

## Curriculum Vitae

### PAUL N. EDWARDS

School of Information  
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#### PROFESSIONAL POSITIONS

**Associate Professor**, School of Information, University of Michigan (1999-present) and Residential College, University of Michigan (1999-2004)

**Director, University of Michigan Science, Technology & Society Program** (2000-03, 2005-06)

##### Visiting Researcher

- Technische Universiteit Eindhoven, Netherlands (2007)
- University of Kwazulu-Natal, Durban, South Africa (2003-04)
- University of Melbourne, Australia (2001)

**Senior Research Scholar**, Program in Science, Technology & Society, Stanford University (1997-1998) and Lecturer, Program in Science, Technology & Society and Dept. of Computer Science, Stanford University (1994-1997)

**Director**, Information Technology & Society Project, Stanford University (1995-1997)

##### Visiting Assistant Professor

- School of Information and Residential College, University of Michigan (Fall 1997)
- Dept. of Computer Science and Program in Science, Technology & Society, Stanford University (1992-1994)
- Dept. of Science and Technology Studies, Cornell University (1990-1992)

#### EDUCATION

**Ph.D., History of Consciousness, University of California at Santa Cruz** (1988)

**Université de Paris VIII, Paris, France** (1980-81, no degree)

**B.A., Wesleyan University** (1980)

#### GRANTS, AWARDS, AND HONORS

**National Science Foundation grant**, co-PI, "Scaling up: Introducing commodity governance into community Earth science modeling." Cyber-Enabled Discovery and Innovation competition. Four-year award to

develop virtual organizations in support of Earth system modeling at currently inaccessible scales of participation, computing power, and scientific complexity. Project team includes software developers, Earth system modelers, human-computer interaction specialists and ethnographers at the National Center for Atmospheric Research, the University of Michigan, the University of Colorado, and the Geophysical Fluid Dynamics Laboratory. Total award: \$2.1 million, 2009-2013

**National Science Foundation grant**, co-PI, "Team Science: Sociotechnical Dimensions of Distributed Work." EAGER competition. Two-year pilot study of how effective interdisciplinary, distributed teams emerge in modern science. Project team includes PI Geof Bowker and postdoctoral fellow Jericho Burg (Univ. of Pittsburgh). Total award: \$300,000, 2009-2011

**National Science Foundation grant**, lead PI, "Monitoring, Modeling, And Memory: Dynamics of Data and Knowledge in Scientific Cyberinfrastructures." Human and Social Dynamics competition. Three-year comparative analysis of four scientific cyberinfrastructures using ethnographic, historical, and information-scientific methods. Project team includes 5 co-PIs (UM, UCLA, and Santa Clara University) and three graduate students. Total award: \$1.2 million, 2008-2011

**National Science Foundation conference grant**, lead PI, conference series on *History & Theory of Infrastructure: Distilling Lessons for New Scientific Cyberinfrastructures*. Three meetings: initial workshop at National Science Foundation June 26, 2006; major conference at University of Michigan (35 participants) Sept. 28-Oct. 1, 2006; report-out workshop at National Science Foundation, Dec. 15, 2006. Co-PIs Geof Bowker, Santa Clara University, and Steve Jackson, UM. Total award: \$91,911

**Carnegie Scholars Award**, "The Technopolitics of Information Infrastructure in South Africa: Apartheid, Regime Change, and Legitimate Sovereignty," Carnegie Corporation of New York. Award: \$94,800, 2003-05

**John Simon Guggenheim Memorial Fellowship**, "The Technopolitics of Information Infrastructure in South Africa," Award: \$34,000, 2003-04

**Charles D./Christella D. Moody South Africa Initiative Fund**, travel and research grant to support "The Technopolitics of Information Infrastructure in South Africa." Award: \$2,500, 2003-04

**W. K. Kellogg Foundation Research Grant**, "Toward a Balanced Approach to Information and Communications Technology." Principal investigator: Paul N. Edwards. Award: \$20,500, 2000-2002

**Rachel Carson Prize: Honorable Mention**, 1998. Awarded by the Society for Social Studies of Science for *The Closed World: Computers and the Politics of Discourse in Cold War America* (1996)

**National Science Foundation Research Grant**, "Models, Data, Technology, and Politics: Climate Science in Historical Context." Award: \$152,000, 1997-2001

**Consultant, Sloan Foundation Research Grant**, "Using the World-Wide Web to Document the Recent History of Atmospheric Science." Principal organizer: Spencer Weart. Organizations: Center for the History of Physics, of the American Institute of Physics; American Meteorological Society; American Geophysical Union. My role as consultant: document the history of general circulation models of the atmosphere from 1956 through the advent of coupled ocean-atmosphere models in the mid-1980s, 1997-2000

**National Science Foundation Professional Development Fellowship**, "Atmospheric Science and Environmental Politics," 1993-94

**Peace Studies Program/ MacArthur Foundation Research Grant**, Cornell University, 1991-92

**Fellow**, Institute on Global Conflict and Cooperation, Summer Seminar on Global Security and Arms Control, 1987  
(La Jolla, CA), 1988 (Sussex, UK)

## PUBLICATIONS

### Books

*A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge: MIT Press, in press, to appear March 2010)

*Changing the Atmosphere: Expert Knowledge and Environmental Governance*, eds. Clark Miller and Paul N. Edwards (Cambridge: MIT Press, 2001)

*Changing Life: Genomes-Ecologies-Bodies-Commodities*, eds. Peter Taylor, Saul Halfon, and Paul N. Edwards (Minneapolis: University of Minnesota Press, 1997)

*The Closed World: Computers and the Politics of Discourse in Cold War America* (Cambridge: MIT Press, 1996)

#### Translations:

- クローズド・ワールド—コンピュータとアメリカの軍事戦略 (Japanese), trans. Shoichi Fukaya (Tokyo: Nihon Hyoronsha, 2003)
- "Construire le monde clos: l'ordinateur, la bombe, et le discours politique de la guerre froide" (French translation of excerpt) in *Les sciences pour la guerre: 1940-1960*, eds. Amy Dahan and Dominique Pestre (Paris: Éditions de l'École des hautes études en sciences sociales, 2004), 223-250

