

Etienne S. Benson

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ACADEMIC POSITIONS

Director, Max Planck Institute for the History of Science, 2022-present

Visiting Professor, Department of History and Sociology of Science, University of Pennsylvania, 2023-present

Associate Professor, Department of History and Sociology of Science, University of Pennsylvania, 2019-2022

Janice and Julian Bers Assistant Professor in the Social Sciences, Department of History and Sociology of Science, University of Pennsylvania, 2017-2019

Assistant Professor, Department of History and Sociology of Science, University of Pennsylvania, 2013-2019

Visiting Scholar, Rachel Carson Center for Environment and Society, Ludwig-Maximilians-Universität, Munich, Fall 2014

Lecturer, New York University–Berlin, 2012-2013

Visiting Lecturer, Committee on Conceptual and Historical Studies of Science, University of Chicago, Spring 2011

Research Scholar, Department II: Ideals and Practices of Rationality (Director: Lorraine Daston), Max Planck Institute for the History of Science, Berlin, 2010-2013

Postdoctoral Fellow, Center for the Environment and Department of the History of Science, Harvard University, 2008-2010

EDUCATION

PhD, Massachusetts Institute of Technology, History, Anthropology, and Science, Technology, & Society, 2008

MA, Stanford University, Psychology, 2001

AB, Harvard University, Cognitive Neuroscience, 1999

PUBLICATIONS

Books

Surroundings: A History of Environments and Environmentalisms (Chicago: University of Chicago Press, 2020).

Wired Wilderness: Technologies of Tracking and the Making of Modern Wildlife (Baltimore: Johns Hopkins University Press, 2010).

Special Issues and Thematic Sections

“Fields” (co-edited with Cameron Brinitzer). Six papers and an introductory essay. *Isis* 113, no. 1 (2022).

“Ways of Water” (co-edited with Christy Spackman). Eight papers and an introductory essay for *Items*, a publication of the Social Science Research Council (2020-2021), <https://items.ssrc.org/category/ways-of-water/>.

“Estimated Truths: Water, Science, and the Politics of Approximation” (co-edited with Giacomo Parrinello and Wilko Graf von Hardenberg). Five papers and an introductory essay published as a virtual special issue in the *Journal of Historical Geography* (2020).

“Troubling Species: Care and Belonging in a Relational World” (co-edited as member of the Multispecies Editing Collective with Veit Braun, Jean M. Langford, Daniel Münster, Ursula Münster, Emily O’Gorman, Harriet Ritvo, Susanne Schmitt, and Thom van Dooren). *RCC Perspectives: Transformations in Environment and Society* 2017, no. 1.

Peer-Reviewed Journal Articles and Book Chapters

“What is a Field? Transformations in Fields, Fieldwork, and Field Sciences Since the Mid-Twentieth Century” (with Cameron Brinitzer), *Isis* 113, no. 1 (2022): 108-133.

“The Post-Heroic Field,” *Isis* 113, no. 1 (2022): 114-120.

“Post-Domestication: The Posthuman,” in *Handbook of Historical Animal Studies*, edited by Mieke Roscher, André Krebber, and Brett Mizelle (Berlin: De Gruyter, 2021), 53-66.

“The Mirror Trap,” in *Boxes in Action: A Field Guide*, edited by Susanne Bauer, Martina Schlünder, and Maria Rentetzi (Manchester: Mattering Press, 2020), pp. 493-504.

“Estimated Truths: Water, Science, and the Politics of Approximation” (with Giacomo Parrinello and Wilko Graf von Hardenberg), introductory essay for special issue, *Journal of Historical Geography* 68 (2020): 3-10.

“Random River: Luna Leopold and the Promise of Chance in Fluvial Geomorphology,” *Journal of Historical Geography* 67 (2020): 14-23.

“Fieldwork Out of Place,” in *Worlds of Natural History*, edited by Helen Curry, Nicholas Jardine, James Secord, and Emma Spary (Cambridge: Cambridge University Press, 2018), 504-417.

