History of Science, Harvard University

### **Fellowships and Awards**

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- Award for Excellence and Innovation in Teaching, School of Life Sciences, ASU, 2016.
- Fellow, Institute for Humanities Research, Arizona State University (with Gaymon Bennett), "Biotechnical Monstrosity: Technoscientific Imaginaries and the Moral Boundaries of Innovation," 2015-2016.
- Residential Research Fellowship, Brocher Foundation, Switzerland, Summer, 2015.
- Fellow, Institute for Humanities Research, Arizona State University, "Biology, Law and Public Reason," 2012-2013.

### **Grants**

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- "Beyond Secularization: piloting new approaches to the study of religion, science and technology in public life" (PI with co-PIs: Gaymon Bennett, Hava Tirosh-Samuels and Gregg Zachary), Templeton Religion Trust, 2019-2022, \$1,731,523.

- Technoscientific Constitutionalism: Exploring New Horizons in STS Research at the Intersection of Science, Technology, Law, and Governance (PI), NSF, \$50,000 (with matching funds from the Deutsche Forschungsgemeinschaft).
- CRISPR Open Forum (PI) Templeton Religion Trust, 2017, \$20,000.
- "Beyond Secularization: piloting new approaches to the study of religion, science and technology in public life" (PI with co-PIs: Gaymon Bennett, Linell Cady, Hava Tirosh-Samuelson and Gregg Zachary), Templeton Religion Trust, 2016-2019, \$217,400.
- "Biology and Law" (co-PI with co-PIs Sheila Jasanoff, Harvard University, and Krishanu Saha, U. of Wisconsin, administered by Program on Science, Technology and Society, Harvard) Uses and Abuses of Biology Grants Programme, Faraday Institute/John Templeton Foundation, 2013-2015, \$174,800.
- "The Transhumanist Imagination: Innovation, Secularization, Eschatology" (co-PI with co-PI Hava Tirosh-Samuelson, Center for the Study of Religion and Conflict) Religion and Innovation in Human Affairs Grants Program, The Historical Society/John Templeton Foundation 2012-2014, \$200,000.
- "Biobank Governance" (PI, administered by Center for Biology and Society and Center for Policy Informatics) Virginia G. Piper Charitable Trust, 2012-2014, \$20,000.
- "Life in the Grey Zone: Governance of New Biology in Europe and the United States" (collaborator, PI: Sheila Jasanoff, administered by Program on Science, Technology and Society, Harvard University) National Science Foundation, 2011-2016, \$279,713.
- "The Constitutional Foundation of Bioethics: A Cross National Comparison" (co-PI with co-PIs Sheila Jasanoff, Harvard University, and Krishanu Saha, U. of Wisconsin, administered by Program on Science, Technology and Society, Harvard University) Greenwall Foundation, 2011-2014, \$50,000.
- Evolution and Human Nature Course Development, ASU Center for Jewish Studies, (PI), 2011, \$5,000.
- IGERT: Person-centered Technologies and Practices for Individuals with Disabilities (collaborator, PI: Sethuraman Panchanathan, ASU), 2010-2017, \$2,972,183.00.

## **Publications**

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(Percentage indicates level of contribution. \* denotes student co-author.)

## A. Books:

1. **Hurlbut, J.B.**, *Experiments in Democracy: Human Embryo Research and the Politics of Bioethics* (New York: Columbia University Press, 2017).
2. **Hurlbut, J.B.** and H. Tirosch-Samuels, *Perfecting Human Futures: Transhuman Visions and Technological Imaginations*, (Dordrecht: Springer, 2016).
  - a. Tirosch-Samuels, H & **Hurlbut, J.B.** “Introduction: Technology, Utopianism and Eschatology.” In J.B. Hurlbut & H. Tirosch-Samuels (Eds.), *Perfecting Human Futures: Transhuman Visions and Technological Imaginations*. (Dordrecht: Springer, 2016), 1-32.
  - b. Boenig-Liptsin, M.\* & **Hurlbut, J.B.** “Technologies of Transcendence and the Singularity University.” In J.B. Hurlbut & H. Tirosch-Samuels (Eds.), *Perfecting Human Futures: Transhuman Visions and Technological Imaginations*. (Dordrecht: Springer, 2016), 239-268.