### Articles and Book Chapters

Paul N. Edwards and Gabrielle Hecht, "Technopolitical Strategies in the Construction and Destruction of Apartheid South Africa," *Journal of Southern African Studies* (under revision for resubmission)

Geoffrey C. Bowker, Paul N. Edwards, Steven J. Jackson and Cory Knobel, "The Long Now of Cyberinfrastructure," in W. H. Dutton and P.W. Jeffreys (eds), *World Wide Research: Reshaping the Sciences and Humanities* (Cambridge: MIT Press, in press)

"Some Say the Internet Shouldn't Have Happened," Chapter 3 of *Media, Technology and Society: Theories of Media Evolution*, ed. W. Russell Neuman (Ann Arbor: University of Michigan Press, in press)

Paul N. Edwards, Geoffrey C. Bowker, Steven J. Jackson, and Robin Williams, "Introduction: An Agenda for Infrastructure Studies," special issue on e-Infrastructures, *Journal of the Association for Information Systems* 10:5, May 2009

Gabrielle Hecht and Paul N. Edwards, "The Technopolitics of Cold War: Towards a Trans-Regional Perspective." Pamphlet-length essay commissioned for American Historical Association series *Global and Comparative History*, ed. Michael Adas (Washington D.C.: American Historical Association, 2008)

"Schwache Disziplin: Der Macht-Wissen-Komplex in Netzwerken und der Niedergang des Expertentums," in *Vernetzte Steuerung: Soziale Prozesse im Zeitalter technischer Netzwerke*, ed. Stefan Kaufmann (Zürich: Chronos Verlag, 2007), 47-66

- Steven J. Jackson, Paul N. Edwards, Geoffrey C. Bowker, and Cory P. Knobel, "Understanding Infrastructure: History, Heuristics, and Cyberinfrastructure Policy," *First Monday* (June 2007), [www.firstmonday.org/issues/issue12\\_6/jackson/index.html](http://www.firstmonday.org/issues/issue12_6/jackson/index.html)
- "L'électronique rêvera pour vous': l'informatique rencontre l'information au cours des années Pompidou," in *Georges Pompidou et la modernité: les tensions de l'innovation, 1962-1974*, ed. Pascal Griset (Paris: Presses Universitaires de France, 2007), 159-170
- R. Kelly Garrett and Paul N. Edwards, "Revolutionary Secrets: Technology's Role in the South African Anti-Apartheid Movement," *Social Science Computer Review* 25:1 (2007), 13-26
- "Meteorology as Infrastructural Globalism," in John Krige and Kai-Henrik Barth, eds., *Global Power Knowledge: Science and Technology in International Affairs: Historical Perspectives*, *Osiris* 21 (2006), 229-250
- Gabrielle Hecht and Paul N. Edwards, "Les techniques de la guerre froide dans une perspective mondiale: le nucléaire et l'informatique comme systèmes technopolitiques," in *Deux siècles d'histoire de l'armement en France: de Gribeauval à la force de frappe*, ed. Dominique Pestre (Paris: CNRS Éditions, 2005), 167-78
- Spencer Weart with Paul N. Edwards, "General Circulation Models of Climate," *The Discovery of Global Warming* expanded web version of Weart's book of the same title (Cambridge: Harvard University Press, 2004), <http://www.aip.org/history/climate/GCM.htm>
- "A Vast Machine': Standards as Social Technology," *Science* 304:5672 (May 7, 2004), 827-828
- "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems," in Thomas J. Misa, Philip Brey, and Andrew Feenberg, eds., *Modernity and Technology* (Cambridge, MA: MIT Press, 2003), 185-225
- "Modellen, Daten, Ungewissheit und die Politik in der weltweiten Klimawissenschaft," in *Klima: Das Experiment mit dem Planeten Erde*, ed. Walter Hauser (Munich: Deutsches Museum und Münchener Rückversicherungs-Gesellschaft, 2002), 138-149
- "Building the Closed World: The Computer, the Bomb, and American Political Discourse," in Thomas Y. Levin, ed., *ctrl[space] - Rhetorics of Surveillance from Bentham to Big Brother*. Exhibition catalog, Zentrum für Kunst und Medientechnologie, Karlsruhe, Germany (Cambridge, MA: MIT Press, 2002)
- "Pourquoi fabriquer les ordinateurs?" *La Recherche*, Paris, France. Invited article. Special issue: "La science et la guerre," hors série no. 7, April/June 2002, 21-26
- "Science, Technology, and Concepts of the Global World," *The Journal of the International Institute* 8:3 (Summer 2001), University of Michigan
- Clark Miller and Paul N. Edwards, "Introduction: The Globalization of Climate Science and Climate Politics," in *Changing the Atmosphere: Expert Knowledge and Environmental Governance*, eds. Clark Miller and Paul N. Edwards (Cambridge, MA: MIT Press, 2001), 1-30
- "Representing the Global Atmosphere: Computer Models, Data, and Knowledge about Climate Change," in *Changing the Atmosphere: Expert Knowledge and Environmental Governance*, eds. Clark Miller and Paul N. Edwards (Cambridge, MA: MIT Press, 2001), 31-66
- Paul N. Edwards and Stephen H. Schneider, "Self-governance and Peer Review in Science-for-Policy: The Case of the IPCC Second Assessment Report," in *Changing the Atmosphere: Expert Knowledge and Environmental Governance*, eds. Clark Miller and Paul N. Edwards (Cambridge, MA: MIT Press, 2001), 219-246