“Re-situating Fieldwork and Re-narrating Disciplinary History in Global Mega-Geomorphology,” *Studies in History and Philosophy of Science Part A 70: Experiencing the Global Environment*, edited by Lino Camprubí and Philipp Lehmann (2018): 28-37.

“Ecosystem Simulations as Practices of Emplacement: The Desert Biome, 1970-1974,” in *Spatializing the History of Ecology: Sites, Journeys, Mappings*, edited by Jens Lachmund and Raf de Bont (London: Routledge, 2017), 121-140.

“A Centrifuge of Calculation: Managing Data and Enthusiasm in Early Twentieth-Century Bird Banding,” *Osiris* 32: *Data Histories*, edited by Elena Aronova, Christine von Oertzen, and David Sepkoski (2017): 286-306.

“The Cattle Guard,” in *RCC Perspectives: Transformations in Environment and Society* 2017, no. 1: *Troubling Species: Care and Belonging in a Relational World*, edited by the Multispecies Editing Collective (2017): 49-55.

“Introduction” (co-authored with Veit Braun, Jean M. Langford, Daniel Münster, Ursula Münster, and Susanne Schmitt, with the support of the Multispecies Editing Collective) to *RCC Perspectives: Transformations in Environment and Society* 2017, no. 1: *Troubling Species: Care and Belonging in a Relational World* (2017): 5-8.

“Trackable Life: Data, Sequence, and Organism in Movement Ecology,” *Studies in History and Philosophy of Biological and Biomedical Sciences* 57: *Entanglements of Instruments and Media in Investigating Organic Life*, edited by Joan Steigerwald (2016): 137-147.

“Naming the Ethological Subject,” *Science in Context* 29, no. 1: *Animal-Man Relations*, edited by Alexandre Métraux (2016): 107-128.

“Generating Infrastructural Invisibility: Insulation, Interconnection, and Avian Excrement in the Southern California Power Grid,” *Environmental Humanities* 6 (2015): 103-130.

“Territorial Claims: Experts, Antelopes, and the Biology of Land Use in Uganda, 1956-1975,” *Comparative Studies of South Asia, Africa and the Middle East* 35, no. 1: *Nonhuman Empires*, edited by Rohan Deb-Roy (2015): 137-155.

“Endangered Birds and Epistemic Concerns: The California Condor,” in *Endangerment, Biodiversity, and Culture*, edited by Fernando Vidal and Nélia Dias (New York: Routledge, 2015), pp. 175-194.

“Minimal Animal: Surveillance, Simulation, and Stochasticity in Wildlife Biology,” *Antennae: The Journal of Nature in Visual Culture* 30, Winter: *Virtual Animal* (2014): 39-53.

“Environment between System and Nature: Alan Sonfist and the Art of the Cybernetic Environment,” *communication +1* 3: *Afterlives of Systems*, edited by Christina Vagt and Florian Sprenger (2014): Article 2, 26pp. Published in revised and translated form as: “Umwelt zwischen System und Natur. Alan Sonfists *Army Ants: Patterns and Structures* (1972) und die Grenzen des System-Denkens in der *environmental art*,” translated by Gabriele Wurmitzer and Daniela Hahn, in *Ökologie und die Künste*, edited by Erika Fischer-Lichte and Daniela Hahn (Paderborn: Wilhelm Fink Verlag, 2015), pp. 51-70.]

“The Urbanization of the Eastern Gray Squirrel in the United States,” *Journal of American History* 100, no. 3 (2013): 691-710.

“One Infrastructure, Many Global Visions: The Commercialization and Diversification of Argos, a Satellite-Based Environmental Surveillance System,” *Social Studies of Science* 42, no. 6 (2012): 846-871.

“Endangered Science: The Regulation of Research by the U.S. Marine Mammal Protection Act and Endangered Species Act, 1971-1978,” *Historical Studies in the Natural Sciences* 42, no. 1 (2012): 30-61.