## B. Articles and Book Chapters

1. Hurlbut, J. Benjamin. “Behold the Man: Figuring the Human in the Development of Biotechnology.” In *A Critical Reflection on Automated Science: Will Science Remain Human?*, edited by Marta Bertolaso and Fabio Sterpetti. (S.l.: Springer, 2020.)
2. Jasanoff, Sheila, **J. Benjamin Hurlbut**, and Krishanu Saha. “Democratic Governance of Human Germline Genome Editing.” *The CRISPR Journal* 2, no. 5 (October 1, 2019): 266–71.
3. Hurlbut, J. Benjamin. “The Experts Are Not Enough.” *Hastings Center Report* 49, no. 3 (May/June 2019): 43–44.
4. Hurlbut, J. Benjamin “Human Genome Editing: Ask Whether, not How,” *Nature*, 565, (January 10, 2019): 135.
5. **Hurlbut, J. Benjamin**, et al. “Building Capacity for a Global Genome Editing Observatory: Conceptual Challenges.” *Trends in Biotechnology* 36, no. 7 (July 1, 2018): 639–41.
6. Saha, Krishanu, **J. Benjamin Hurlbut**, Sheila Jasanoff, et al. “Building Capacity for a Global Genome Editing Observatory: Institutional Design.” *Trends in Biotechnology* 36, no. 8 (August 1, 2018): 741–43.
7. Jasanoff, Sheila, and **J. Benjamin Hurlbut**. “A Global Observatory for Gene Editing.” *Nature* 555 (March 2018): 435.
8. Hurlbut, J. B. “In CRISPR’s World: Genome Editing and the Politics of Global Science.” in ed. Hilgartner, S., Gibbon, S., Painsack, B. & Lamoreaux, J. *Handbook of Genomics, Health & Society*. New York: Routledge, 2018.
9. Hurlbut, J. B. “Laws of Containment: Control Without Limits in the New Biology.” In *Gene Editing, Law, and the Environment: Life Beyond the Human*, edited by Irus Braverman, 77–94. New York: Routledge, 2018.
10. Hurlbut, J.B. “A Science that Knows No Country: Pandemic Preparedness, Global Risk, and Sovereign Science.” *Big Data & Society*, 4, no. 2 (2017): 2053951717742417.
11. Doezema, T. & **Hurlbut, J.B.** “Technologies of Governance: Science, State and Citizen in Visions of the Bioeconomy.” In *The Bioeconomy: Life, Technology and Capital in the 21st Century*, edited by V. Pavone and J. Goven, 49–71. Cham, Switzerland: Palgrave Macmillan, 2017.

12. Hilgartner, S., Prainsack, B. & **Hurlbut J.B.** “Ethics as Governance in Genomics and Beyond,” in Felt et al ed. *The Handbook of Science and Technology Studies, fourth edition*, (Cambridge: MIT Press, 2016), 823-852.
13. Miller, C.A., Ross, H.,\* Bennett, G. & **Hurlbut, J.B.**, “The Ethics of Ubiquitous Computing in Healthcare.” in ed. M. Eshaghian-Wilner, *Wireless Computing in Medicine: From Nano to Cloud with Legal and Ethical Aspects*. (New York: Wiley, 2016), 507-539.
14. Hurlbut, J. B. “Promising Waste: Biobanking, Embryo Research, and Infrastructures of Ethical Efficiency.” *Monash Bioethics Review*, 33(4) (December, 2015), 301–24.
15. Jasanoff, S, **Hurlbut, J.B.** & Saha, K. “CRISPR Democracy” *Issues in Science and Technology*, (Fall 2015), 25-32.
16. Hurlbut, J. B. “Limits of Responsibility: Genome Editing, Asilomar, and the Politics of Deliberation.” *Hastings Center Report*, 45(5), (2015), 11–14.
17. Hurlbut, J. B. “Remembering the Future: Science, Law and the Legacy of Asilomar.” in ed. Jasanoff S. and Kim, S. *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*, (Chicago: University of Chicago Press, 2015), 126-151.
18. Hurlbut, J. B. “Technologies of Imagination: Secularism, Transhumanism and the Idiom of Progress.” In ed. Yerxa, D. *Religion and Innovation: Antagonists or Partners?* (London: Bloomsbury, 2015), 213-228.
19. Hurlbut, J. B. “Religion and Public Reason in the Politics of Biotechnology.” *Notre Dame Journal of Law, Ethics and Public Policy*, (Spring 2015), 423-452.
20. Hurlbut, J. B. “Reimagining responsibility in synthetic biology.” *Journal of Responsible Innovation*, 2(1), (2015), 113–116.
21. **Hurlbut J.B.** and Robert, J.S. “Stem Cells, Science and Public Reason.” *Journal of Policy Analysis and Management*, 31(3), (2012), 707-714.
22. **Hurlbut J.B.** and Robert, J.S. “Good Governance Connects Science and Society.” *Journal of Policy Analysis and Management*, 31(3), (2012), 722-726.
23. Saha, K & **Hurlbut, J.B.**, “Disease Modeling Using Pluripotent Stem Cells: Making Sense of Disease from Bench to Bedside.” *Swiss Medical Weekly* (2011); 141:w13144.
24. Saha, K. & **Hurlbut, J.B.** “Research Ethics: Treat Donors as Partners in Biobank Research.” *Nature* 478, 312–313 (2011).

### C. Editorials and Short Essays

1. **Hurlbut, J.B.**, Jasanoff, Sheila, and Krishanu Saha. “The Chinese Gene-Editing Experiment Was an Outrage. The Scientific Community Shares Blame.” *Washington Post*, November 29, 2018.
2. **Hurlbut, J.B.** et al. "Revisiting the Warnock rule." *Nature Biotechnology* 35, no. 11 (2017): 1029-1042.
3. **Hurlbut, J.B.** “The Demands of CRISPR’S World.” *Ethics & Medics*, 41(4) (April 2016), 1-2.
4. **Hurlbut, J.B.** “IRBs and germline editing research: The outer limits of oversight.” *IRB Advisor*, (April, 2016), 46-47.
5. **Hurlbut, J. B.**, Jasanoff, S., & Saha, K., “Human Genetic Engineering Demands More Than a Moratorium.” *The Guardian*. London. (April 7, 2015)  
<http://www.theguardian.com/science/political-science/2015/apr/07/human-genetic-engineering-demands-more-than-a-moratorium>.

