

## REBECCA SLAYTON

Associate Professor

Department of Science and Technology Studies | Reppy Institute for Peace and Conflict Studies  
Cornell University | Morrill 320 | Uris Hall 130C | Ithaca, NY 14853 | rs849@cornell.edu

### EDUCATION

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<b>Harvard University</b> Cambridge, MA Department of Chemistry and Chemical Biology <i>Specialization in Physical Chemistry</i>	<b>PhD</b> <b>May 2002</b> <b>MS</b> <b>May 2000</b>
<b>Westmont College</b> Santa Barbara, CA Department of Chemistry <i>Honors Thesis Distinction in Chemistry; Summa cum laude and Valedictorian</i>	<b>BS</b> <b>May 1996</b>

### ACADEMIC APPOINTMENTS

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<b>Cornell University</b> <b>Associate Professor</b> <b>Assistant Professor</b> Science & Technology Studies Department Reppy Institute for Peace and Conflict Studies	<b>June 2017—present</b> <b>July 2014—May 2017</b>
<b>Stanford University</b> Public Policy Lecturer, Science & Technology Policy Coordinator Fellow, Center for International Security and Cooperation	<b>Sep. 2013—Aug. 2014</b>
<b>Stanford University</b> Lecturer, Public Policy Program Visiting Scholar, Center for International Security and Cooperation	<b>Sep. 2012—Aug. 2013</b>
<b>University of Edinburgh</b> Institute for Science, Technology and Innovation Arup & Royal Academy of Engineering Senior Research Fellow	<b>June 2012—Aug. 2012</b>
<b>University of Minnesota, Minneapolis</b> History of Science and Technology Program Visiting Assistant Professor	<b>Sep. 2011—May 2012</b>
<b>Stanford University</b> Program in Science, Technology, and Society	<b>Sep. 2005—Aug. 2011</b>

Lecturer and Honors Program Director

**Stanford University**

Center for International Security and Cooperation  
Postdoctoral Fellow

**Sep. 2004–Aug. 2005**

**Massachusetts Institute of Technology**

Program in Science, Technology, and Society  
Postdoctoral Fellow

**June 2002–Aug. 2004**

**Massachusetts Institute of Technology**

Department of Chemistry  
Visiting Scientist

**Sep. 1997–May 2002**

## **PUBLICATIONS**

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### ***BOOKS AND EDITED VOLUMES***

**Slayton, Rebecca.** 2013. *Arguments that Count: Physics, Computing, and Missile Defense, 1949-2012* (Cambridge, MA: MIT Press). **Winner of the 2015 Computer History Museum Book Prize.**

**Rebecca Slayton** and Nathan Ensmenger (*Eds.*). (November 2017) Special Issue on Information Technology and the Environment, *Information and Culture* 52(3).

**Slayton, Rebecca** (Ed). (In progress). *Democratizing Cryptography: The Work of Martin Hellman and Whitfield Diffie* (New York, NY: ACM Press).

**Slayton, Rebecca.** *Shadowing Cybersecurity* (book manuscript in progress).

### ***ARTICLES AND CHAPTERS—SOCIAL SCIENCES***

**Slayton, Rebecca** and Brian Clarke. (forthcoming, 2020). Trusting Infrastructure: The Emergence of Computer Security Incident Response, 1989-2005. *Technology & Culture*.

Aaron Clark-Ginsberg and **Rebecca Slayton**. (published online, November 2018). Regulating Risks within Complex Sociotechnical Systems: Evidence from Critical Infrastructure Cybersecurity Standards. *Science and Public Policy*.  
<https://doi.org/10.1093/scipol/scy061>

**Slayton, Rebecca**, and Aaron Clark-Ginsberg. (2018). Beyond Regulatory Capture: Emerging Expertise in Critical Infrastructure Protection. *Regulation & Governance* 12(1), 115-130.

Nathan Ensmenger and **Rebecca Slayton**. (2017). The Environmental History of Computing, introduction to special issue on Information Technology and the Environment, *Information and Culture* 52(3), 295-303.

- Slayton, Rebecca.** (2017). What is the Cyber Offense-Defense Balance? Conceptions, Causes and Assessment. *International Security* 41(3), 72-109.
- Slayton, Rebecca.** (2016). Framing Computer Security, 1967-1992. In Thomas Misa, Ed., *Communities of Computing: Computer Science and Society in the ACM* (pp. 282-323). New York: ACM Press.
- Slayton, Rebecca.** (2016). Framing Computer Security and Privacy in the 1960s and 1970s. *Computers & Society* 46(3), 45-54.
- Slayton, Rebecca.** (2016). Military-Industrial Complex. In Edward J. Blum, Ed., *Dictionary of American History, Supplement: America in the World, 1776 to the Present*, edited by Farmington Hills, MI: Charles Scribner's Sons.
- Slayton, Rebecca,** and Graham Spinardi. (2016). Radical Innovation in Scaling Up: Boeing's Dreamliner and the Challenge of Socio-technical Transitions, *Technovation* 47, 47-58.
- Slayton, Rebecca.** (2015). Measuring Risk: Computer Security Metrics, Automation, and Learning. *IEEE Annals in the History of Computing* 37(2), 32-45.
- Spinardi, Graham, and **Rebecca Slayton.** (2015). Greener Aviation: Take-off (Delayed): Analyzing Environmental Transitions with the Multi-level Perspective. *Science & Technology Studies* 28(1), 28-51.
- Slayton, Rebecca.** (2013). Efficient, Secure Green: Digital Utopianism and the Challenge of a 'Smart' Grid. *Information and Culture* 48(4), 448-478.
- Slayton, Rebecca.** (2012). From a 'Dead Albatross' to Lincoln Labs: Applied Research and the Making of a 'Normal' Cold War University. *Historical Studies in the Natural Sciences* 42(4), 255-282.
- Gaskin, Gregory, and Christopher Longhurst, **Rebecca Slayton,** Amar Das. (2011). Sociotechnical Challenges of Implementing an Interoperable Personal Health Record: Lessons Learned. *Applied Clinical Informatics* 2(4), 406-419.
- Slayton, Rebecca.** (2011). From Death Rays to Light Sabers: Making Laser Weapons Surgically Precise. *Technology and Culture* 52(1), 1-30.
- Slayton, Rebecca.** (2009). Disciplining Technopolitics: Physics, Computing, and the 'Star Wars' Debate." In Klaus Benesch & Meike Zwingenberger, Eds., *Scientific Cultures, Technological Challenges* (pp. 221-239). Heidelberg, Germany: Winter Heidelberg.
- Slayton, Rebecca.** (2008). Revolution and Resistance: Rethinking Power in Computing History. *Annals of the History of Computing* 30(1), 96-97.
- Slayton, Rebecca.** (2007). Discursive Choices: Boycotting 'Star Wars,' Between Science and Activism. *Social Studies of Science* 37(1), 27-66.
- Slayton, Rebecca.** (2004). Speaking as Scientists: Computer Professionals in the Star Wars Debate. *History and Technology* 19(4), 335-364.