“Demarcating Wilderness and Disciplining Wildlife: Radiotracking Large Carnivores in Yellowstone and Chitwan National Parks,” in *Civilizing Nature: National Parks in Transnational Perspective*, edited by Bernhard Gißibl, Sabine Höhler, and Patrick Kupper (Oxford: Berghahn, 2012), pp. 173-188.

“From Wild Lives to Wildlife and Back,” *Environmental History* 16, no. 3: Fifty Years of Wildlife in America, edited by Peter Alagona (2011): 418-422.

“Animal Writes: Historiography, Disciplinarity, and the Animal Trace,” in *Making Animal Meaning*, edited by Linda Kalof and Georgina Montgomery (East Lansing: Michigan State University Press, 2011), pp. 3-16.

“A Difficult Time with the Permit Process,” *Journal of the History of Biology* 44, no. 1: Environmental History and the History of Biology, edited by Libby Robin and Jane Carruthers (2011): 103-123.

Other Publications

“Environment,” *Encyclopedia of the History of Science*. Published online July 8, 2021, <https://lps.library.cmu.edu/ETHOS/article/id/481/>

“Ways of Water” (with Christy Spackman), *Items* [online publication of the Social Science Research Council], Sept. 29, 2020, <https://items.ssrc.org/category/ways-of-water/>

“Swimming in Data,” *SSRC Items*, October 13, 2020, <https://items.ssrc.org/ways-of-water/swimming-in-data-luna-leopold-and-the-turn-to-quantification-in-river-science/>

“The Wolf Around the Bend,” in *Surprise: 107 Variations on the Unexpected*, edited by Mechthild Fend, Anke Te Heesen, Christine von Oertzen, and Fernando Vidal (Berlin: Max Planck Institute for the History of Science, 2019), 33-35.

“The Crisis of Public Lands and the Promise of Bears Ears,” *OMNIA* [Penn Arts and Sciences magazine], Spring/Summer 2018, pp. 14-15, <https://omnia.sas.upenn.edu/story/crisis-public-lands-and-promise-bears-ears>.

“Circulating Significance in Civic Hacking,” guest post for the Penn Program in Environmental Humanities fellows blog, Mar. 23, 2017, <http://www.ppehlab.org/blogposts/2017/3/23/ecologies-of-data-part-iii-circulating-significance-in-civic-hacking>. 3pp.

“Movement Ecology and the Minimal Animal,” *LA+ [Landscape Architecture Plus]: Simulation*, edited by Karen M’Closkey and Keith VanDerSys (Fall 2016): 30-33.

“The Virtual Field,” *Technosphere Magazine* (Nov. 2016). http://technosphere-magazine.hkw.de/#/p/f86f17b0-8a6c-11e6-8b42-2ff16d371dbf?_k=dg5goi. 5pp.

"The Urban Upwelling," *The American Historian*, no. 6: History and Animals (November 2015): 40-44.

"The Biopolitics of the Border," in *The Edges of Environmental History: Honouring Jane Carruthers*, edited by Christof Mauch and Libby Robin, *RCC Perspectives* 2014, no. 1, pp. 81-86.

Author's response to roundtable review of *Wired Wilderness*, *H-Environment Roundtable Reviews* 3, no. 1 (Jan. 10, 2013), <https://networks.h-net.org/system/files/contributed-files/env-roundtable-3-1.pdf>. 6pp.

"Unbearable Future," *Limn* 3: Sentinel Devices, edited by Frédéric Keck and Andrew Lakoff (June 2013): 56-59.

"Autonomous Biological Sensor Platforms," *Cabinet* 41: Infrastructure (Spring 2011): 74-78.

"New Media and New Publics: An Example with Polar Bears," guest post for *Ant Spider Bee: Exploring the Digital Humanities*, Sept. 12, 2013, <http://www.antspiderbee.net/2013/09/polar-bears/>. 4pp.