6. **Hurlbut, J. B.** "Synthetic Biology: The Power to Imagine the Future," *Time Magazine Online*, (September, 2014), <http://time.com/3419445/if-synthetic-biology-lets-us-play-god-we-need-rules/>.
7. Saha, K. & **Hurlbut, J.B.** "Occupy Science?" *The Scientist*, (January, 2012). <http://the-scientist.com/2012/01/24/opinion-occupy-science/>.

#### **D. Encyclopedia Articles**

1. **Hurlbut, J.B.** "Stem Cell Research." in H. Slotten ed. *The Oxford Encyclopedia of American Scientific, Medical, and Technological History* (New York: Oxford University Press, 2014).

#### **Invited Lectures and Presentations**

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#### **F. International**

1. "The Global Observatory Project," Workshop on Human Dignity and Biotechnology Governance, Bosch Academy, Berlin, July 19, 2018.
2. "Ethics at the Edges of Life: Deliberation and Responsibility at the Frontiers of Human Biology." Cortona Friends Week 2019. Todi, Italy. June 23, 2019.
3. "Public Debate at the International Level," High-level seminar on public debate as a tool for the governance of new technologies, Council of Europe, Strasbourg, France, June 4, 2019. <https://vodmanager.coe.int/coe/webcast/coe/2019-06-04-2/en>
4. "The Agile and the Obsolete: Ungoverning Technological Futures" Global Un-governance, University of Edinburgh Law School, Edinburgh, May 24, 2019.
5. "International Governance of Science and Technology," Faculty Instructor, Thailand Institute of Justice and Harvard Institute for Global Law and Policy International Workshop, Bangkok, Thailand, Jan 6-11, 2019.
6. "Principles for Moving Forward, Lessons from Looking Back." International Summit on Human Genome Editing, US National Academy of Sciences, National Academy of Medicine, Hong Kong Academy of Sciences, Hong Kong, November 27-29, 2018.
7. Governing Science at the Boundaries of the Human, Faraday Institute, University of Cambridge, UK, June 12, 2018.
8. Behold the Man: Figuring the Human in the Era of Biotechnology. STI Experts Meeting: Will Science Remain Human? Frontiers of the Incorporation of Technological Innovations in the Biomedical Sciences, UCBM, Rome, March 6, 2018.
9. CRISPR Gene Editing Technologies: The Legal, Ethical, and Social Implications. Law, Science and Technology Annual Colloquium, T.C. Beirne School of Law, University of Queensland, Brisbane, Australia, September 18, 2017.
10. "Science, Sustainability and Global Law and Policy." Harvard University Institute for Global Law and Policy, Thailand Institute of Justice Joint Workshop, Bangkok, Thailand, January 6-12, 2017.
11. "The Mined Body Problem: Ethical Efficiency and the Production of Value in Biomedical Research," Workshop: Found in Translation: Cosmopolitics and The Value of Biotech, York University, Toronto, Canada, November 5, 2016.
12. Expert, Application in Human Biomedicine Working Group, Workshop on Gene Editing in an International Context: Scientific, Economic and Social Issues across

- Sectors, Organization for Economic Cooperation and Development, Working Party on Biotechnology, Nanotechnology, and Converging Technologies, Ottawa, Canada, September 29-30, 2016.
13. "Science and Technology Studies." Harvard University Institute for Global Law and Policy Workshop, Madrid, Spain, July 22, 2016.
  14. Hermeneutics of Technology Assessment, Institute of Technology Assessment and Systems Analysis, Karlsruhe Institute of Technology, Karlsruhe, Germany, January 21-22, 2016.
  15. "Assembling Knowledge without Borders: the Science of Pandemic Preparedness." Data Associations in International Law, University of New South Wales Law School, Sydney, Australia, December 10-12, 2015.
  16. "Appropriate(d) Governance: Democracy, Deliberation, and the Legacy of Asilomar." Genome on Demand: Exploring the Implications of Human Genome Editing, convened by the Health Council of the Netherlands & Netherlands Commission on Genetic Modification, Amsterdam, The Netherlands, November 5-6, 2015.
  17. "Science and Governance at the Frontiers of Life." Brocher Foundation, Geneva, Switzerland, July 9, 2015.
  18. "Global Science and Technology Studies." Harvard Law School Institute for Global and Policy, Doha, Qatar, January 6, 2015.
  19. "Promising Waste: Choice, Infrastructure and the Stuff of Progress." Banking Eggs and Embryos Workshop, Dalhousie University, Halifax, Canada December 4-5, 2014.
  20. "Global Science and Technology Studies." Harvard University Institute for Global Law and Policy Workshop, Doha, Qatar, January 5, 2014.
  21. "Biology and Law" Uses and Abuses of Biology Workshop, Cambridge University, Cambridge, UK, September 21, 2013.
  22. "Religion, Innovation and Imagination" Religion and Innovation in Human Affairs Workshop, Oxford University, Oxford, UK, July 11, 2013.
  23. "Self and Society: units of analysis in political theory and the human sciences" EMBL Science and Society Summer School: The Human Animal, European Molecular Biology Laboratory, Heidelberg, Germany, August 4, 2011.
  24. "Science, Law and the Legacy of Asilomar" COBINA Project International Workshop, IFRIS, Paris, December 20, 2010.
  25. "Comments on Medicalization." Construction of New Realities in Medicine, Social Trends Institute, Barcelona, Spain, April 15-17, 2010.
  26. Discussant, Focus on the Embryo, Social Trends Institute, Barcelona, Spain, January 23-25, 2009.