**ARTICLES—PHYSICAL SCIENCES**

- Slayton, Rebecca**, and K. A. Nelson. (2004). Picosecond acoustic transmission measurements, Part I: Transient grating generation and detection of acoustic responses in thin metal films. *Journal of Chemical Physics* 120(8), 3908-3918. Reprinted in the *Virtual Journal of Ultrafast Science*, March 2004.
- Slayton, Rebecca**, and K. A. Nelson. (2004). Picosecond acoustic transmission measurements, Part II: Probing high frequency structural relaxation in supercooled glycerol. *Journal of Chemical Physics* 120(8), 3919-3930. Reprinted in the *Virtual Journal of Ultrafast Science*, March 2004.
- Slayton, Rebecca**. (2002). *Developing a transient grating technique to probe fast acoustic dynamics in liquids*. (Unpublished doctoral thesis). Harvard University, Cambridge, MA.
- Slayton, Rebecca**, and A. A. Maznev, K. A. Nelson. (2001). Transient grating measurements of film thickness in multi-layer metal films. *Journal of Applied Physics*, 90(9), 4392-4402.
- Slayton, Rebecca**, and P. A. Anfinrud. (1997). Time-resolved mid-infrared spectroscopy: methods and biological applications. *Current Opinion in Structural Biology* 7(5), 717-721.
- Slayton, Rebecca**, and N. R. Franklin, N. J. Tro. (1996). Photochemistry of trans-stilbene adsorbed on Al<sub>2</sub>O<sub>3</sub> (0001). *Journal of Physical Chemistry* 100(38), 15551-15554.
- Slayton, Rebecca**, and C. M. Aubuchon, T. L. Camis, A. R. Noble, N. J. Tro. 1995. Desorption Kinetics and Adlayer Sticking Model of N-Butane, N-Hexane, and N-Octane on Al<sub>2</sub>O<sub>3</sub>(0001). *Journal of Physical Chemistry* 99(7), 2151-2154.

**PUBLIC OUTREACH ARTICLES, ESSAYS, AND INTERVIEWS**

- Slayton, Rebecca** (2019) "Trump says 'America must win' the 5G race. Here's what you need to know," The Washington Post (Monkey Cage), April 18, 2019.  
[https://www.washingtonpost.com/politics/2019/04/18/trump-says-america-must-win-g-race-heres-what-you-need-know/?utm\\_term=.a5bbe4b8c7fe](https://www.washingtonpost.com/politics/2019/04/18/trump-says-america-must-win-g-race-heres-what-you-need-know/?utm_term=.a5bbe4b8c7fe)
- Slayton, Rebecca** (2018) "Beyond Cyber Threats: the Technopolitics of Vulnerability." International Security Studies Forum, April 4, 2018.  
<https://issforum.org/roundtables/policy/1-5bc-technopolitics>
- Slayton, Rebecca** (2017) "Cybersecurity, Star Wars, and Software Engineering," Interview conducted by Thore Husfeldt at IT University of Copenhagen, May 18.  
<http://video.itu.dk/video/18418089/rebecca-slayton-cybersecurity-star-wars-and>
- Clark-Ginsberg, Aaron, **Rebecca Slayton**, Noah Dormady and Ryan Ellis. (2017). "Building cyber-resilience of interconnected critical infrastructures: what is the role of public utility commissions?" Industrial Control Systems Joint Working Group (ICSJWG) newsletter, March 2017.
- Slayton, Rebecca**. (2017). Why Cyber Operations Do Not Always Favor the Offense. Policy brief at the Belfer Center for Science and International Affairs, Harvard Kennedy School.

- Slayton, Rebecca.** (2017). The Paradoxical Authority of the Certified Ethical Hacker. *Limn* 8.
- Slayton, Rebecca.** (2016). "Measuring Security: Metrics and the Problem of Cybersecurity Governance." White paper for Columbia University's School of International and Public Affairs.
- Slayton, Rebecca.** (2014). "The Fallacy of Proven and Adaptable Defenses." Federation of American Scientists *Public Interest Report* 67(3).
- Slayton, Rebecca,** and K. A. Nelson. (2005). Opening Lab Doors to High School Students: Keys to a Successful Engagement. *Physics Education* 40(4), 347-354.