"Paparazzi in the Woods," *Slate.com*, Aug. 14, 2008, http://www.slate.com/articles/health_and_science/green_room/2008/08/paparazzi_in_the_woods.html. 4pp.

Book Reviews

Technology and the Environment in History, by Carl Zimring and Sara Pritchard. Forthcoming in *Isis* (2022).

Politics and the Anthropocene, by Duncan Kelly, H-Diplo Roundtable Review, July 5, 2021. <https://hdiplo.org/to/RT22-48>.

Animals and the Shaping of Modern Medicine: One Health and its Histories, by A. Woods, M. Bresalier, A. Cassidy, and R.M. Dentinger, *Isis*. Forthcoming.

Birders of Africa: History of a Network by Nancy Jacobs, *Journal of the History of Biology* (online Apr. 17, 2018), <https://doi.org/10.1007/s10739-018-9519-x>. 4pp.

Field Life: Science in the American West During the Railroad Era by Jeremy Vetter, *Technology and Culture* 58, no. 4 (2017): 1083-1084.

Feral Animals in the American South by Abraham Gibson, *Journal of American History* 104, no. 3 (2017): 747-748.

Program Earth: Environmental Sensing Technology and the Making of a Computational Planet by Jennifer Gabrys, *American Journal of Sociology* 122, no. 5 (2017): 1582-1584.

Stations in the Field: A History of Place-Based Animal Research, 1870-1930 by Raf de Bont, *Environmental History* 21, no. 2 (2016): 383-385.

Resettling the Range: Animals, Ecologies, and Human Communities in British Columbia by John Thistle, *Agricultural History* 90, no. 1 (2016): 145-147.

An Environmental History of Wildlife in England, 1650-1950 by Tom Williamson, *Environment and History* 21, no. 3 (2015): 447-449.

“Shepherding Wild Life,” review of *Zooland: The Institution of Captivity* by Irus Braverman and *Cloning Wild Life: Zoos, Captivity, and the Future of Endangered Animals* by Carrie Friese, *BioSocieties* 9, no. 4 (2014): 489-492.

Greening Berlin: The Co-Production of Science, Politics, and Urban Nature by Jens Lachmund, *H-Soz-und-Kult*, Nov. 8, 2013, <http://hsozkult.geschichte.hu-berlin.de/rezensionen/2013-4-112>. 2pp.

Animals and Society: An Introduction to Human-Animal Studies by Margo DeMello and *Animal Encounters: Human and Animal Interactions in Britain from the Norman Conquest to World War One* by Arthur MacGregor, *Environmental History* 18, no. 4 (2013): 802-805.

Considering Animals: Contemporary Studies in Human–Animal Relations, edited by Carol Freeman, Elizabeth Leane, and Yvette Watt, *Annals of Science* 70, no. 4 (2013): 588-590.

The Afterlives of Animals: A Museum Menagerie, edited by Samuel J. M. M. Alberti, *Environmental History* 17, no. 4 (2012): 889-891.

CIFERAE: A Bestiary in Five Fingers by Tom Tyler, *Configurations* 20, no. 3 (2012): 327-329.

Beastly Natures: Animals, Humans, and the Study of History, edited by Dorothee Brantz, *Environmental History* 16, no. 2 (2011): 336-337.

Animal Encounters, edited by Tom Tyler and Manuela Rossini, *JAC* 30 (2010): 825-834.

The Game of Conservation: International Treaties to Protect the World’s Migratory Animals by Mark Cioc, *Environment and History* 16, no. 4 (2010): 509-511.

DIGITAL PROJECTS

Rivers of Data (2019): A website of resources related to a book-length project on the history of the mid-twentieth-century quantitative revolution in fluvial geomorphology. (<https://www.riversofdata.org/>)

TrophySource (2013): An interactive map of imports of polar bear trophies to the United States. Based on federal regulatory records, the map allows viewers to explore links between sites where polar bears were hunted in Canada and sites in the United States to which trophies were imported. Coded in JavaScript (for web interface) and Python (for data extraction). (<http://etiennebenson.com/trophysource/>)

SIMPLOT (2013): A web-browser-based re-creation of the late-1960s-era simulation of animal movements discussed in “Movement Ecology and the Minimal Animal” (2016). Coded in JavaScript. (<http://etiennebenson.com/simplot/>)

INVITED TALKS

Keynote speaker, Conference on “Digital Ecologies,” University of Cambridge, Mar. 30, 2021 (virtual).