## **G. National**

1. "Imperatives of Governance: Pathways for Democratic Deliberation and the Global Observatory Project." American Society for Gene and Cell Therapy Policy Summit: Ethical, Societal, and Policy Issues in Germline Gene Editing (co-panelist with Margaret Hamburg, NAS/WHO and Anne-Marie Mazza, NAS). Washington, D.C., November 6, 2019.

2. "The Global Observatory Project" CRISPR Consensus? public debate and the future of genome editing in human reproduction. Innovative Genomics Institute, UC Berkeley, October 26, 2019. <https://innovativegenomics.org/crispr-consensus-symposium/>
3. "Guiding Conceptions: lessons for governance of heritable genome editing." Kenneth J. Ryan Ethics Symposium: Ethics in Embryo Research: In Consideration of Patients, Progeny and Professional Norms (co-panelist with Feng Zhang, Broad Institute). American Society for Reproductive Medicine 2019 Scientific Congress, Philadelphia, PA, October 14, 2019. <https://vimeo.com/asrm/review/366917104/9308b2c675>
4. "CRISPR conceptions: lessons for governance." Cordell3: Ethics of Human Genome Editing. The Cordell Institute for Policy in Medicine and Law, Washington University in St. Louis. St. Louis, MO, October 11, 2019.
5. "Misguided conceptions: CRISPR Babies and the Human Future." Emtech, Massachusetts Institute of Technology, Cambridge, MA, September 18, 2019. <https://events.technologyreview.com/video/watch/benjamin-hurlbut-human-genome-editing/>
6. "Outlaw Science? Some lessons from the wild frontier." Mammalian Synthetic Biology Workshop, Northwestern University, Evanston, Illinois, May 19, 2019.
7. Authoring and Authorizing Human Futures in the Era of Genome Editing, AALOG, Indianapolis, April 5, 2019.
8. "Public Deliberation and Governance" Gene Editing in the Wild, Hasting Center Workshop, New York University, New York City, February 20, 2019.
9. "Sovereign Science." Technoscientific Constitutionalism Workshop. Washington D.C, February 9, 2019.
10. "Sovereign Science, Laggard Law: Ethics, Deliberation and Governance at the Frontiers of Human Biology." Science Studies Colloquium, UC San Diego, San Diego, December 4, 2018.
11. "Constructing Common Ground: Biotechnology, Bioethics and Public Deliberation," Hastings Center, New York, November 16, 2018.
12. "Integration of Arts, Humanities and Sciences in Higher Education," Big Ten Academic Association, October 14, 2018.
13. "How Human? Some Provocations on 'Ethics'" MCELS: Engineering Multicellular Living Systems, Chicago, IL. August 3, 2018.
14. "Life in the Grey Zone: Governing Research at the Boundaries of the Human." Keynote, Deliberating Promissory Technologies: Organoids and Chimera, UC Davis, May 22, 2018.
15. "Limits of Debate: Scientific Horizons and Ethical Boundaries in Governance of Human Embryo Research," Annual Distinguished Bioethics Lecture, UC Davis School of Medicine, Sacramento, CA, May 21, 2018.
16. "Taking Responsibility: Genome Editing, Human Genetic Engineering, and the Politics of Governing Research," California Polytechnic State University, San Luis Obispo, CA, February 23, 2018
17. "Reflections on Governance," Board on Life Sciences, National Academy of Sciences, Tempe, AZ. November 30, 2017.
18. "Interdisciplinary Integration in Undergraduate Biology Education," Board on Life Sciences, National Academy of Sciences, Tempe, AZ. December 1, 2017.