### REVIEWS AND REPLIES

- Slayton, Rebecca** (2019). Review of Martin Collins, *A Telephone for the World: Iridium, Motorola, and the Making of a Global Age* (Baltimore, MD: Johns Hopkins University Press, 2018). *Technology & Culture* 60(3): 928-929.
- Slayton, Rebecca.** (2019). Review of Brian Crim, *Our Germans: Project Paperclip and the National Security State* (Baltimore, MD: Johns Hopkins University Press, 2018). *Journal of American History* 104(4): 129.
- Slayton, Rebecca.** (2018). Review of Cyrus Mody, *The Long Arm of Moore's Law: Microelectronics and American Science* (Cambridge, MA: MIT Press, 2017). *Isis* 109(1): 232-233.
- Slayton, Rebecca.** (2018). Review of Thomas Misa and Jeff Yost, *Fastlane: Managing Science in the Internet World* (Baltimore, MD: Johns Hopkins University Press, 2016). *Technology and Culture* 59(1): 190-192.
- Slayton, Rebecca.** (January 2018). Roundtable review of Ben Buchanan, *The Cybersecurity Dilemma* (Oxford, UK: Oxford University Press, 2017). H-Diplo Roundtable, <https://issforum.org/roundtables/10-6-cybersecurity-dilemma>.
- Rebecca Slayton** (2017) Author's Response to H-Diplo Article Review by Brandon Valeriano of Rebecca Slayton, "What Is the Cyber Offense-Defense Balance? Conceptions, Causes, and Assessment," *International Security* 41(3): 72-109, and Joseph S. Nye Jr., "Deterrence and Dissuasion in Cyberspace," *International Security* 41(3): 44-71. H-Diplo, August 9, 2017. <https://networks.h-net.org/node/28443/discussions/190286/author%E2%80%99s-response-issf-article-review-83>
- Slayton, Rebecca.** (2016). Review of Sarah Bridger, *Scientists at War: The Ethics of Cold War Weapons Research* (Cambridge: Harvard University Press, 2015). *Technology and Culture* 57(3): 696-698.
- Slayton, Rebecca.** (2015). Review of David K. Hecht, *Storytelling and Science: Rewriting Oppenheimer in the Nuclear Age* (Amherst: University of Massachusetts Press, 2014). *The Journal of American History* 38(4): 704-708.

- Slayton, Rebecca.** (2014). Review of Stephen C. Sambrook, *The Optical Munitions Industry in Great Britain* (London: Pickering & Chatto, 2013). *Technology and Culture* 55(2), 497-499.
- Slayton, Rebecca.** (2012). Review of Christopher Bright, *Continental Defense in the Eisenhower Era* (New York: Palgrave MacMillan, 2010). *Technology and Culture* 39(4), 31-32.
- Slayton, Rebecca.** (2012). An Instrumental Concept, Review Essay of Cyrus Mody, *Instrumental Community* (Cambridge: MIT Press, 2012). *Social Studies of Science* 42(5), 788-793.
- Slayton, Rebecca.** (2012). "Evaluating Judgment," Review of Istvan Hargittai, *Judging Edward Teller: A Closer Look at One of the Most Influential Scientists of the Twentieth Century* (Amherst, MA: Prometheus Books, 2010). *Technology and Culture* 53(2), 509-510.
- Slayton, Rebecca.** (2010). "Thin Description of a Thick Debate," Review of Jacquelyn Bird, *Scientists in Conflict* (Claremont: Regina Books, 2008). *The Review of Politics* 72(2), 348-351.
- Slayton, Rebecca.** (2008). Review of Tara Brabazon, *University of Google* (Ashgate, 2007). *International Review of Modern Sociology* 34(2), 295-297.
- Slayton, Rebecca.** (2005). Review of Peter Cotgreave, *Science for survival: scientific research and the public interest* (London: British Library, 2003). *Science and Public Policy* 52(2), 115.

## **PRESENTATIONS, PANEL, AND SEMINAR ORGANIZING**

### ***INVITED PRESENTATIONS***

- "Trusting Infrastructure: The Emergence of Computer Security Incident Response, 1989-2007," Workshop on Digital Technologies in World Politics, Toronto, March 19, 2019.
- "A Cuban Missile Crisis in the Twitter Age," Invited presentation at a workshop on "Conflict Scenarios in the Cyber-Age," Stanford University, April 3, 2018.
- "What is the Cyber Offense-Defense Balance?" Invited presentation at the Global Cyber Trends Symposium, University of Oklahoma Cyber Governance and Policy Center, March 8, 2018.
- "What is the Cyber Offense-Defense Balance?" Invited presentation at a Roundtable on Security and Strategy in Cyberspace, Brookings, Washington, D.C., February 22, 2018.
- "What is the Cyber Offense-Defense Balance?" Los Alamos National Laboratory, Los Alamos, NM, December 13, 2017.
- "What is the Cyber Offense-Defense Balance?" Cornell Information Science Colloquium, November 8, 2017.
- "What is the Cyber Offense-Defense Balance?" National Security Agency sponsored talk in College Park, MD, November 1, 2017.

- “Making Cybersecurity Expertise Transnational,” Keio University, Tokyo, Japan, July 21, 2017.
- “Arguments that Count: Physics, Computing, and Missile Defense,” University of Copenhagen, Copenhagen, Denmark, May 16, 2017.
- “Does Cyber Beat Nuclear? Complex Software and the Virtual House of Mirrors.” New Nuclear Imaginaries Workshop, Kennedy School of Government, Harvard University, April 6-7, 2017.
- “Governing by Numbers: Metrics and the Irreducible Uncertainty of Cybersecurity.” The Bovay Seminar in Engineering Ethics, Cornell University, March 8, 2017.
- “Governing by Numbers: Metrics and the Irreducible Uncertainty of Cybersecurity.” Invited presentation to a workshop on Cybersecurity and the Digital Humanities at Arizona State University, February 9, 2017.
- “Regulatory Options for Managing Systemic Risks,” Briefing to the Department of Homeland Security Office of Infrastructure Protection, Washington, D.C. November 18, 2016.
- “Rethinking the Cyber Offense-Defense Balance: From Technology to Skilled Practices,” Federation of American Scientists 70<sup>th</sup> Anniversary Symposium, Washington, D.C. September 28, 2016.
- “Cybersecurity Metrics and Governance,” Social Science Research Group (SSRG), Cornell University, September 19, 2016.
- “Smart Grid Cybersecurity,” Annual Symposium of the Syracuse Center of Excellence in Environmental and Energy Systems Innovations, Syracuse, NY, November 10, 2015.
- “Black-boxing the Cult of the Cyber-offensive,” Social Science Research Group (SSRG), Cornell University, May 4, 2015.
- “Arguments that Count: Physics, Computing, and Missile Defense.” German Physical Society Annual Meeting, Berlin, Germany, March 17, 2015.
- “Information for Power: Risk Management, Cybersecurity, and the Electrical Power Grid,” Center for International Security and Cooperation (CISAC), Stanford, May 19, 2014.
- “Efficient, Secure, Green: The Shifting Logics of Smart Grids,” University of Minnesota’s History of Science and Technology Program, April 2012.
- “Understanding Engineering Communities: What Role for Network Analysis?” Science, Technology, and Society Department Seminar, Virginia Tech, Oct. 23, 2009.
- “Programmers, Managers, and Defense Dollars: The Contrary Networking of “Software Engineering” CISAC Research Seminar, Stanford, Oct. 15, 2009.
- Catastrophic Failures and Technical Progress: Risk Communication in Software History,” UCSF-Berkeley History of Science Colloquium, Nov. 5 2007.
- “Risk Communication in Software Engineering: From “Activism” to “Professional Responsibility,”” Workshop on Knowledge in Contention, Cornell, Oct. 4-6 2007.

