

## REBECCA SLAYTON

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### ACADEMIC APPOINTMENTS

<b>Stanford University</b> Program in Science, Technology, and Society Lecturer and Honors Program Director	<b>Sept. 2005 - current</b>
<b>Stanford University</b> Center for International Security and Cooperation Postdoctoral Fellow	<b>Sept. 2004 – Aug. 2005</b>
<b>Massachusetts Institute of Technology</b> Program in Science, Technology, and Society Postdoctoral Fellow	<b>June 2002 – Aug. 2004</b>
<b>Massachusetts Institute of Technology</b> Department of Chemistry Visiting Scientist	<b>Sept. 1997 – May 2002</b>

### EDUCATION

<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>

### SELECTED GRANTS AND AWARDS

Vice-Provost for Undergraduate Education, Stanford University, 2008-09. Senior Capstone Enhancement Project, Science Technology, and Society; Initiated with the support of Professor Robert McGinn; awarded \$9,000 for curriculum development.

CISAC Science Fellowship, Stanford University, 2004-05. Eleven month research fellowship awarded for proposal entitled *Encoding Security Risks: Command and Control for Missile Defense*.

National Science Foundation Postdoctoral Fellowship, 2002-2004. Two year retraining fellowship awarded for proposal entitled *Public Science: Discourse on the Strategic Defense Initiative, 1983-1988*. Research and retraining was conducted with MIT Professors and Principle Investigators David Kaiser, and Hugh Gusterson.

Mass Media Science and Engineering Fellowship, 2000. Summer internship completed at the Sacramento Bee, as part of the American Association for the Advancement of Science, Mass Media Fellows Program.

National Science Foundation Graduate Research Fellowship, 1997-2000. Awarded for a research proposal, *Time-Resolved Infrared Studies of Structure-Function Relationships in Proteins*.

Senior Achievement Award, Westmont College, 1996. Awarded to the senior with the highest cumulative academic record in his or her graduating class.

Clifford Benton Award, Westmont College, 1992. Awarded to most promising incoming freshman chemistry major

## **PUBLICATIONS—SCIENCE AND TECHNOLOGY STUDIES**

*Arguments that Count: Physics, Computing, and Missile Defense, 1949-89*. Book project under review.

“From Death Rays to Light Sabers: Making Laser Weapons Surgically Precise,” Forthcoming in *Technology and Culture*, January 2011.

“Sociotechnical Challenges of Implementing an Interoperable Personal Health Record: Lessons Learned,” with Gregory Gaskin (first author), Christopher A. Longhurst, and Amar Das, under review at the *Journal of the Medical Informatics Association*, November 2010.

“From a ‘Dead Albatross’ to Lincoln Labs: Engineering a University-Industrial-Academic Collaboration,” in preparation, November 2010.

Review of Jacquelyn Bird, *Scientists in Conflict* (Claremont: Regina Books, 2008), *The Review of Politics*, 2010 (volume 72).

“Disciplining Technopolitics: Physics, Computing, and the ‘Star Wars’ Debate,” in *Scientific Cultures, Technological Challenges*, Klaus Benesch, Meike Zwingenberger (Eds) Winter Heidelberg, 2009, pp 221-239.

Review of Tara Brabazon, *University of Google* (Ashgate, 2007), in *International Review of Modern Sociology*, Fall 2008.

“Revolution and Resistance: Rethinking Power in Computing History,” *Annals of the History of Computing*, January-March 2008, 30(1): 96-97.

<http://www.computer.org/portal/web/csdl/doi/10.1109/MAHC.2008.13>

“Discursive Choices: Boycotting ‘Star Wars,’ Between Science and Activism,” *Social Studies of Science*, February 2007, 37(1) pp 27-66.

<http://www.computer.org/portal/web/csdl/doi/10.1109/MAHC.2008.13>

“Speaking as Scientists: Computer Professionals in the Star Wars Debate.” *History and Technology*, Winter 2004, 19(4) 335-364.

<http://dx.doi.org/10.1080/0734151032000181086>

Review of Peter Cotgreave, *Science for survival: scientific research and the public interest* (2003), in *Science and Public Policy*, April 2005.

<http://dx.doi.org/10.3152/147154305781779614>

## **PUBLICATIONS—PHYSICAL SCIENCES**

“Opening Lab Doors to High School Students: Keys to a Successful Engagement.” *Physics Education*, 2005, 40(4): 347-354. (First authored with K. A. Nelson).

“Picosecond acoustic transmission measurements, Part I: Transient grating generation and detection of acoustic responses in thin metal films.” *Journal of Chemical Physics*, February 2004, 120(8): 3908-3918. (First authored with K. A. Nelson).