19. “(De)Humanizing Technology.” Plenary, National Humanities Conference, Boston, MA. November 2, 2017.
20. “CRISPR Limits: Authoring and Authorizing Human Futures in the Era of Genome Editing.” Keynote, Center for Bioethics and Human Dignity Annual Conference, Trinity International University, Deerfield, Illinois. June 24, 2017.
21. “Reworking the World: Visions of Nature” Ethical Implications of CRISPR, Innovative Genomics Institute, University of California at Berkeley, Berkeley, California, June 19, 2017.
22. “What Role for Publics? Public Engagement in CRISPR Governance” Editorial Aspirations: Human Integrity at the Frontiers of Biology, Harvard University, Cambridge, MA, April 27, 2017. (Presenter and co-organizer).
23. “Taking a Leap? Ethical and Governance Issues in Human Genome Editing” Innovative Genomics Institute Workshop on CRISPR Science and Governance. UC Berkeley, January 28, 2017.
24. “Laws of Containment: Control Without Limits in the New Biology” Gene Editing: Life and Law Beyond the Human, Baldy Center Workshop, University of Buffalo School of Law, Buffalo, NY, October 22, 2016.
25. “Taking Responsibility: Genome Editing, Human Genetic Engineering, and the Politics of Governing Research,” Guffey Lecture in the History of Medicine, University of Kansas Medical Center, Kansas City, KS, October 27<sup>th</sup>, 2016.
26. “The Demands of CRISPR’s World: Imagination, Deliberation, and Governance,” CRISPR Technology: Responsible Discourse about Science & Bioethics, University of California at Davis, May 26, 2016.
27. “Taking Responsibility: Science and Its Revolutions, From Recombinant DNA to Gene Editing” Arthur J. Schmitt Lecture, Center for Ethics and Culture, University of Notre Dame, South Bend, Indiana, April 7, 2016.
28. “Human Dimensions of the New Biology,” The Integration of Education in the Arts and Humanities with Education in Sciences, Engineering, Technology and Medicine, National Academies of Sciences, Engineering and Medicine Washington, D.C., December 2, 2015.
29. Moderator and Policy Expert, Session on Public Benefits and Social Justice International Summit on Human Gene Editing, convened by the U.S. National Academies of Sciences and Medicine, the Royal Society, and the Chinese National Academy of Sciences, Washington, D.C., December 1, 2015.
30. “Religion and Public Reason in the Politics of Biotechnology,” Notre Dame Journal of Law, Ethics and Policy Symposium, Notre Dame School of Law, South Bend, Indiana, March 29, 2015.
31. Debate participant, ISGP Science Policy Debate: Water and Food, Institute for Science and Global Policy/Sigma-Xi Society, Glendale, Arizona, November 8, 2014.
32. “World Making and Norm-Making: Heterodoxy in Science and Technology Studies” Harvard Law School Institute for Global Law and Policy Colloquium, Harvard University, Cambridge, MA June 6, 2014.
33. “Revolutionary Biology: Science, Law and Emerging Technologies of Governance,” Technological Visions and Revisions, Harvard University, April 4, 2014.
34. “Participation, Progress and Public Trust in Biobanking” Biobanking Americas Summit, Boston, MA, June 13, 2013.



35. "Imagining Governability: Law and Emerging Technology Since Asilomar" Harvard Law School Institute for Global Law and Policy Colloquium, Harvard University, Cambridge, MA, June 5, 2013.
36. Discussant, 21st Century Borders/Synthetic Biology: Focus on Responsibility and Governance, Institute on Science for Global Policy, Tucson, AZ, December 4-7, 2012.
37. "Technologies of Progress, Technologies of Humility," Beneficial Progress in Technology Workshop, Center for Advanced Study in the Behavioral Sciences, Stanford University, Palo Alto, CA, October 4-7, 2012.
38. "Bank on Trust: Participation, Partnership, and Governance in Biobanking," Biobanking Americas, Boston, MA, June 14, 2012.
39. "Teaching Bioethics" The Tarrytown Meetings, Tarrytown, NY July 24, 2011.
40. "Good Science: Knowledge, Technology and the Public Good" Singularity University, NASA-AMES Research Park, Mountain View, CA July 6, 2011.
41. "Representing Reason: science and democracy in the human embryo research debates" Workshop on the Ethical, Philosophical, Legal & Theological Dimensions of Adult & Alternative Stem Cell Research, University Of Notre Dame, South Bend, IN, June 30, 2011.
42. "Technologies of Representation: public bioethics and the human embryo research debates" Interdisciplinary Center for Bioethics, Yale University, New Haven, CT, May 12, 2010.
43. "Representing Reason: human embryo research and the politics of public bioethics" STS Circle, Harvard University, Cambridge, MA, April 5, 2010.
44. "Neoeugenic Consciousness, the 'Path to Perfection,' and the Human Biological Future" Schroedinger Symposium, Stanford University, Palo Alto, CA May 20, 2005.

## **H. Local**

1. "Sovereign Science, Laggard Law: Ethics, Deliberation and Governance at the Frontiers of Human Biology." SFIS Unplugged. ASU, October 31, 2019.
2. "CRISPR Conceptions: challenges of governance in heritable human genome editing." Neuroscience Research Seminar, Biodesign, ASU, October 4, 2019.
3. "Gray Zones of Governance: From Human-Animal Chimera to Embryo Research." Statewide Symposium on Stem Cell Research. ASU Skysong, Phoenix, May 17, 2018.
4. "Going Rogue? Science and Its Outlaws." Arizona Biosecurity Workshop, ASU, December 14, 2018.
5. "An 'Engineered Doomsday'? Lessons from the H5N1 papers controversy." IBC Responsible Research Workshop, May 12, 2017.
6. "Gene Editing, Bioethics, and Emerging Challenges of Governance" Center for Biology and Society Conversation Series, ASU, March 21, 2017.
7. "Genome Editing: Ethics and Governance," SOLS Café Series, ASU, March 20, 2017.
8. Knowing Disease and Accounting for Care, Mayo Clinic, Scottsdale, April 16; repeated, ASU Institute for Humanities Research, April 20, 2015.
9. Commentator, Religion, Science and Sociality: Emergence Theory and Religion Judaism, Science and Medicine Group, ASU, October 6-7, 2013
10. "Bank on Trust: Precision Medicine and the Problem of Participation," Biomedical Informatics Seminar Series, ASU November 8, 2012