“Calculated Risks? Scientific Expertise and the Problem of Missile Defense,” University of British Columbia, Liu Institute for International Studies, Nov. 6, 2006.

“Calculated Risks? Expertise, Computing, and Closure on Missile Defense,” Bovay Seminar on Ethics and Engineering, Cornell University, April 12 2006.

“Experts on Defense: Physicists and Computer Professionals in Security Debates.” Science, Technology, and Public Policy Program, Kennedy School of Government, Harvard University, Cambridge, MA, March 9, 2004.

### **PEER REVIEWED CONFERENCE PRESENTATIONS**

“Trusting Infrastructure: The Emergence of Computer Security Incident Response, 1989-2007,” International Studies Association Annual Convention, Toronto, March 27-30, 2019.

“Making Cybersecurity Expertise Transnational: A History of Incident Response Teams,” part of a panel on “Cyberspace and Conflict: New Actors, New Capabilities . . . New Incentives for War?” International Studies Association Annual Convention, San Francisco, CA, April 4-7, 2018.

“Beyond Regulatory Capture: Coproducing Expertise for Critical Infrastructure Protection,” proposal accepted as part of a panel on “Risk, Uncertainty, and the Internet of Things: Governance in an Age of Interdependence,” International Studies Association Annual Convention, San Francisco, CA, April 4-7, 2018.

“Debating the Current Threats to Peace and Global Stability,” Roundtable discussion, International Studies Association Annual Convention, San Francisco, CA, April 4-7, 2018.

“Governing by Numbers: Metrics and the Irreducible Uncertainties of Cybersecurity,” part of a panel on “Governance in the History of Information Technology: Law, Policy, and Regulation,” Society for the History of Technology Annual Meeting, Philadelphia, PA, October 26-29, 2017.

“Governing by Numbers: Metrics and the Irreducible Uncertainties of Cybersecurity,” part of a panel on “Critical Approaches to Cybersecurity,” 4S Annual Meeting, Boston, MA, August 30-September 2, 2017.

“Cybersecurity as a Race for Maintenance,” part of a panel on “The Business of Maintenance,” Business History Conference, Denver, CO, March 30-April 1, 2017.

“Governing by Numbers: Metrics and the Irreducible Uncertainties of Cybersecurity,” part of a panel on “Autonomous Technology, Human Agency, and Change in the International Security System.” International Studies Association Annual Convention, Baltimore, February 22-25, 2017.

“Rethinking the Cyber Offense-Defense Balance,” part of a panel organized by Rebecca Slayton, “Opening the Black Box of Cyber-Operations: A New Paradigm for Understanding Cyber-



- Enabled Conflict and International Relations." International Studies Association Annual Convention, Baltimore, February 22-25, 2017.
- "Measuring Security," Society for the History of Technology Annual Meeting Special Interest Group on Computers in Society (SIGCIS) workshop, Singapore, June 22-26, 2016.
- "Efficient, Secure, Green: Digital Utopianism and the Challenge of Making the Grid Smart," American Society for Environmental History Annual Meeting, Washington, DC, March 19-22, 2015.
- "Efficient, Secure, Green: Digital Utopianism and the Challenge of Making the Grid Smart," Society for the History of Technology Annual Meeting, Dearborn, MI, Nov. 6-9, 2014.
- "Quantifying Security: Product Evaluations, Risk Assessment, and the Automation of Judgment," Paper presented at the Charles Babbage Institute workshop on the History of Computer Security, July 11-12, 2014.
- "Risky Analogies: Extending Nuclear Expertise to Cyber Strategy," International Studies Association, Toronto, March 26-29, 2014.
- "Efficient, Secure, Green: Digital Utopianism and the Challenge of Making the Grid Smart," Annual Meeting of the Society for the Social Study of Science, San Diego, CA, Oct. 2013.
- "No Accounting for Carbon," 4S Annual Meeting, Cleveland, OH, Nov. 5, 2011.
- "From Death Rays to Light Sabers," SHOT Annual Meeting, Tacoma, Washington, Oct. 1, 2010.
- "The Unclosed World: Information Technology for Counterterrorism," 4S Annual Meeting, Washington, D.C., October 30, 2009.
- "Contrary Networking: The Political Economy of Software Engineering," Society for the History of Technology Annual Meeting, Special Workshop in Honor of Michael Mahoney, October 18, 2009.
- "The Politics of Progress: Risk Communication in the History of Computing," Annual Meeting of the Society for the History of Technology, Oct. 18-21, 2007.
- "Challenging the System: Scientists and the Political Engagement on Missile Defense in the Long '60's," Policy History Conference, Charlottesville, VA, June 1-4, 2006.
- "Opening Pandora's Black Box: Information Technology in the 'War on Terrorism,'" International Studies Association Annual Convention, San Diego, CA, March 24, 2006.
- "Calculated Risks? Computing and the Problem of Missile Defense," Society for the Social Studies of Science, Pasadena, CA, October 2005.
- "Expert Discourse on Star Wars: The Medium and the Message." STS (R)evolutions conference, Virginia Tech, March 17-20, 2005.
- "Students in the Lab." Paper presented for the Harrison Spectroscopy Laboratory, Massachusetts Institute of Technology, Cambridge, MA, January 19 2005.
- "Boycotting Star Wars: Between Science and Activism." History of Science Society Annual Meeting, Austin, TX, November 18-21, 2004.