- "Think Piece: Making History — New Directions in Computer Historiography," *IEEE Annals of the History of Computing* 23:1 (2001), 86-88
- "A Brief History of Atmospheric General Circulation Modeling," in David A. Randall, ed., *General Circulation Model Development, Past Present and Future: The Proceedings of a Symposium in Honor of Akio Arakawa* (New York: Academic Press, 2000), 67-90
- "The World in a Machine: Origins and Impacts of Early Computerized Global Systems Models," in *Systems, Experts, and Computers: The Systems Approach in Management and Engineering, World War II and After*, eds. Thomas P. Hughes and Agatha C. Hughes (Cambridge, MA: MIT Press, 2000), 221-254
- "Global Climate Science, Uncertainty, and Politics: Data-Laden Models, Model-Filtered Data," *Science as Culture* 8:4 (1999), 437-472
- "Y2K: Millennial Reflections on Computers as Infrastructure," *History and Technology* 15 (1998), special issue on computer history, 7-29
- "Why Build Computers?," in Merritt Roe Smith and Gregory K. Clancey, eds., *Major Problems in the History of American Technology: Documents and Essays* (Boston: Houghton Mifflin, 1998), 454-462. Excerpted from *The Closed World* (1996), Chapter 2
- Sheila Jasanoff and Brian Wynne, with contributions from Frederick H. Buttel, Florian Charvolin, Paul N. Edwards, Aant Elzinga, Peter M. Haas, W. Henry Lambright, Michael Lynch, Chunglin Kwa, and Clark A. Miller, "Science and Decisionmaking," in *Human Choice and Climate Change: The Societal Framework*, eds. Steve Rayner and Elizabeth L. Malone (Columbus, Ohio: Battelle Press, 1998), 1-87
- "Bark Worse Than Bite: Response to Eric Weiss," *Minds and Machines* 8 (1998), 469-72
- "Models in the Policy Arena," in Susan Joy Hassol and John Katzenberger, eds., *Elements of Change 1996* (Aspen, CO: Aspen Global Change Institute, 1997), 159-162
- Paul N. Edwards and Stephen H. Schneider, "The 1995 IPCC Report: Broad Consensus or 'Scientific Cleansing'?" *Ecofables/Ecoscience* 1:1 (1997), 3-9
- "The Terminator meets Commander Data: Cyborg Identity in the New World Order," in *Changing Life: Genomes-Ecologies-Bodies-Commodities*, eds. Peter Taylor, Saul Halfon, and Paul N. Edwards (Minneapolis: University of Minnesota Press, 1997)
- Paul N. Edwards and Peter J. Taylor, "Changing Life in the New World (dis)Order," in *Changing Life: Genomes-Ecologies-Bodies-Commodities*, eds. Peter Taylor, Saul Halfon, and Paul N. Edwards (Minneapolis: University of Minnesota Press, 1997)
- "Global Comprehensive Models in Politics and Policymaking," *Climatic Change* 32, 1996, 149-161
- "Cyberpunks in Cyberspace: The Politics of Subjectivity in the Computer Age," in Susan Leigh Star, ed., *Cultures of Computing* (Keele, England: Sociological Review and Monograph Series, 1995), 69-84
- "From 'Impact' to Social Process: Computers in Society and Culture," Chapter 12 of Sheila Jasanoff, Trevor Pinch, Gerald Markle, and James Petersen, eds., *Handbook of Science, and Technology Studies* (Beverly Hills: SAGE Publications, 1994)

"Hyper Text and Hypertension: Post-structuralist Critical Theory, Social Studies of Science, and Software," *Social Studies of Science* 24:2 (1994), 229-78

"The Army and the Microworld: Computers and the Politics of Gender Identity," *Signs* 16:1 (1990), 102-127. Reprinted in *Gender and Technology: A Reader*, eds. Nina Lerman, Ruth Oldenziel, Arwen Mohun, and Gerald Jensen (Baltimore: Johns Hopkins University Press, 2003)

"The Closed World: Systems Discourse, Military Policy, and Post-WWII US Historical Consciousness" in Les Levidow and Kevin Robins, eds., *Cyborg Worlds: The Military Information Society* (London: Free Association Books, 1989). An earlier version of this essay was published as "The Closed World: Systems Thinking and Military Discourse in Post-WWII Historical Consciousness," *AI and Society* 2:2 (1988)

"Computers in Weapons Systems: An Historical Overview," in Gary Chapman and David Bellin, eds., *Computers in Battle* (New York: Harcourt, 1987)

"Artificial Intelligence and High Technology War: The Perspective of the Formal Machine," Silicon Valley Research Group Working Paper #6 (Santa Cruz, 1986)

"Border Wars: The Science, Technology, and Politics of Artificial Intelligence," *Radical America* 19:6, April, 1986

"Technologies of the Mind: Computers, Power, Psychology, and World War II," Silicon Valley Research Group Working Paper #2 (Santa Cruz, 1985)

"Are 'Intelligent Weapons' Feasible? DARPA's Billion-Dollar Bet," *The Nation*, February 2, 1985

## Editorships

Paul N. Edwards and Geoffrey C. Bowker, editors, *Infrastructures* book series, MIT Press, 2009-present

Paul N. Edwards, Geoffrey C. Bowker, Steven J. Jackson, and Robin Williams, guest editors, special issue on "e-Infrastructures," *Journal of the Association for Information Systems* 10:5, May 2009

Associate Editor, *Management Information Systems Quarterly* 30:3 (2006), special issue on "Standard Making: A Critical Research Frontier for Information Systems," eds. John L. King and Kalle Lyytinen

## Reports

Steven J. Jackson, Archer L. Batcheller, Paul N. Edwards, Geoffrey C. Bowker, Steve Cisler, and Susan Leigh Star, *Extending African Knowledge Infrastructures: Sharing, Creating, Maintaining — A Report and Proposal for the World Bank Knowledge for Development Program*, March 2008

Paul N. Edwards, Steven J. Jackson, Geoffrey C. Bowker, and Cory P. Knobel, *Understanding Infrastructure: Dynamics, Tensions, and Design. Report of the NSF Workshop on History & Theory of Infrastructure: Lessons for New Scientific Cyberinfrastructures* (Ann Arbor: Deep Blue, 2007), <http://hdl.handle.net/2027.42/49353>. 50 pp.

Christopher A. Lee, Brian S. Williams, and Paul N. Edwards, "Evaluating Information and Communications Technology: Perspectives for a Balanced Approach." Report to the W. K. Kellogg Foundation, December 17, 2001. 128 pp.

## Research Websites

Christopher A. Lee, Brian S. Williams, and Paul N. Edwards, "Evaluating Information and Communications Technology: Perspectives for a Balanced Approach," [www.si.umich.edu/pne/kellogg](http://www.si.umich.edu/pne/kellogg). June 2003. Web version of report to the W.K. Kellogg Foundation. Reviews recent literature on the social impacts of ICTs. Includes executive summary; annotated bibliography summarizing more than 50 books, articles, and websites; transcripts of 8 interviews with leading experts; and a bibliography of over 290 books, articles, and websites.