11. "Evidence for an Informed Polity," Epistemic Democracy Workshop, ASU November 14, 2012
12. Panelist, Being Human in a Posthuman World, ASU Project Humanities September 11, 2012.
13. Panelist, "Feed 8 Billion" ASU Biotechnology Club Event February 2, 2012.
14. "Germ-free, and other Myths: Examining Antimicrobial Products," Science Café (with Rolf Halden), Arizona Science Center, May 19, 2011.
15. "In the Laboratory of Democracy: California's Stem Cell Initiative and the Politics of Public Science," CSPO Enlightening Lunch, ASU April 27, 2011.

## **I. Conference Presentations**

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1. "Reflections on the Work of Yaron Ezrahi," Science and Democracy Network Annual Meeting, Cambridge, MA, August 30, 2019.
2. "Taking Responsibility: Science and Its Revolutions, From Recombinant DNA to Gene Editing" Science and Democracy Network Annual Meeting, London, UK, June 24, 2016.
3. "Revolutionary Biology: Science, Law, and Emerging Technologies of Governance," Society for the Social Studies of Science Annual Meeting, Denver, November 14, 2015.
4. "Reactive Institutions: Emerging Technologies and Public Bioethics from Recombinant DNA to Synthetic Biology." Panel on Public Bioethics (organizer and chair), History of Science Society Annual Meeting, Boston, MA, 2013.
5. "States of Placelessness: Risk and Responsibility in H5N1 Research," Society for the Social Studies of Science Annual Meeting, San Diego 2013.
6. "Just Knowledge? Conditions of Visibility and 'Slow Violence,'" Institute for Global Law and Policy: The Conference, Harvard Law School, Cambridge, MA 2013.
7. "Law, Science and Asilomar," Institute for Global Law and Policy Workshop, Doha, Qatar, 2013.
8. "Properties of the Public Good: Innovation and Ownership in California's Stem Cell Initiative," History of Science Society Annual Meeting, San Diego, 2012.
9. "Evidence for an Informed Polity: Science and Democracy in a Missouri Court," Society for the Social Studies of Science Annual Meeting, Cleveland, 2011.
10. "Biological Kinds and Moral Categories in American Regulation of Human Embryo Research," History of Science Society Annual Meeting, Cleveland, 2011.
11. "Common Problems: disease, participation and public good in the making of personalized medicine," Science and Democracy Network Annual Meeting, Harvard University, Cambridge, 2011.
12. "Constituting Life, Imagining Democracy: the Metaphysics and Politics of Human Cloning," Society for the Social Studies of Science Annual Meeting, Tokyo, 2010.
13. "Containing Potential: Human Cloning, Moral Risk and the Legacy of Asilomar," Science and Democracy Network Meeting, Royal Society Kavli House, London, 2010.
14. "Between the Doctor and His Plumber: making embryo research ethics public," History of Science Society Annual Meeting, Phoenix, 2009.
15. "Imagining Public Reason in the Human Embryo Research Debates," Society for the Social Studies of Science Annual Meeting, Washington, D.C., 2009.

16. "Term of ART? Cloning, Reproduction and Ideal Speech," History of Science Society Annual Meeting, Pittsburgh, 2008.
17. "Confusing Deliberation: What 'Cloning' Means For Democracy," Science and Democracy Network Annual Meeting, Cambridge, 2008.
18. "Premises Held in Common: Public Facts, Private Interests and the California Stem Cell Research and Cures Initiative," History of Science Society Annual Meeting, Minneapolis, 2005.