Reprinted in the *Virtual Journal of Ultrafast Science*, March 2004.

“Picosecond acoustic transmission measurements, Part II: Probing high frequency structural relaxation in supercooled glycerol.” *Journal of Chemical Physics*, February 2004, 120(8): 3919-3930. (First authored with K. A. Nelson).

Reprinted in the *Virtual Journal of Ultrafast Science*, March 2004.

“Developing a transient grating technique to probe fast acoustic dynamics in liquids.” Ph.D. Thesis, Harvard University, 2002.

“Transient grating measurements of film thickness in multi-layer metal films.” *Journal of Applied Physics*, November 2001, 90(9): 4392-4402. (First authored with A. A. Maznev, and K. A. Nelson).

“Time-resolved mid-infrared spectroscopy: methods and biological applications.” *Current Opinion in Structural Biology*, October 1997, 7(5): 717-721. (First authored with P. A. Anfinrud)

“Photochemistry of trans-stilbene adsorbed on Al<sub>2</sub>O<sub>3</sub> (0001).” *Journal of Physical Chemistry*, September 1996, 100(38): 15551-15554. POIP (First authored with N. R. Franklin, and N. J. Tro)

“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*, February 1995, 99(7): 2151-2154. (First authored with C. M. Aubuchon and T. L. Camis)

## SELECTED PRESENTATIONS

- “From Death Rays to Light Sabers,” SHOT Annual Meeting, Tacoma, Washington, October 1, 2010.
- “The Unclosed World: Information Technology for Counterterrorism,” 4S Annual Meeting, Washington, D.C., October 30, 2009.
- “Understanding Engineering Communities: What Role for Network Analysis?” Invited Paper for the Science, Technology, and Society Department Seminar, October 23, 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.
- “Programmers, Managers, and Defense Dollars: The Contrary Networking of “Software Engineering” Invited Talk for the CISAC Research Seminar, Stanford University, October 15, 2009.
- Catastrophic Failures and Technical Progress: Risk Communication in Software History,” Invited Talk for the UCSF-Berkeley History of Science Colloquium, November 5 2007.
- “The Politics of Progress: Risk Communication in the History of Computing,” Paper presented at the Annual Meeting of the Society for the History of Technology, October 18-21, 2007.
- “Risk Communication in Software Engineering: From “Activism” to “Professional Responsibility,”” Invited Paper for the Workshop on Knowledge in Contention, Cornell, Oct. 4-6 2007.
- “Calculated Risks? Scientific Expertise and the Problem of Missile Defense,” Paper presented at University of British Columbia, Liu Institute for International Studies, November 6, 2006.
- “Challenging the System: Scientists and the Political Engagement on Missile Defense in the Long ‘60’s,” Paper presented at the Policy History Conference, Charlottesville, VA, June 1-4, 2006.
- “Calculated Risks? Expertise, Computing, and Closure on Missile Defense,” Invited Talk for the Bovay Seminar on Ethics and Engineering, Cornell University, April 12 2006,
- “Opening Pandora’s Black Box: Information Technology in the ‘War on Terrorism,’” Paper presented at the International Studies Association Annual Convention, San Diego, CA, March 24, 2006.
- “Calculated Risks? Computing and the Problem of Missile Defense,” Paper presented at the Annual Meeting of the Society for the Social Studies of Science, Pasadena, CA, October 2005.
- “Expert Discourse on Star Wars: The Medium and the Message.” Paper presented at the 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.” Paper presented at the History of Science Society Annual Meeting, Austin, TX, November 18-21, 2004.

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

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

### **SEMINARS, PANELS, AND WORKSHOPS**

Cofounder and Chair, Stanford Seminar in Science, Technology and Society, 2006-Present. 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.

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,” The Annual Meeting of the Society for the History of Technology, 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.

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.

## TEACHING

### Stanford University

*Science and Technology in the Security State*, Winter 2006

*Controversy and Closure: The Politics of Technical Expertise*, Winter 2006, 2007

*Technology in Modern Security Discourse*, Fall 2005, 2006

*Imagining the Computer, Wiring the World*, Spring 2008, 2009, 2010

*Junior Honors Seminar*, Spring 2006, 2007, Winter 2008, 2009, 2010

*Senior Honors Seminar*, Fall, Winter, Spring 2009 and 2010

### 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.

## INNOVATIVE CURRICULUM DEVELOPMENT

### STS Senior Capstone Project Director, Stanford University, 2008-Present.

Enhancing the capstone experience of seniors majoring in Science, Technology, and Society. Project leadership included initiating, writing, and winning a grant proposal to enhance teaching; integrating senior paper writing with a new online journal; establishing a rubric for grading all senior papers; establishing a committee paper grading system; participating in paper evaluation; evaluating the effectiveness of the

process; recommending specific improvements for future curriculum; and helping hire qualified instructors and graders.