“Speaking as Scientists: Computer Professionals in the Star Wars Debate.” Annual Meeting of the Society for the History of Technology, Atlanta, GA, Oct. 16-19, 2003.

**CONFERENCE PANELS--ORGANIZER, DISCUSSANT OR CHAIR**

Discussant, “Societies in (Digital) Conflict,” International Studies Association Annual Convention, San Francisco, CA, April 4-7, 2018.

Chair, “Cybersecurity and Foreign Policy,” International Studies Association Annual Convention, San Francisco, CA, April 4-7, 2018.

Chair and Discussant, “The Security Dilemma in Cyberspace,” International Studies Association Annual Convention, Baltimore, February 22-25, 2017.

Organizer, “Opening the Black Box of Cyber-Operations: A New Paradigm for Understanding Cyber-Enabled Conflict and International Relations,” International Studies Association Annual Convention, Baltimore, February 22-25, 2017.

Chair and Discussant, Panel on “Materiality and Visualization in the Long History of Computation,” History of Science Society Annual Meeting, Atlanta, GA, November 3-6, 2016.

Co-organizer, Panel on “How does Technical Expertise Travel? Political and Technological Determinants of Scientific Authority,” International Studies Association Annual Meeting, Toronto, March 2014.

Co-Organizer, Panel on “Paradoxes of Quantification,” Society for the Social Studies of Science (4S) Annual Meeting, Cleveland, OH, November 2-5, 2011. Organized (with Daniel Hirschman and Fiona Greenland) a two-part panel featuring eleven scholars.

Chair, Panel on “Infrastructure(s) and the Fukushima Earthquake: A Roundtable on Emergencies, Nuclear and Otherwise,” Society for the History of Technology (SHOT) Annual Meeting, Cleveland, OH, November 3-6, 2011. Organized by Paul Edwards and Gabrielle Hecht, this panel includes four papers.

Chair, Panel on “Insider and Outsider Communities in the History of Computing,” Computers in Society Special Interest Group Workshop, Cleveland, OH, November 6, 2011. Panel features four young scholars discussing the politics of computing.

Panelist, Roundtable on Computers, Information and Society in the Classroom, Workshop of the Special Interest Group on Computers, Information, and Society, at The Annual Meeting of the Society for the History of Technology, Washington D.C. October 3, 2010. Panelists included Nathan Ensmenger, Andrew Russell, and Rebecca Slayton.

Co-organizer, Panel on STS and International Security Studies, 4S Annual Meeting, Washington, D.C., October 30, 2009. This three-part panel, co-organized with Hugh Gusterson and Allison Macfarlane, featured sixteen scholars from around the world. The three panels included, “Constructing terror and its antidotes,” “War and imagination,” and “STS, Policy and International Security.”

Organizer, Panel on “The Public Politics of Computing: Tacit, Explicit, and Unresolved Commitments,” Society for the History of Technology Annual Meeting, Washington D.C. October 18-21, 2007. Panelists included Janet Abbate, Nathan Ensmenger, Paul Edwards, Ronald Kline, Eden Medina, and Rebecca Slayton.

Co-organizer, Panel on “Black Boxed Security,” 4S Annual Meeting, Vancouver, B.C., November 1-5, 2006. Organized (with Sonja Schmid) a two-part panel featuring eight scholars presenting work on international security studies and STS.

Co-organizer, Panel on “The Politics and Technology of Ballistic Missile Defense: the Struggle to achieve Closure,” 4S Annual Meeting, Pasadena, CA, October 2005. With Graham Spinardi, helped locate panel members and submit the proposal for a panel that ultimately included five scholars.

### ***SEMINARS, WORKSHOPS, AND PUBLIC EVENTS ORGANIZED***

Co-organizer (with Fred Schneider), Workshop on Surveillance, Privacy and Civil Society, February 12-13, 2018, Cornell University; sponsored by Keio University and the Mario Einaudi Center for International Studies, Cornell University.

Co-founder and Organizer (with Fred Schneider), Cornell Distinguished Speaker Series on Cybersecurity and International Issues, 2016-present. Sponsored by the Mario Einaudi Center for International Studies, Cornell University.

Moderator and Co-organizer, “Five Years after Fukushima: What Have We Learned from Nuclear Accidents?” Panel discussion sponsored by the Einaudi Center for International Studies, Cornell University, March 11, 2016.

Cofounder and Chair, Stanford Seminar in Science, Technology and Society, 2006-2011. Co-initiated (with Sonja Schmid) the STS Seminar series, and continue to organize and moderate the seminar. The initial series, launched in the spring quarter of 2006, featured ten prominent speakers from across the U.S. It has continued to draw international scholars and audiences together at a rate of approximately fifteen seminars per year.

Organizer, Writing Workshop, Science, Technology, and Society Program, MIT, 2003-04. Workshops provided graduate students and postdoctoral fellows a forum to present, critique, and improve works in progress, often with the input of faculty mentors. Scheduled presentations, coordinated paper circulation, and led discussions.

Co-organizer, *Modern Physical Science and the State* Joint Atlantic Seminar in the History of the Physical Sciences (JASHOPS), Cambridge MA September 19-21, 2003. Reviewed and selected abstracts, helped with publicity, requesting and administering travel grants, and arranging accommodations for conference participants.