Book talk for *Surroundings: A History of Environments and Environmentalisms*, University of Athens, Greece, Department of History and Philosophy of Science, Jan. 13, 2021 (virtual).

"Environments in the Plural: Reconstructing a Concept's Multiple Pasts to Reimagine a Movement's Future," Klopsteg Lecture, Science in Human Culture Program, Northwestern University, Oct. 26, 2020 (virtual).

Book talk for *Surroundings: A History of Environments and Environmentalisms*, University of Stavanger, Norway, Greenhouse Environmental Humanities Book Talk Series, Oct. 19, 2020 (virtual).

"Sensing a River: Labor, Instruments, and Affect in Fluvial Geomorphology." Part of *Sense, Sentience, Sensors: An Interdisciplinary Conversation on Sensor Technology*, Johns Hopkins University, March 6, 2020.

"One Environment or Many? Reconsidering the Conceptual Foundations of Environmentalism," Arizona State University, Feb. 17, 2020.

"The History of Bird Migration Studies from Bird-Banding to GPS," Lafayette College, Mar. 5, 2018.

"How We Became Environed: Toxic Risks, Evolutionary Theory, and the Transformation of American Environmentalism," Monday Workshop, Department of History and Sociology of Science, University of Pennsylvania, Dec. 4, 2017.

"Cattle, Railroads, and the Built Landscape of Human-Animal Difference in the Antebellum South," Department of History, University of Delaware, Nov. 1, 2016.

"Experiments in Environing: An Alternative History of Environmentalism," Seminar in Environmental and Agricultural History, Massachusetts Institute of Technology, Cambridge, Mass., May 1, 2015.

"The Environment: Pasts and Futures of an All-Encompassing Idea," Center for 21st Century Studies, University of Wisconsin-Milwaukee, Mar. 27, 2015.

"The Environmental Self," Colloquium in the History of Science, Technology, and Medicine, Johns Hopkins University, Baltimore, Feb. 12, 2015.

"Trackable Life," in Oberseminar: Perspektiven der Wissenschaftsgeschichte [Advanced Seminar: Perspectives on the History of Science], Ludwig-Maximilians-University, Munich, Nov. 27, 2014.

"A History of the Environment," Department II Colloquium, Max Planck Institute for the History of Science, Berlin, Sept. 26, 2014.

"What Was the Environment, and Whose Was It?" Architecture PhD Colloquium, University of Pennsylvania School of Design, Feb. 21, 2014.

"Mediating Animals: Surveillance and Simulation in Animal Ecology," STS/Situating Science Seminar Series, York University, Toronto, Nov. 26, 2013.

"Virtually Wild," Series on Ecology and the Arts, Internationales Graduiertenkolleg InterArt, Free University, Berlin, June 26, 2013.

"Digital Maps and Minimal Animals in Movement Ecology," Twentieth-Century Think Tank, Department of the History and Philosophy of Science, Cambridge University, Apr. 25, 2013.

"Animate Infrastructures," Department of the History and Sociology of Science, University of Pennsylvania, Philadelphia, Nov. 12, 2012.

"Gray Squirrels and Ecological Community in the American City," Rachel Carson Center for Environment and Society, Munich, Dec. 15, 2011.

"Manhandling Manatees: The Ethics and Epistemology of Research under U.S. Endangered Species Laws," Umeå Studies in Science, Technology and Environment Seminar, Umeå University, Sweden, Dec. 6, 2011.