"Atmospheric General Circulation Modeling: A Participatory History," [www.aip.org/history/sloan/gcm](http://www.aip.org/history/sloan/gcm). Last modified April 2000. Funded by the Sloan Foundation under a consulting arrangement with the Center for the History of Physics at the American Institute of Physics. No longer maintained.

"Information Technology and Society Project," [www.stanford.edu/group/itsp](http://www.stanford.edu/group/itsp). A networked, distributed multimedia digital library on the recent history of high technology. The project ended in 1998. Website no longer maintained.

## Book Reviews

Fernando Elichirigoity, *Planet Management: Limits to Growth, Computer Simulation, and the Emergence of Global Spaces* (Evanston, Ill.: Northwestern University Press), in *Isis* 91:4 (2000), 828-9

"Virtual Machines, Virtual Infrastructures: The New Historiography of Information Technology," invited essay review, in *Isis* 89:1 (1998), 93-99. Review of James J. Cortada, *Information Technology as Business History* (Westport, CT: Greenwood Press, 1996); Martin Campbell-Kelly and William Aspray, *Computer: A History of the Information Machine* (New York: Basic Books, 1996); Arthur L. Norberg and Judy E. O'Neill, *Transforming Computer Technology: Information Processing for the Pentagon, 1962-1986* (Baltimore: Johns Hopkins University Press, 1996); Katie Hafner, *Where Wizards Stay Up Late: the Origins of the Internet* (New York: Simon and Schuster, 1996); Rochlin, Gene I., *Trapped in the Net: The Unanticipated Consequences of Computerization* (Princeton, NJ: Princeton University Press, 1997); and Thomas K. Landauer, *The Trouble with Computers: Usefulness, Usability, and Productivity* (Cambridge, MA: MIT Press, 1995)

Donald Mackenzie, *Knowing Machines* (Cambridge, MA: MIT Press, 1996), in *Technology & Culture* 38:4 (1997), 962-964

Bruno Latour, *Aramis, or the Love of Technology* (Cambridge, MA: Harvard University Press, 1996), feature review in *Isis* 88:2 (1997), 322-324

Evelyn Fox Keller, *Refiguring Life: Metaphors of Twentieth-Century Biology* (New York: Columbia University Press, 1995), in *Isis* 88:1 (1997), 159-60

Martin Campbell-Kelly and William Aspray, *Computer: A History of the Information Machine* (New York: Basic Books, 1996), in *IEEE Spectrum* 34:2 (February, 1997), 10

J.A.N. Lee, *Computer Pioneers* (Los Alamitos, CA: IEEE Computer Society Press, 1996), in *Technology & Culture* 37:4 (October, 1996), 860-61

Emerson Pugh, *Building IBM: Shaping an Industry and Its Technology* (Cambridge, MA: MIT Press, 1995), in *Technology & Culture* 37:2 (April, 1996), 385-87

Michael Schiffer, *Technological Perspectives on Behavioral Change* (Phoenix: University of Arizona Press, 1994), in *Technology & Culture* 36:3 (July, 1995)

### Pedagogical Essays

These short essays are teaching tools. They undergo regular revision, and are published and distributed only via WWW. Both have been very widely circulated.

"How to Give an Academic Talk: Changing the Culture of Public Speaking in the Humanities," [www.si.umich.edu/~pne/PDF/howtotalk.pdf](http://www.si.umich.edu/~pne/PDF/howtotalk.pdf) (1997-2009)

"How to Read a Book," [www.si.umich.edu/~pne/PDF/howtoread.pdf](http://www.si.umich.edu/~pne/PDF/howtoread.pdf) (1996-2009)

### INVITED LECTURES AND SEMINARS

"Doomsday Data: Climate Models and Global Time," conference on Data Traces of the Planetary Disaster, Graduate School on Media of History/History of Media, Weimar University, Weimar, Germany, October 2009

"Versions of the Atmosphere: Climate Models, Data Models, Global Space and Time," keynote address, conference on Modeling Spaces, Modifying Societies, Darmstadt University of Technology, Darmstadt, Germany, October 2009

"Computers, Apartheid, and Information Infrastructure in South Africa, 1960-2000," Engaging Africa/Advancing African Studies, University of Michigan, March 2009

"Climate Science as a Global Knowledge Infrastructure," Dept. of History and Sociology of Science, University of Pennsylvania, September 2008

"Making Data Global: Computer Models as Tools for Knowledge Integration," European-American Conference on Management of Climate Change Research, Institute for International Studies, UC Berkeley, May 2008

"Weak Discipline: Network Power/Knowledge and New Knowledge Infrastructures," Technology & Society Program, University of Maastricht, Netherlands, June 2007

"Réseaux mondiaux de données et savoirs sur le changement climatique," Centre Alexandre Koyré, Centre de Recherche en Histoire des Sciences et des Techniques, Paris, France, May 2007

"What Historians Know about Infrastructure, and How Policymakers can Use It," Dept. of History of Technology, Technical University of Eindhoven, Netherlands, April 2007

"Understanding Infrastructure: Dynamics, Tensions, and Design," Next Generation Infrastructures Project, Technical University of Delft, Netherlands, April 2007

"Simulation, modélisation, et infrastructure de données dans l'histoire de la climatologie mondiale," Colloque Entre-Sciences: Evolutions climatiques – approches interdisciplinaires, Muséum National d'Histoire Naturelle, Paris, France, March 2007

"Cyberinfrastructure for the Sciences: What Social Science can Contribute, and Learn," Virtual Knowledge Studio, Royal Netherlands Academy of Arts & Sciences, Amsterdam, March 2007