### ***GRANTS, FELLOWSHIPS, AND AWARDS***

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Presidential Early Career Award for Scientists and Engineers (PECASE). U.S. Executive Office of Science and Technology Policy.	<b>July 2019</b>
PI on “Enacting Cybersecurity Expertise.” National Science Foundation CAREER award.	<b>\$502,572 for 2016-21</b>
Co-organizer (with Chiara Formichi), “Classification and the Humanities,” Brett de Bary Interdisciplinary Writing Group, Society for the Humanities, Cornell University.	<b>\$5,000 for 2018-2019</b>
Project Lead on “Strengthening Local and Regional Regulatory Capacities for Cyber-resilience.” Department of Homeland Security Center of Excellence for Critical Infrastructure Resilience.	<b>\$200,000 for Jan. 2017-Oct. 2017</b>
Project Lead on “Regulatory Options for Managing Systemic Risk.” Grant from the Department of Homeland Security Center of Excellence for Critical Infrastructure Resilience.	<b>\$287,500 for 2016</b>
Fellow in Engaged Faculty Fellowship Program, Engaged Cornell at Cornell University.	<b>\$2,000 for 2016-17</b>
Winner of the Computer History Museum Book Prize, “awarded to the author of an outstanding book in the history of computing broadly conceived, published during the prior three years.”	<b>2015</b>
Cornell Professional Development Grant for travel to meet with cybersecurity scholars Sandro Gaycken (Berlin) and Myriam Dunn-Cavelty (Zurich).	<b>\$858 for 2015</b>
PI on a pilot project “Organizing Risk Management.” Cornell Institute for Social Science Small Grant.	<b>\$8,910 for 2014-2015</b>
Co-PI (with Greg Rosston) on “Integrating Science, Technology, and Policy Education.” Stanford University SCORE (Strengthening the Core) Academic Innovation Grant.	<b>\$8,000 for 2014-2015</b>
PI on “Measuring Security: ACM and the History of Computer Security Metrics.” Association for Computer Machinery (ACM) History Committee Research Prize.	<b>\$6,000 in 2014</b>
Junior Faculty Fellowship for research project “Smart Grid: Weighing Risks to Energy, Cyber, and Nuclear Security.” Stanford Center for International Security and Cooperation.	<b>\$25,000 in 2013-2014</b>
Co-PI (with Robert McGinn) on a Senior Capstone Enhancement Project in the Science Technology, and Society Program. Stanford University Vice-Provost for Undergraduate Education (VPUE).	<b>\$9,000 in 2008-09</b>

Science Fellowship for research project, "Encoding Security Risks: Command and Control for Missile Defense." Stanford Center for International Security and Cooperation.	<b>\$42,000 in 2004-05</b>
Co-PI (with David Kaiser, and Hugh Gusterson) on " <i>Public Science: Discourse on the Strategic Defense Initiative, 1983-1988.</i> " National Science Foundation Postdoctoral Fellowship.	<b>\$84,000 for 2002-2004</b>
American Association for the Advancement of Science (AAAS) Mass Media Science and Engineering Fellowship, completed at the Sacramento Bee.	<b>2000</b>
National Science Foundation Graduate Research Fellowship for "Time-Resolved Infrared Studies of Structure-Function Relationships in Proteins"	<b>1997-2000</b>
Westmont College Senior Achievement Award, for the senior with the highest cumulative academic record in his or her graduating class.	<b>1996</b>
Westmont College Clifford Benton Award, for the most promising incoming freshman chemistry major.	<b>1992</b>

## **TEACHING AND ADVISING**

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### **COURSES TAUGHT**

#### **Cornell University**

*DSOC/STS 6020: Digitizing Development* (co-taught with Jenny Goldstein), spring 2019 (designed in 2018)

*GOVT/STS/HIST 7937: Proseminar in Peace Studies*, spring 2019 (organized fall 2018).

*STS/AMST/BSOC/HIST 3181: Living in an Uncertain World*, 2017, 2018, 25 students avg.

*STS 7111: Introduction to Science & Technology Studies*, 2016, 2017, 5 students.

*STS 2011: What is Science*, 2014, 2015, 2016, 2017, 58 students avg. (re-designed by RS, 2015).

*STS 6031: Cybersecurity and Trust*, spring/fall 2015, 2 students avg. (designed by RS)

*STS 3031: Making Things Nuclear*, 2015, 8 students avg. (designed by RS)

#### **Stanford University**

*Senior Practicum: Conducting Policy Analysis for Local Agencies*, 2012-13 (8 students)

*Science and Technology Policy*, 2012-2013, 15 students avg. (re-designed by RS)

*Technology Policy*, 2013-2014, 22 students avg. (re-designed by RS)

*Senior Research Seminar*, 2009-2010, 8 students avg. (designed by RS)

*Junior Research Seminar*, 2005-2010, 5 students avg. (designed by RS)

*Imagining the Computer, Wiring the World*, 2007-10, 10 students avg. (designed by RS)

*Controversy and Closure*, 2005-07, 5 students avg. (designed by RS)

*Science and Technology in the Security State*, 2005-06, 5 students (designed by RS)

*Technology in Modern Security Discourse*, 2005-07, 10 students avg. (designed by RS)

### **University of Minnesota**

*Making Things Nuclear*, Spring 2012, 1 student (designed by RS)

*Technology in American Culture*, Spring 2012, 73 students (re-designed by RS)

*Ethics in Science and Technology*, Fall 2011, 71 students (re-designed by RS)

### **Harvard University**

*The Einstein Revolution*, Teaching Fellow for Peter Galison, Spring 2003

*Experimental Physical Chemistry*, Teaching Fellow for Philip Anfinrud, Spring 1997

*General Chemistry*, Teaching Fellow for James Davis, Fall 1996

### **Massachusetts Institute of Technology**

*Statistical Mechanics*, Teaching Assistant for Keith Nelson, Fall 1998.

### **Westmont College**

*Physics for Scientists and Engineers; Introductory Mathematics; Astronomy; Organic chemistry; General Chemistry*, Teaching Assistant, 1993-1995.

*Writing Advisor*. Assisted students in writing and research by editing and discussing work for a wide range of courses, 1993-1994.

### **GRADUATE ADVISING**

Lissette Lorenz, Science & Technology Studies PhD Program, Cornell University (committee chair, 2017-present).

Derek Parrott, Science & Technology Studies PhD Program, Cornell University (committee chair, 2016-present).

Brian Clarke, Science & Technology Studies PhD Program, Cornell University (committee member, 2015-present).

Annie Tomlinson, History Department PhD Program, Cornell University (committee member, 2015-2018).