"How Zoologists Learned to Live with Endangered Species Law," Workshop on the History of the Human Sciences, Committee on Conceptual and Historical Studies of Science, University of Chicago, May 13, 2011

"Science by Permit; or, Why Marine Mammalogists Sometimes Sound Like CEOs of Oil and Gas Companies," Department II Colloquium, Max Planck Institute for the History of Science, Berlin, Nov. 2, 2010.

"Leviathan and the Whale: Scientists, Publics, and the Regulatory State from Shamu to *Free Willy*," Science and Technology Studies Colloquium, Cornell University, Ithaca, NY, Apr. 12, 2010.

"Leviathan and the Whale," STS Circle, Kennedy School of Government, Harvard University, Sept. 28, 2009.

CONFERENCE PRESENTATIONS

"Field Camp: Taking 'the Field' and 'Fieldwork' Seriously, or Not," Workshop on "What is a Field?" University of Pennsylvania, Apr. 9-10, 2021.

"'Water Facts for the Nation's Future': Data, Development, and the Quantitative Turn in Fluvial Geomorphology, 1945-1975," History of Science Society, New Orleans, Oct. 2020 (accepted but cancelled due to the pandemic).

"Bagnold and Leopold on the Colorado," American Geophysical Union, San Francisco, Dec. 12, 2019.

"From 'the Environment' to Many 'Environments' and 'Environmentalisms': A Plea for Pluralism," European Society for Environmental History, Tallinn, Aug. 22, 2019.

"The Data of Development: North-South Tensions in the International Hydrological Decade, 1965-1974," History of Science Society, Utrecht, July 24, 2019.

"Bird Shit," Workshop on Conservation and Maintenance, University of California, Los Angeles, Jan. 18, 2019.

"Data-Intensive Ecology and the New Biopolitics of Animal Conservation," Institute for Society and Genetics, University of California, Los Angeles, Jan. 17, 2019.

"Environment," Conference on Political Concepts: The Science Edition, Cogut Institute for the Humanities, Brown University, Providence, Dec. 8, 2018.

"Engineering the Pain-Free City: Electrocution as Animal Rescue in the United States, 1900-1920," Society for the History of Technology, St. Louis, Oct. 12, 2018.

"Geomorphology, Empire, and the Earth without History," Conference on The Right Use of the Earth, Paris, May 30, 2018.

“Envirotechniques of ‘Direct’ Experience in Global Mega-Geomorphology,” History of Science Society, Toronto, Nov. 10, 2017.

“Direct Experience and the Envirotechniques of Global Mega-Geomorphology,” Society for the History of Technology, Philadelphia, Oct. 28, 2017. (Panel organizer.)

“Cattle Guards and the Built Landscape of Bodily Difference in Nineteenth-Century Louisiana,” European Society for Environmental History, Zagreb, Croatia, June 30, 2017.

“Aluminum, Cardstock, and Silicon: Materialities of Participation in U.S. Bird Banding,” Workshop on the Material Culture of Citizen Science, Oxford University, May 12, 2017.

“The Times of Sand,” American Society for Environmental History, Chicago, Apr. 1, 2017.

“The Cattle Guard,” American Society for Environmental History, Seattle, Apr. 2, 2016.

“Sensor Networks and ‘the Field’ of the Environmental Sciences,” Workshop on Experiencing the Global Environment, Max Planck Institute for the History of Science, Berlin, Feb. 4-6, 2016.

“Livestreams, Dying Species, and the Temporality of the Image,” Workshop on Loss and Preservation in the Life Sciences, Tel Aviv University, June 8-10, 2015.

“From Determinism to Endangerment: The Environmentalist Origins of Environmentalism,” American Society for Environmental History, Washington, DC, Mar. 21, 2015.

“Rewiring Responsibility in Wildlife Conservation,” Conference on Digital Animals, New York University, Feb. 20, 2015.

“Imaging Infrastructures and Global Environments,” American Historical Association, New York, Jan. 5, 2015.