## **J. Workshops and Lecture Series Organized**

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1. *Symposium on Human Genome Editing*. Jewish Theological Seminary, New York, NY November 21, 2019. Cosponsored by the Jewish Theological Seminary and the Initiative on Science, Technology and Human Identity at ASU (role: acquired funding, co-organizer, convener, moderator, speaker).
2. *CRISPR Consensus? public debate and the future of genome editing in human reproduction*. Innovative Genomics Institute, UC Berkeley, October 26, 2019. Cosponsored by the Innovative Genomics Institute, the Initiative on Science, Technology and Human Identity at ASU, and the Keystone Policy Center, with support from the John Templeton Foundation (role: acquired funding, co-organizer, convener, chair, moderator, speaker). <https://innovativegenomics.org/crispr-consensus-symposium/>
3. *STS Graduate Summer School: Expertise, Democracy and Public Trust*. Harvard University, Cambridge, MA, August 12-17. (role: acquired funding, developed curriculum, co-organizer, convener, chair, moderator, instructor).
4. *Editorial Humility: A Moratorium on Heritable Genome Editing?* In collaboration with the Harvard STS Program, Harvard University, Cambridge, MA May 6, 2019. (role: acquired funding, co-organizer, chair and moderator) <http://stsprogram.org/admin/files/EditorialHumilityFINALWEB.pdf>
5. *Technoscientific Constitutionalism: Exploring the Intersections of Science, Technology and Constitutional Order*. Joint American-German (National Science Foundation- Deutsche Forschungsgemeinschaft) Workshop, Washington D.C. February 7-9. (role: acquired funding, co-organizer, convener, moderator, speaker).
6. *Disenchantment's Enchantments: A Century of Science as a Vocation*, in collaboration with the Harvard STS Program and the Harvard Law School Institute for Global Law and Policy, Harvard University, Cambridge, MA, November 16-17, 2017. (role: acquired funding, co-organizer, chair, speaker.)
7. *Editorial Aspirations: Human Integrity at the Frontiers of Biology*, Harvard University, Cambridge, MA, April 27, 2017. (role: acquired funding, organizer, chair, speaker.)
8. STS Summer School: Science and Governance at the Frontiers of Life, Harvard University, July 27-August 2, 2014. (role: acquired funding, co-organizer, chair, speaker.)
9. *Bodies of Data: Public Participation, Governance and the New Bioinformatics*, ASU, March 7, 2014. (role: acquired funding, organizer, chair, speaker.)
10. *Imagining the (Post)human Future*, Karlsruhe Institute of Technology, Karlsruhe, Germany, July 2013, (role: acquired funding, co-organizer, chair, speaker.)
11. *Technologies of Imagination: 50 Years Beyond Man and His Future*, ASU, April 5, 2013, cosponsored by: SOLS Program on Life Science Ethics, Center for Biology and

- Society, Center for the Study of Religion and Conflict, Center for Science and Imagination, (role: acquired funding, co-organizer, chair, speaker.)
12. *Architectures for Life*, Harvard, April 18, 2012, (role: co-organizer, speaker and panel chair).
  13. *The Transhumanist Imagination: Innovation, Secularization, and Eschatology*, ASU, April 9, 2012, sponsored by the Center for the Study of Religion and Conflict, Center for Jewish Studies, (role: co-organizer, speaker, chair.)
  14. *The Constitutional Foundation of Bioethics International Workshop*, Harvard University, November 10, 2011, (role: acquired funding, co-organizer, chair.)
  15. *Biology and Society Lecture Series: Exploring the Future of Bioethics*, ASU, Spring, 2011, (role: organizer, chair.)
  16. *The Constitutional Foundations of Bioethics Project Planning Workshop*, Harvard, November 22, 2010, (role: acquired funding, co-organizer, chair.)

## **Media**

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Extensive contribution to public media. (Top 10 ASU faculty for media mentions, more than 650 in 12-month period.)

## **Professional Memberships**

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- Law and Society Association International Law Collaborative Research Network
- Science and Democracy Network
- Society for the Social Studies of Science

## **Teaching and Mentoring**

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### **Courses**

- BIO312/PHI320: Bioethics (undergraduate lecture course with discussion sections, enrollment: 240; offered annually)
  - With BIO/PHI/HON394: Discussing Bioethics (honors breakout for BIO312) enrollment, approx. 50, two sessions, offered annually.
- BIO318/PHS331: History of Medicine (undergraduate lecture course with recitation sections, enrollment: 150, offered every other year)
- BIO394/HPS 394: Bioethics In Film: Controlling Reproduction, Fall, 2011.
- BIO 598: States of Health: Biomedicine and Citizenship (graduate seminar) ASU, Fall, 2011.
- BIO 591: Social Dimensions of Biomedicine (graduate seminar), Spring 2011.
- HPS 598: Historiography (graduate seminar), Fall 2010, 2012.
- BIO 598: Studying Science: Theory and Methodology in Science and Technology Studies (graduate seminar), Spring, 2015, 2016, 2017, Fall 2018, 2019.

### **Mentoring:**

### **Postdoctoral Fellows**

1. 2016, 2013-2014, Margo Boenig-Liptsin, supported under “The Transhumanist Imagination: Innovation, Secularization, Eschatology” and “Life in the Grey Zone: Governance of New Biology in Europe and the United States.”
2. 2014, Amy Hinterberger, supported under “The Constitutional Foundation of Bioethics: A Cross National Comparison” and “Biology and Law.” Current position: Assistant Professor, Sociology Department, University of Warwick, co-supervised with Sheila Jasanoff, Harvard University.
3. 2014, Rachel Douglass-Jones, supported under “Biology and Law” and “Life in the Grey Zone: Governance of New Biology in Europe and the United States.” Current position: Assistant Professor, IT University of Copenhagen, co-supervised with Sheila Jasanoff, Harvard University.
4. 2012-2013, Ingrid Metzler, supported under “The Constitutional Foundation of Bioethics: A Cross National Comparison” and “Biology and Law.” Co-supervised with Sheila Jasanoff, Harvard University.