Pieter van Wassenaer, Masters in Public Administration and Public Policy, Cornell University (thesis committee member, 2015-present).

Bonnie Gidzak, University of Minnesota History of Science and Technology Program (Outside committee member, 2012-present).

Ilil Benjamin, Science & Technology Studies PhD Program, Cornell University (field-appointed reader, 2016).

Jeffrey Matthias, Science & Technology Studies PhD Program, Cornell University (temporary advisor, 2015-2016).

### **UNDERGRADUATE ADVISING**

Major advising in Science & Technology Studies and Biology and Society: average 15 students per year, 2016-2019

Emma Li, Science & Technology Studies Honors thesis advisor, 2019-2020.

Alex Hutchins, Department of Asian Studies Honors thesis, second reader, 2018-2019.

Declan Abernethy, Science & Technology Studies Honors thesis, second reader, 2017-18.

Alyssa Holman, Biology & Society Honors thesis, second reader, 2017-18.

Danny Crichton, "Academic Revolution and Regional Innovation: Computer Science at Stanford 1957-1970," Stanford STS Honors Program, 2011. **Firestone Award for Excellence in Undergraduate Research.**

Clare Bennett, "YouTube and Cultural Embargo: Internet Censorship and Public Disillusionment in Turkey," Stanford STS Honors Program, 2011.

Irys Kornbluth, "Technology, Design and Cultural Identity: The Globalization of Turkish Textiles and Apparel," Stanford STS Honors Program, 2011.

Diana Munoz, "How Long is the Wait? Minority Perception of Health Care in Stanford's Pediatrics Clinic," Stanford STS Honors Program, 2011.

Greg Gaskin, "An Ethnographic Analysis of Electronic Personal Health Records," Stanford STS Honors Program, 2010. **Firestone Award for Excellence in Undergraduate Research.**

Anarghya Vardhana, "The Political Economy of Cell Phones in Rural India," Stanford STS Honors Program, 2010. **Vincenti Prize for Excellence in STS Research.**

Anna Khan, "Islam and the Internet," Stanford STS Honors Program, 2010.

James Xie, "Bringing Electronic Health Records to Underserved Communities," Stanford STS Honors Program, 2010.

Alicia DeSantola, "Unanticipated Consequences: Eisenhower, Kennedy and the Road to the Indian Atomic Bomb," Stanford STS Honors Program, 2009. **Vincenti Prize for Excellence in STS Research.**

Chenxing Han, "A Bricolage of Stories from Cape Town: Challenging the Discourse of Mobile Phones for Development," Stanford STS Honors Program, 2009. **Award for Excellence in Undergraduate Research in Anthropology.**

Jessie Holland, "Striking a Balance between Good, Clean, and Fair: Technology and the Slow Food Movement," Stanford STS Honors Program, 2009.

Jessica Richman, "An Analysis of Decision-Making in Venture Capital," Stanford STS Honors Program, 2009.

Francisco Cendejas, "Information Technology in American Organized Labor: How Innovation Can Revitalize Union Organizing in America," Stanford STS Honors Program, 2008.

James Pade, "Establishing a Nationally Managed Center of Trust: A Cross-National Comparison of Biometric Identification Card Programs," Stanford STS Honors Program, 2008.

Lee Trope, "Preventing Cervical Cancer: Stakeholder Attitudes Toward FastHPV-Focused Screening Programs In Roi-Et Province, Thailand," Stanford STS Honors Program, 2008.  
***Firestone Award for Excellence in Undergraduate Research.***

Daisy Chung, "Environmental Reporting in the Automotive Industry: Reactions to Changing Institutional Pressures," Stanford STS Honors Program, 2007.

Aditya V. K. Berlia, "An Issue of Quality: The Indian Higher Education System and Software Engineering," Stanford STS Honors Program, 2006.

Ariane Cornell, "Sino-American Relations in Space: Competition, Cooperation, or Coopetition?" Stanford STS Honors Program, 2006.

Jonathan Pearlstein, "Implementing Electronic Health Records in Ambulatory Care Organizations: Expectations, Perceptions and Conflicts," Stanford STS Honors Program, 2006. ***Firestone Award for Excellence in Undergraduate Research.***

## **SERVICE**

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### **CORNELL UNIVERSITY**

Facilitator, Center for Teaching Innovation Teaching Portfolio Institute, April 13, 2019.

Organizer, Judith Reppy Institute for Peace and Conflict Studies weekly seminar, spring 2019 (planning begun in summer 2018).

Co-organizer (with Sabrina Karim and Matt Evangelista), 4<sup>th</sup> Annual Conference on International Studies in the 21<sup>st</sup> Century, sponsored by Stockholm University Graduate School of International Studies and Cornell University's Judith Reppy Institute for Peace and Conflict Studies at the Mario Einaudi Center for International Studies, Stockholm, June 11-12, 2018.

Member, S&TS-Anthropology Selection Committee for the Taylor postdoctoral fellowship, 2017-2018.

Co-organizer (with Mike Lynch and Jessica Ratcliff), Science & Technology Studies Department Colloquium for spring 2018 and fall 2018.



Co-organizer (with Fred Schneider), Workshop on Surveillance, Privacy and Civil Society, to be held February 12-13, 2018, Cornell University.

Co-chair (with Hiro Miyazaki), Nuclear Energy Working Group, Einaudi Center for International Studies, 2016-18.

Co-chair (with Fred Schneider), Cybersecurity Working Group, Einaudi Center for International Studies, 2015-18.

Acting Associate Director, Reppy Institute for Peace and Conflict Studies, 2016-present.

Steering Committee Member, Reppy Institute for Peace and Conflict Studies, 2015-present.

Member, Graduate Field in Information Science, 2018-present.

Member, Graduate Field in Science & Technology Studies, 2015-present.

Press Conference Briefing on The Nuclear Disaster Compensation Report, a project of the Einaudi Center Nuclear Energy Working group, Brussels, Belgium, May 19, 2017.