- "Transnational Infrastructures and the Making of Contemporary Europe," opening address, *First International Workshop on Transnational infrastructures and the Rise of Contemporary Europe*, April 2006
- "The Internet Should Never Have Happened, or...Why the Internet Was Completely, Utterly Inevitable," workshop on *Media, Technology, and Society: The Challenge of Digital Convergence*, University of Michigan, March 2006
- "The Node-Link Individual and the Decline of the Expert Mind: Unraveling Power/Knowledge in the Information Age," keynote address, *International Symposium on Networks as Modalities of Socio-Technical Governance*, Swiss Federal Institute of Technology, Zürich, Switzerland, September 2005
- Paul N. Edwards and Gabrielle Hecht, "Technopolitics and the Translucent State: Apartheid South Africa, the Anti-Apartheid Movement, and the Cold War," Northwestern University, April 2005
- "Global Knowledge Infrastructures," Science and Society Program, Wesleyan University, April 2005
- "Global Knowledge Infrastructures: Monitoring and Surveillance as Epistemology," Science Studies Program, University of California at San Diego, April 2005
- "«L'Électronique rêvera pour vous»: l'informatique rencontre l'information au cours des années Pompidou," colloquium of the Association Georges Pompidou on *La France de Georges Pompidou dans la modernité: les tensions de l'innovation, 1962-1974*, National Assembly, Paris, France, March 2005
- "Global Knowledge Infrastructures and the Increasing Reality of Anthropogenic Climate Change across the 20th Century," conference on *Whole Earth Systems: Science, Technology and Policy* (Festschrift for Stephen H. Schneider), Stanford University, February 2005
- "Infrastructure and/as Environment: Design as the Naturalization of Politics," conference on *The Constructed Environment: Design and the Discourses Of Naturalization*, Temple Hoyne Buell Center for the Study of American Architecture, Columbia University, New York, October 2004
- "Infrastructural Epistemology: Global Networks and Global Knowledge," conference on *The Power and Pathology of Networks*, InfoTechWarPeace Project, Watson Institute, Brown University, September 2004
- "Slipping through the Web: Computers and U.S. Global Power from the Cold War to September 11, 2001," Mediamatic Institute, Amsterdam, Netherlands, December 2003
- "Thinking Globally: Computers, Networks, and the Construction of 'Global' Spaces," Piet Zwart Institute, Rotterdam, Netherlands, December 2003
- "Computers, Apartheid, and the Technopolitics of Regime Change: South Africa 1970-2003," History of Technology Dept. and Technology & Sustainability Studies Dept., Eindhoven University of Technology, Netherlands, December 2003
- "The World in a Machine," Dept. of Historical Studies, University of Natal, Durban, South Africa, October 2003
- "The University of Michigan Science, Technology & Society Program," Working Group on Science and Society, Wayne State University, May 2003
- "Thinking Globally: Computers, Networks, and the Construction of 'Global' Spaces," Dept. of Anthropology, University of Chicago, March 2003

"Computers, Networks, and Global Spaces," Leading Edge Seminar in the Social Sciences, Oberlin College, March 2002

"Slipping through the Web: Computers and U.S. Global Power from the Cold War to September 11, 2001," Zentrum für Kunst und Medientechnologie, Karlsruhe, Germany. Part of a distinguished lecture series organized around a museum exhibition, *ctrl[space] - Rhetorics of Surveillance from Bentham to Big Brother*, curated by Thomas Y. Levin, Princeton University. Exhibit website: <http://ctrlspace.zkm.de/e/>. February, 2002

"Thinking Globally: Computers, Networks, and the Construction of Global Space(s)," Colloquium on the History and Philosophy of Science, Northwestern University, January 2002

"Global Information Infrastructures and Global Knowledge," International Seminar Series on Frontiers in the History of Technology, Eindhoven University of Technology (EUT), Netherlands. Part of a day-long intensive session on my work for EUT doctoral students, November, 2001

Panel on "The Role, Structure, and Significance of Graduate Programs," Kennedy School of Government, Harvard University. Part of *Beyond the Two Cultures: STS and the Liberal Arts*, a workshop for deans and provosts of major universities, sponsored by the Society for Social Studies of Science with funding from the National Science Foundation, November 2001

"Cold War Legacies," Sawyer Seminar on Cold War as Global Conflict, International Center for Advanced Studies, New York University, October 2001

"Thinking Globally: Computers, Networks, and the Construction of "Global" Space(s)," Dept. of History and Philosophy of Science, University of Melbourne, Australia, July 2001

"Thinking like a Planet: Climatology, Information Infrastructures, and the Construction of Global Space," Bureau of Meteorology Research Centre, Melbourne, Australia, July 2001

Gabrielle Hecht and Paul N. Edwards, "Techniques de la guerre froide en perspective mondiale: le nucléaire et l'informatique comme systèmes technopolitiques." Colloquium on *Armement, Stratégie, Nation: De Gribeauval à la force de frappe*, Comité pour l'histoire de l'armement, École Militaire, Paris, France, January, 2001

"Systems, Networks, and Webs: Toward a History of Digital Convergence," Dept. of Science and Technology Studies and Dept. of Computer Science, Cornell University, October, 2000

"Systems, Networks, and Webs: Toward a History of Digital Convergence," Program in Science, Technology & Society, MIT, March 2000

"Infrastructure and Modernity: Scales of Force, Time, and Social Organization in the History of Sociotechnical Systems," conference on *Technology and Modernity: The Empirical Turn*, University of Twente, Netherlands, November 1999

"Models and the Politics of Uncertainty," Science Dynamics Group, University of Amsterdam, Netherlands, May 1999

"Les modèles numériques et la politique de l'incertitude scientifique dans la science globale du climat," seminar on *Modèles, modélisations en sciences physiques et en sciences sociales*, École des Ponts et Chaussées, Paris, France, May 1999