**STS Honors Program Director, Stanford University, 2005-Present.**

Raising the quality of honors research in Science, Technology, and Society. This includes developing new courses, improving existing courses, updating requirements, networking alumni, and improving publicity. It also includes developing new student resources, such as a step-by-step guide for writing STS research proposals, guidelines for finding and working with faculty mentors, a database of past honors theses and undergraduate research proposal, and a senior-level seminar to guide students to completion of the honors thesis.

**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. Initial development of this teaching laboratory included laboratory renovation, building modern spectroscopic experiment, creating appropriate pedagogical materials, a website, and coordinating with local high school teachers and administrators. Ongoing responsibilities included working with students on a weekly basis, grant writing, and continued outreach.

**THESES ADVISED – SCIENCE, TECHNOLOGY, AND SOCIETY, STANFORD**

Greg Gaskin, “An Ethnographic Analysis of Electronic Personal Health Records,” 2010 (Amar Das, Rebecca Slayton) ***Won Firestone Award for Excellence in Undergraduate Research.***

Anarghya Vardhana, “The Political Economy of Cell Phones in Rural India,” 2010 (Robert McGinn, Rebecca Slayton) ***Won Vincenti Prize for Excellence in STS Research.***

Anna Khan, “Islam and the Internet,” 2010 (Robert McGinn, Rebecca Slayton)

James Xie, “Bringing Electronic Health Records to Underserved Communities,” 2010 (Terry Winograd, Rebecca Slayton)

Alicia DeSantola, “Unanticipated Consequences: Eisenhower, Kennedy and the Road to the Indian Atomic Bomb,” 2009 (Bart Bernstein, Rebecca Slayton) ***Won Vincenti Prize for Excellence in STS Research.***

Chenxing Han, “A Bricolage of Stories from Cape Town: Challenging the Discourse of Mobile Phones for Development,” 2009 (S. Lochlann Jain, Rebecca Slayton) ***Won Award for Excellence in Undergraduate Research in Anthropology.***

Jessie Holland, “Striking a Balance between Good, Clean, and Fair: Technology and the Slow Food Movement,” 2009 (Robert McGinn, Rebecca Slayton)

Jessica Richman, “An Analysis of Decision-Making in Venture Capital,” 2009 (Robert McGinn, Rebecca Slayton)

- Francisco Cendejas, “Information Technology in American Organized Labor: How Innovation Can Revitalize Union Organizing in America,” 2008 (Robert McGinn, Rebecca Slayton)
- James Pade, “Establishing a Nationally Managed Center of Trust: A Cross-National Comparison of Biometric Identification Card Programs,” 2008 (Rebecca Slayton, Margaret Johnson)
- Lee Trope, “Preventing Cervical Cancer: Stakeholder Attitudes Toward FastHPV-Focused Screening Programs In Roi-Et Province, Thailand,” 2008 (Paul Wise, Paul Blumenthal, Rebecca Slayton). **Won Firestone Award for Excellence in Undergraduate Research.**
- Daisy Chung, “Environmental Reporting in the Automotive Industry: Reactions to Changing Institutional Pressures,” 2007 (Steve Barley, Rebecca Slayton)
- Aditya V. K. Berlia An Issue of Quality: The Indian Higher Education System and Software Engineering, 2006 (Rebecca Slayton, Robert McGinn,)
- Ariane Cornell, “Sino-American Relations in Space: Competition, Cooperation, or Coopetition?” 2006 (Joe Corn, Rebecca Slayton, Robert McGinn)
- Jonathan Pearlstein, “Implementing Electronic Health Records in Ambulatory Care Organizations: Expectations, Perceptions and Conflicts,” 2006 (Amar Das, Rebecca Slayton). **Won Firestone Award for Excellence in Undergraduate Research.**

#### **OTHER PROFESSIONAL ACTIVITIES**

- Robinson Prize Committee, Society for the History of Technology, 2010-. 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.
- Referee for MIT Press, *Social Studies of Science, Science and Public Policy, Science as Culture.*
- Freshman Advisor, Stanford University, 2007-09. Advised eight Stanford freshmen on choosing a major, developing good work habits, and other basic academic skills.
- 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..

#### **REFERENCES**

Available upon request.