Idea Stream Anchor, Meridian 180 Global Summit, Brussels, Belgium, May 19-21, 2017. Co-sponsored by the Einaudi Center for International Studies and the Clarke Center for International and Comparative Legal Studies, both at Cornell.

Reviewer for the Cornell Society for the Humanities Fellows Program, 2016 and 2017.

Reviewer for the Cornell Institute for Social Sciences Small Grants Program, 2017.

Co-Organizer (with Fred Schneider), Seminar on Cybersecurity and International Issues, Einaudi Center for International Studies, fall 2016.

Co-chair, Meridian 180 Nuclear Working Group, Okinawa, Japan, July 8-10, 2016.

Moderator and Co-organizer, "Five Years after Fukushima: What Have We Learned from Nuclear Accidents?" Panel discussion sponsored by the Einaudi Center for International Studies, March 11, 2016.

Leader, Student discussion with Kiyoshi Kurokawa, Adjunct Professor, National Graduate Institute for Policy Studies, Japan, and Charles Perrow, Professor Emeritus of Sociology, Yale University, Einaudi Center for International Studies, March 11, 2016.

Member, Einaudi Center Staff Writer search committee, Cornell, Dec. 2015-Feb. 2016.

Leader of Meridian 180 Forum, "Nuclear Energy and Climate Change," Nov. 2015-Jan. 2016. The Meridan forum is "...coordinated by the Clarke Program in East Asian Law and Culture at the Cornell University Law School in Ithaca, New York" and is "a nonpartisan multidisciplinary community of academics, practitioners and policy makers from around the Pacific Rim and the world."

Discussion Leader, Morning session of "Intersectional Feminisms on Campus: A Workshop," organized by the Women's Collective, December 5, 2015.

**STANFORD UNIVERSITY**

Center for International Security and Cooperation Fellowships Selection Committee, 2010-11.

STS Senior Capstone Project Director, Stanford University, 2008-2011.

STS Honors Program Director, Stanford University, 2005-2011.

Cofounder and Chair, Stanford Seminar in Science, Technology and Society, 2005-2011.

Freshman Advisor, Stanford University, 2007-09.

### **MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

Organizer, Writing Workshop, Science, Technology, and Society Program, MIT, 2003-04.

Lambda Project Director, Massachusetts Institute of Technology, 2002– 2004. The Lambda project aimed to help high school students in local underserved communities gain a better understanding of basic physics and hands-on experience with modern laboratory equipment.

### **ORAL HISTORIES AND ARCHIVAL CONTRIBUTIONS**

Oral history interview with Tom Berson, conducted April 18, 2014; edited and archived with the Charles Babbage Institute, May 2017.

<https://conservancy.umn.edu/handle/11299/187822>

Oral history interview with Sheila Brand, conducted September 29, 2016; edited and contributed to the Charles Babbage Institute, February 2017.

<https://conservancy.umn.edu/handle/11299/184724>

Oral history interview with Lance Hoffman, conducted July 2014; edited and contributed to the Charles Babbage Institute in 2014. <https://conservancy.umn.edu/handle/11299/168279>

### **OTHER PROFESSIONAL SERVICE**

Computer History Museum Prize committee, Society for the History of Technology Special Interest Group for Computers in Society (SIGCIS). 2012-2014; 2018-2021.

Associate Editor, *Historical Studies in the Natural Sciences*, 2019-present.

Associate Editor, *International Security Studies Forum*, 2018-present.

Advisory Editor, *Information & Culture*, 2015-present.

Associate Editor for STS, *Information & Culture*, 2017-present.

Area Editor, *ACM Computers & Society*, 2015-present.

Program Committee, International Federation for Information Processing Working Group 9.7 (History of Computing) Conference, 2015-2016; 2018.

Reviewer, Estonian Research Council, 2018.

International Network in the History and Philosophy of Computer Science. Participant at the invitation of Professors Henrik Kragh Sørensen and Mikkel Willum Johansen, University of Copenhagen, 2016-2017.

National Initiative for Cybersecurity Education (NICE) Working Group, 2016.

Proposal referee for the Research Council for Culture and Society at the Academy of Finland, 2016.

Proposal referee for the American Academy in Berlin, 2014-2015.

Roles and Controls Panel, Center for Internet Security (formerly Council on Cybersecurity), 2014-2015.

Robinson Prize Committee, Society for the History of Technology (SHOT), 2010-2012. The Joan Cahalin Robinson Prize is awarded for the best-presented paper by one young scholar presenting work at a SHOT annual meeting for the first time.

Co-organizer, *Modern Physical Science and the State* Joint Atlantic Seminar in the History of the Physical Sciences (JASHOPS), Cambridge MA September 19-21, 2003.

Founding Editor of *Intersect: The Stanford Journal of Science, Technology, and Society*, 2009-11. An undergraduate journal that is part of the Public Knowledge Project (see <http://www.stanford.edu/group/publicknowledge/cgi-bin/ojs/sts-journal/index.php?journal=intersect> )

Book referee for MIT Press, University of Massachusetts at Amherst.

Journal referee for ***Defence Studies; Fire Safety Journal; Information & Culture; International Relations; International Security; International Studies Quarterly; Internet Policy Review; Journal of Cybersecurity; Regulation and Governance; Science and Public Policy; Science, Technology and Human Values; Security Studies; Social Studies of Science; Science as Culture; Technology and Culture; Technovation.***

**Fellowship application referee for the Judith Reppy Institute for Peace and Conflict Studies, the Center for International Security and Cooperation at Stanford, the American Academy in Berlin, and the Academy of Finland.**

## **OTHER PROFESSIONAL ACTIVITIES**

Energy Innovation and Emerging Technologies Professional Certificate, Stanford University Center for Professional Development (2013)

Freelance Writer for *Physical Review Focus*, 2001. Summarized research from *Physical Review Letters*, for general audiences. See archived articles at <http://focus.aps.org/>.

Science Reporter for *The Sacramento Bee*, Sacramento, CA, 2000. Published eleven stories in ten weeks, ranging from front page articles and in-depth feature pieces to stories turned around on a daily basis. Clips are available on request.