- "L'ordinateur et la défense aérienne: le projet WHIRLWIND et la politique de la Guerre Froide aux États-Unis, 1945-58," seminar on *Sciences et Armement au 20e siècle*, Centre Alexandre Koyré, Paris, France, May 1999
- "Vigilance and Vacuum Tubes: The SAGE System, 1956-63," Computer Museum History Center, May 1998
- "Early Computer Models of Global Phenomena: Weather, Climate, and Planetary Limits," Cold War Science & Technology Studies Program, Dept. of History, Carnegie-Mellon University, February 1998
- "The World in a Machine: History and Politics of Global Climate Models, 1945-92," Program in History and Philosophy of Science Lecture Series, John J. Reilly Center, University of Notre Dame, February 1998
- "A GCM Family Tree: The Major Climate Models and Their Descendants," Symposium on General Circulation Model Development: Past, Present, and Future, Dept. of Atmospheric Science, University of California at Los Angeles, January 1998
- "Computer Models and the Politics of Uncertainty in Global Climate Science," Observations of Nature Conference, Dept. of Science & Technology Studies, Cornell University, December 1997
- "The World in a Machine: Origins and Impacts of Early Computerized Global Systems Models," Humanities and the Environment Research Focus Group, University of California at Santa Barbara, May 1997. Also presented, by invitation, to Graduate School of Library and Information Science, University of Illinois at Champaign/Urbana, October 1996. Originally an invited paper for the conference on "The Spread of the Systems Approach in the Sciences," Dibner Institute for the History of Science and Technology, May 1996
- "The Closed World: Computers, Military Power, and Political Identity after WWII," Dept. of History of Science, University of Oklahoma, April 1997
- "Fire & Ice: Modeling the Future of Climate and Life," School of Information, University of Michigan, April 1997
- "Inside the Closed World: 2001 as Cold War Allegory," conference on "Opening The Pod Bay Doors: Critique, Control And Computers," Cyberfest '97, University of Illinois at Champaign/Urbana, March 1997
- "Global Comprehensive Models and Global Climate Politics," Aspen Global Change Institute, August 1996
- "Computer Models and the Politics of Climate Change," conference on "Climate Communications as a Research Field in the Social Sciences," Center for Interdisciplinary Studies, University of Bielefeld, Germany, September 1995
- "Earth Systems Models and Problems of Global Change," Conference on Climate Change and the Social Sciences, Cornell University, September 1994
- "Technologies of Language and Mind: Computer and Information Metaphors in Post-WWII American Psychology," Walter Rathenau Sommerakademie on "Communicating Nature," Berlin, Germany, July 1994
- "From Cyberspace to Virtual Reality: Computers, War, and Subjectivity in the New World Order," Student Pugwash USA annual National Meeting, Stanford University, January 1994
- "Noise, Communication, and Cognition: The Harvard Psycho-Acoustic Laboratory and the Second World War," Psychology Dept. Seminar Series, University of Pennsylvania, October 1993
- "Origins of Cognitive Psychology: The Harvard Psycho-Acoustic Laboratory and Human-machine Integration," Center for the Study of Language and Information, Stanford University, April 1993

"History of Computing: Government Support for Computer R&D," Stanford Computer Forum Annual Meeting, January 1993

"Cyberpunks in Cyberspace: The Politics of Subjectivity in the Computer Age," Commonwealth Center for Literary and Cultural Change, series on "Computing and New Cultural Forms," University of Virginia Humanities Center, October 1992. Also presented, by invitation, to Symbolic Systems Forum, Stanford University, November 1992

"The Closed World: Computers, Artificial Intelligence, and Post-WWII US Historical Consciousness," Williams College lecture series on "Technology and Politics," January, 1991

"Environmental Issues as International Security Problems in the Pacific Rim," California Seminar Conference on Pacific Rim Security, RAND Corporation, March 1989

"History of Cognitive Psychology," Wesleyan University Psychology Colloquium, November 1987

## CONFERENCE PRESENTATIONS

"Computers, Apartheid, and Information Infrastructure in South Africa, 1960-2000," Engaging Africa/Advancing African Studies, University of Michigan, March 2009

Archer Batcheller and Paul N. Edwards, "Social Science Studies of ESMF as Cyberinfrastructure: A New Project," American Geophysical Union annual meeting, San Francisco, December 2008

"Data Friction and Computational Friction in the History of Global Climatology," Society for Social Studies of Science annual meeting, Rotterdam, August 2008

"Ideology and Irony in Technopolitics: Computers and Apartheid Revisited," Society for the History of Technology annual meeting, Washington D.C., October 2007

Co-organizer and presenter, workshop on "Understanding Infrastructure: Dynamics, Tensions, Design, and Data," e-Social Science Conference, Ann Arbor, October 2007

"Trust in Data: Climate Change Knowledge and the Meteorological Information Infrastructure," Society for Social Studies of Science annual meeting, Montreal, October 2007

"STS & Information Studies: Doing STS in Information Schools" roundtable, Society for Social Studies of Science annual meeting, Montreal, October 2007

"Past and future tense: How history can play a role in policymaking" (roundtable — co-organizer and presenter), Third Plenary Conference of the Tensions of Europe Network, Rotterdam, Netherlands, June 2007

Kerstin Lehnert, Paul N. Edwards, Geoffrey C. Bowker, and Steven J. Jackson, "The Cultural and Social Challenges of Developing Geoinformatics: Insights from Social, Domain, and Information Sciences," Geoinformatics 2007: Data to Knowledge, San Diego, CA, May 2007

Paul N. Edwards and Christopher A. Lee, "Infrastructuration: Technology Studies and/as Social Theory," Society for Social Studies of Science annual meeting, November 2006

- Paul N. Edwards & Gabrielle Hecht, "Technopolitics in the Construction and Destruction of Apartheid South Africa," African Technopolitics Workshop, Ithala, South Africa, July 2006
- Paul N. Edwards & Gabrielle Hecht, "Translucency and the Technopolitics of Resistance in Apartheid South Africa," annual meeting of the Society for Social Studies of Science, November 2005
- Paul N. Edwards & Gabrielle Hecht, "Technopolitics and the Translucent State: Apartheid South Africa and the Cold War," annual meeting of the Society for History of Technology, Amsterdam, Netherlands, October 2004
- "'Networking Europe': The View from South Africa," Tensions of Europe: Technology and the Making of 20th Century Europe, 1<sup>st</sup> Plenary Conference, Budapest, Hungary, March 2004
- "An Information Technology Paradox: General Concern vs. Positive Reception," panel on "The Dark Side of Information Technology," Fourth International Conference on Conceptions of Library and Information Science: Emerging Frameworks and Methods, Seattle, Washington, July 2002
- "History of a Number: Climate Simulations, Data Networks, and Global Average Temperature," annual meeting of the Society for Social Studies of Science, Cambridge MA, November 2001
- "Thinking Globally: Computers, Networks, and the Construction of 'Global' Space(s)," panel on Computers, Ideologies, and Technological Change, annual meeting of the Society for the History of Technology, San Jose, CA, October 2001
- "The World in a Machine: Computer Models, Data Networks, and Global Atmospheric Politics," History E-book Colloquium, American Council of Learned Societies, May 2001
- "Computer Models and the Politics of Uncertainty in Global Climate Science," annual meeting of the American Anthropological Association, San Francisco, CA, November 2000
- "World Wide Webs? Networks, Digital Convergence, and Globalization," annual meeting of the Society for Social Studies of Science, Vienna, Austria, September 2000
- "Computer-based Infrastructures and Globalization," annual meeting of the Organization of American Historians, St. Louis, MO, March 2000
- "Data Wars: Reconciling (or not) Disparate Data Sources in Global Climate Science," panel on "The Sociology and Politics of Database" (co-organized by Geoff Bowker and Paul Edwards), annual meeting of the Society for Social Studies of Science, October 1999
- Panel: "Systems, Networks, and Webs: New Directions in the Historiography of Information Technology?" Society for History of Technology, October 1998. Panelists: Paul N. Edwards, Thomas Parke Hughes, Jon Agar, Geoffrey Bowker
- "Nerd Worlds: Computer Hackers, Unofficial Culture, and Masculine Identities," annual meeting of the History of Science Society, November 1997
- "Scientific Internationalism and the Global Atmosphere, 1945-1957," presentation at "Changing the Atmosphere: Science and the Politics of Global Warming," double panel at the annual meeting of the Society for Social Studies of Science, October 1997. Session co-organizer (with Clark Miller) and chair
- Commentator, panel on "Materials, Practices, and Appropriate Politics: Putting Theory to Work in Designing Technology," annual meeting of the Society for Social Studies of Science, October 1997