### **Graduate Students**

### **PhD, Current**

#### **Chair**

1. Tess Doezema, Human and Social Dimensions of Science and Technology.
2. Lee Seabrooke, Human and Social Dimensions of Science and Technology.
3. Christian Ross, Biology and Society.
4. Amanda Arnold, Human and Social Dimensions of Science and Technology.
5. Sanghamitra Das, Biology and Society.
6. Elizabeth Dietz, Biology and Society.
7. Lucy Tournas, Biology and Society.
8. Nicholas Shadid, Biology and Society.

#### **Committee Member**

9. Paige Madison, History and Philosophy of Science, ABD.
10. Anne Hammang, Human and Social Dimensions of Science and Technology.

### **PhD, Completed**

#### **Chair or Co-chair**

1. Michael Burnham-Fink, Human and Social Dimensions of Science and Technology “The Making of Disability and Enhancement in American Education,” 2016.
2. Heather Ross, Human and Social Dimensions of Science and Technology, “The Social Construction of Atrial Fibrillation Ablation Technologies,” 2016.
3. Katherine Hunt, Biology and Society, “Individualizing the Informed Consent Process for Whole Genome Sequencing: A Patient Directed Approach,” 2013.

#### **Committee Member**

1. Alexis Abboud, History and Philosophy of Science, “A Biography of Endocrine Disruptors: The Narrative Surrounding the Appearance and Regulation of a New Category of Toxic Substances,” 2018.
2. Kate McCord, History and Philosophy of Science, “Development, Evolution, and Teeth: How We Came to Explain the Morphological Evolution of the Mammalian Dentition. 2017.
3. Mary Drago, Biology and Society, “Promises, Expectations, and Obligations: An Examination of American Indian Health Outcomes.” 2016.

4. Monamie Bhadra, Human and Social Dimensions of Science and Technology, “This Fissured Democracy: Nation-building, Civic Epistemologies, and Nuclear Politics in India This Fissured Democracy: Nation-building, Civic Epistemologies, and Nuclear Politics in India,” 2016.
5. Erica O’Neil, Biology and Society, “Fetal Risk, Federal Response: How Fetal Alcohol Syndrome Influenced the Adoption of Alcohol Health Warning Labels,” 2016.
6. Chad Monfreda, Human and Social Dimensions of Science and Technology, “Green Economy Governance: Transforming States and Markets through the Global Forest Carbon Trade in California and Chiapas,” 2015.
7. Lijing Jiang, Biology and Society, “Degeneration in Miniature: History of Cell Death and Aging Research in the Twentieth Century,” 2013.
8. Jennifer Brian, Biology and Society, “Assessing Corporate Bioethics: A Qualitative Exploration of How Bioethics is Enacted in Biomedicine Companies,” 2012.

### **MS, Completed**

6 directed, 6 as second or third committee member

### **Undergraduate Theses**

17 directed, 13 second or third reader.

### **Service to the Profession**

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#### **Peer Review**

- *Science as Culture; Science, Technology and Human Values; British Journal of Sociology; Philosophy and Public Policy Quarterly; Public Culture; Politics and the Life Sciences; Bulletin of the History of Medicine, Genetics and Society; Genetics and Society; Politics and the Life Sciences; Oxford University Press; Routledge; MIT; Columbia University Press.*
- Granting Agencies: EU 7<sup>th</sup> Framework Programme, European Cooperation in Science and Technology: Bio-objects; Flanders Research Foundation; Wellcome Trust; National Science Foundation; Innovative Genomics Institute; Netherlands Organization for Scientific Research.
- Other: U.S. National Academies of Sciences, Engineering and Medicine.

#### **Other Professional Service**

- Member, Study Committee on *Integrating Higher Education in the Arts, Humanities, Sciences, Engineering, and Medicine*, National Academies of Sciences, Engineering and Medicine.
- Co-director, Bio + Society Collaboratory, Harvard University, <http://sts.hks.harvard.edu/research/biosocietycollaboratory/>.
- Phoenix Children’s Hospital Front Door Consent Committee, 2015-current.
- Science and Democracy Network Junior Council
- Society for the Social Studies of Science Graduate Student Mentor, 2015-current.
- Australia National University external dissertation examiner.
- Reviewer, Dissertation Reviews.

### **University Service**

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#### **University**

- School for the Future of Innovation in Society Human and Social Dimensions of Science and Technology Degree Review Committee, 2016-current.
- Responsible Conduct of Research Training, Office of Research Integrity, 2015.
- Faculty Search Committee, Religion, Science and Technology, School of Historical, Philosophical, and Religious Studies, 2013-2014.
- Postdoctoral Search Committee, Religion, Science and Technology, School of Historical, Philosophical, and Religious Studies, 2012-2013
- National Scholarships and Fellowships Committee, Office of the Provost, 2011-current (Truman; Fulbright Western Europe).
- Human and Social Dimensions of Science and Technology Graduate Steering Committee, 2011-current.

**School of Life Sciences**

- Undergraduate Committee, 2014-current.
- Biomedical Sciences Concentration Subcommittee, 2014.
- Research and Training Initiatives Committee, 2012-2015.