- “Building Worlds: The History and Politics of Climate Science,” conference on History of Science & Technology, University of California Berkeley, January 1997
- “Fire and Ice: Modeling the Future of Climate and Life,” annual meeting of the Society for the History of Technology, London, August 1996. Also presented at the “Moore School Lectures 50th Anniversary Commemorative Technical and Historical Symposium,” University of Pennsylvania, May 1996. An earlier version was delivered at the Conference on Biology, Computers, and Society, Stanford University, June 1994
- “SiliconBase: A Networked Scholarly Workspace for the Humanities,” national meeting of the National Science Foundation Digital Libraries Initiative, University of California at Santa Barbara, November 1995
- “Global Climate Change: The History and Politics of Global Warming,” panel discussion (including Stephen Schneider, John Harte, and Pamela Mack), Program in History and Philosophy of Science, Stanford University, February 1995
- “The Closed World: Computers, Military Power, and Political Identity in Postwar America,” American Historical Association Annual Meeting, Chicago, January 1995
- “Representing Global Climate Change: Atmospheric Science and Environmental Politics,” co-organizer and discussant. Panel presentation at Society for Social Studies of Science Annual Meeting, New Orleans, October 1994
- “Why Build Computers? The Cold War, Project Whirlwind, and Air Defense 1945-58,” Society for the History of Technology Annual Meeting, Lowell, MA, October 1994
- “Political Theory and Science and Technology Studies,” Society for Social Studies of Science annual meeting, November 1993
- “Hypertext: Hype or Text?,” Society for Social Studies of Science Annual Meeting, Cambridge MA, November 1991
- “User Friendly: Images of Computers in Advertising,” Society for Social Studies of Science Annual Meeting, Cambridge MA, November 1991
- “Military Science and Basic Research: The Politics of Conceptual Boundaries in Artificial Intelligence,” Society for Social Studies of Science, Irvine CA, November 1989
- “The Cultural Politics of High Technology,” Gordon Research Conference on Cybernetics, Oxnard CA, January 1988
- “Pacific Security: Regional Impacts of Trends in Global High Technology” (with Richard Gordon), Institute on Global Conflict and Cooperation, Conference on Pacific Rim Security, Berkeley, March 1987
- “Border Wars: The Science, Technology, and Politics of Artificial Intelligence,” Society for Values in Higher Education Annual Meeting, Bowdoin College, August 1984
- “Origins of Cybernetic Psychology,” Society for Values in Higher Education Annual Meeting, Carleton College, August 1983

## DISSERTATION SUPERVISION (asterisks indicate advisees)

**Matt Hein** (Taubman School of Architecture, projected for 2012), no title yet

**Trond Jacobsen** (projected for 2011), "Evidence of Conquest: Records, Evidence, and the Federal Acknowledgement Process"

\***Archer Batcheller** (projected for 2011), "Software Engineering Practices in Building Climate Science Software"

\***Marianne Ryan** (projected for 2011), "Civic Informatics & Public Integrity: Information Resources as Infrastructure for Ethical Governance"

**Cory Knobel** (projected for 2010), no title yet

**David Julyk (American Culture, 2008)**, *'The Trouble With Machines Is People': The Computer as Icon in Post-War America: 1946-1970*

\***Kevin Yamami** (withdrew from program 2007)

**Sandra Seekins** (Art History, incomplete), *Stelarc: Performing Posthuman Evolution*

\***Kelly Garrett** (2005, co-advisor), *Exposure to Controversy in an Information Society*

**Jeremy Birnholtz** (2005), *Factors Affecting the Utility and Desirability of Collaboration in Three Science and Engineering Disciplines*

**Nathaniel Poor** (Communication Studies, 2004), *Democratic Technologies: Openness, Decentralization, and the Success of Information Systems*

**Ann Zimmerman** (2003), *Data Sharing and Secondary Use of Scientific Data: Experiences of Ecologists*

\***Jennifer Lee** (withdrew from program 2004)

## TEACHING

University of Michigan (graduate courses, unless specified)

Doctoral Foundations Seminar

Research Methods

Information in Social Systems: Collections, Flows and Processes

Theories and Models in Information Studies

Social Systems and Collections

Systems, Networks, and Webs: History of Infrastructure

Doctoral Proseminar

InfoCulture: Theory and Methods in History and Sociology of Information Technology

Global Change 3: Sustainability Studies (team-taught undergraduate course)

History of Computers and the Internet (undergrad/grad)

Information Technology and Global Politics (undergrad)

History of Time (undergrad)

## Stanford, Cornell, and UC Santa Cruz

Senior Seminar in Science, Technology, and Society  
Politics of Technical Decisions  
Minds, Machines, and Subjectivity  
Phenomenological Foundations of Cognition, Language, and Computation  
Computers, Ethics, and Social Responsibility  
Computers and Society  
Language and Mind  
Star Wars: Defense Policy and High Technology  
Introduction to Ethical Theory  
Introduction to Philosophy

## CONFERENCE ORGANIZING

Lead PI and co-organizer, conference series on *History & Theory of Infrastructure: Distilling Lessons for New Scientific Cyberinfrastructures*. Three meetings: June 26, 2006 workshop at National Science Foundation; Sept. 28-Oct. 1, 2006 conference at University of Michigan (35 participants); Dec. 14, 2006 report-out session at National Science Foundation.

Co-organizer, *First International Workshop on Transnational infrastructures and the Rise of Contemporary Europe*, Rolduc Abbey, Netherlands, April 20-23, 2006

Co-organizer, *Strategic Computing: History, Politics, Epistemology*, UC Santa Cruz, California, October 1985

## PROFESSIONAL ACTIVITIES AND SERVICE

### **External:**

- Exhibit review, Computer History Museum, 2007-08
- Nominating Committee, Society for the History of Technology, 2000-2003
- US government review of IPCC Third Assessment Report and other climate change assessment documents, 2000-present
- Bernal Prize Committee, Society for Social Studies of Science, 2001-2002
- History of the Atmospheric Sciences Committee, American Meteorological Society, 2000-2003
- Planning consultant, MIT Museum, exhibit on history of artificial intelligence, 2000
- Robinson Prize Committee, Society for the History of Technology, 1997-2000
- Software Task Force, Charles Babbage Institute, 1998
- Advisory Board, San Francisco Computer Museum Project. 1996-1998
- Travel Grants Committee, Society for Social Studies of Science, 1996
- Bay Area Technology and Culture Group Co-organizer, works-in-progress discussion group for faculty and graduate students, 1994-1998
- Grant Coordinator, Presidio Center on Global Change Project, 1995
- CChange Mailing List Coordinator, electronic mailing list for humanists and social scientists studying climate science and climate change, 1994-1999
- Review Panel, Computer Museum exhibit on *The Networked Planet: Traveling the Information Highway*, sponsored by the National Endowment for the Humanities, 1993-94

- Silicon Valley Research Group, UC Santa Cruz, 1984-90
- Institute on Global Conflict and Cooperation (IGCC), UC San Diego, 1987-1989, including:
  - European Summer School on Global Security and Disarmament, 1988
  - US Summer School on Global Security and Disarmament, 1987
  - California Seminar on Pacific Rim Security
  - UC Nuclear Discourse Group

**Internal:**

University of Michigan

- Hiring Committee, School of Information, 2009-10
- Curriculum Committee, School of Information (chair 2008-present)
- Science, Technology, Medicine & Society Speaker Series committee chair, 2008-present
- Steering Committee, Science, Technology & Medicine-Africa initiative, African Studies Center
- Steering Committee, UM Science, Technology, and Public Policy Program, 2004-present
- North Quad living-learning building project, 2004-present, including:
  - North Quad Academic Programs Group
  - Building Committee
  - Shared Spaces Working Group
  - SI North Quad Planning Group
  - Residential Life and Learning committee
  - Global Scholars Program pilot project
  - Provost's North Quad Programming Working Group
- Multidisciplinary Learning and Team Teaching Committee (dispenses large internal grants in support of interdisciplinary and inter-school teaching efforts), 2006
- Director, UM Science, Technology & Society Program, 2000-2003 and 2005-06
- UM History & Traditions Committee, 2005-2008
- Dean's Advisory Committee, School of Information, 2001-02 and 2004-2006
- Doctoral Committee, School of Information, 2004-05
- Chair, Program on Science, Technology & Society, Residential College, 1999-2003
- Promotion & Tenure Committee, School of Information, 2002-present
- Curriculum Committee, School of Information, 2001-03
- Doctoral no-credit seminar (organizer), School of Information, 2001 and 2004
- Faculty Appointment and Institutional Renewal Committee (long-range planning), Residential College, 2001-02
- Pohns Chair Search Committee, Communication Studies Dept./School of Information, 2000-2001
- Chair, UM Planning Group for a Program in Science, Technology & Society, 1999-2000
- Masters Committee, School of Information, 1999-2001
- Evans Chair Search Committee, Communication Studies Dept./School of Information, 1999-2000
- Faculty Steering Committee on Environmental Issues and Research, 1999-2001
- Chair, Science, Technology & Society Program, Residential College, 1999-2003
- Lecture Series organizer, "Information in the 20th Century: History, Technology, Society," School of Information, 1997
- Film Series organizer, "The History of Computers in Fact and Fiction," Residential College, 1997

Stanford University

- Organizing Committee, Workshop Series on Protecting and Assuring Critical National Infrastructure, Center for International Security and Arms Control, 1996-1997.
- STS Planning Group Organizer, Program in Science, Technology, & Society, 1995-96
- Organizer, Technology and Society Faculty Research Seminar, Program on Science, Technology, and Society, 1994-1997

## Cornell University

- Seminar Series Co-organizer, Dept. of Science & Technology Studies, 1991-92
- Undergraduate Advisor, Program on Science, Technology, and Society, 1990-91

## PEER REVIEW

### Books

CRC Press  
Edward Elgar Publishing Ltd.  
Harvard University Press  
MIT Press  
Princeton University Press  
Stanford University Press  
University of Michigan Press

### Grant and Fellowship Proposals

American Meteorological Society  
European Science Foundation  
Agence Nationale de la Recherche (France)  
National Endowment for the Humanities  
National Science Foundation

### Journal Articles

*Administrative Science Quarterly*  
*American Behavioral Scientist*  
*Climatic Change*  
*Communications of the ACM*  
*Cultural Anthropology*  
*Electronic Markets*  
*Environmental Research Letters*  
*Foundations of Science*  
*History of Psychology*  
*IEEE Annals of the History of Computing*  
*IEEE Technology & Society Magazine*  
*The Information Society*  
*Isis*  
*Management Information Science Quarterly*  
*Minds & Machines*  
*Science, Technology & Human Values*  
*Science as Culture*  
*Social Studies of Science*  
*Space Science Quarterly*  
*Technology & Culture*  
*Telecommunications Policy*

## **PROFESSIONAL ORGANIZATIONS**

American Meteorological Society  
American Geophysical Union  
Society for Social Studies of Science  
Society for the History of Technology

## **LANGUAGES**

Fluent in spoken and written French  
Reading knowledge of German, Spanish, Dutch, and Afrikaans