“Sites and Nonsites of Ecosystem Ecology: A View from the Spiral Jetty,” Workshop on Spaces of Ecological Knowledge, Maastricht University, Nov. 20-21, 2014.

“Self-Governance within Regulatory Regimes: The Case of Endangered Species Research in the United States,” Workshop on Self-Governance in Science and Technology, Institute for Advanced Sustainability Studies, Potsdam, Apr. 14-15, 2014.

“Urban Wildlife between Charity and Ecology,” American Society for Environmental History, San Francisco, CA, Mar. 14, 2014.

“Modeling Data and Animals in Movement Ecology,” History of Science Society, Boston, MA, Nov. 23, 2013.

“Vectorial Life: Cold War Ecologies of Animal Movement,” Symposium on 1963: Cold War Unlimited, University of Sheffield, Sept. 20, 2013 (by videoconference).

“Urban Infrastructures of Multispecies Mobility,” European Society for Environmental History, Aug. 23, 2013. (Panel organizer.)

"The Biopolitics of the Border," Workshop on Edges of Environmental History: Honouring Jane Carruthers, Munich, Aug. 20, 2013.

"The Making of a Territorial Antelope," History of Science Society, San Diego, Nov. 17, 2012.

"Floating Nature: Beyond the Baseline in Biodiversity Conservation," Society for the Social Study of Science, Copenhagen, Oct. 18, 2012.

"The Epistemic Conditions of Endangered Species Science," Workshop on Endangerment and Its Consequences, Max Planck Institute for the History of Science, July 17, 2012.

"Wildlife and Wildness in a Human-Dominated World," Workshop: My Anthropocene, Haus der Kulturen der Welt, Berlin, May 22, 2012.

"Decolonization and the Territorial Animal," Conference on Nonhuman Empires: Between Agents and Actants, Department of History and Philosophy of Science, University of Cambridge, Mar. 21, 2012.

"Transparency Ideals and Information Friction in the Regulation of Endangered Species Research," Workshop on Regulating Research, Max Planck Institute for the History of Science, Mar. 16, 2012. (Workshop organizer.)

"Routinizing Ethics in Endangered Species Research," Society for Social Studies of Science, Cleveland, Ohio, Nov. 4, 2011. (Panel organizer.)

"The Endangered Science of Endangered Species," Workshop on Endangerment and Its Consequences, Max Planck Institute for the History of Science, Oct. 14, 2011.

"Animals in/as Infrastructures of Environmental Surveillance," Conference on An Animal Turn in Anthropology? Collège de France, Paris, June 23, 2011.

"Fragmented Infrastructures of Global Environmental Surveillance: The Argos Data Collection and Location System," American Society for Environmental History, Phoenix, AZ, Apr. 14, 2011

"Humans around their Necks: Seeing the Sea through the Eye of the Albatross," American Historical Association, San Diego, CA, Jan. 9, 2010.

"Environmental Informatics and Cold War Crisis at the Cedar Creek Natural History Area," Society for Social Studies of Science, Washington, DC, Oct. 29, 2009.

"Historiography, Disciplinarity, and the Animal Trace," Conference on Animals: Past, Present, and Future, Michigan State University, East Lansing, MI, Apr. 16, 2009.

"Resolving Commons Dilemmas across Species: Greedy Fisherman, Gluttonous Otters, and the Concept of 'Keystone Species,'" American Society for Environmental History, Tallahassee, FL, Feb. 26, 2009.

"Traces of the Albatross: Absence in the Contact Zone," American Anthropological Association, San Francisco, CA, Nov. 21, 2008.

"A Contested Icon of 'Hands-On' Research: Images from the History of Wildlife Telemetry," Society for Conservation Biology, Chattanooga, TN, July 14, 2008 (poster).

“Demarcating Wilderness and Disciplining Wildlife in Yellowstone and Chitwan, 1959-1981,” Workshop on Civilizing Nature: National Parks in Transnational Historical Perspective, German Historical Institute, Washington, DC, June 14, 2008.

“A Mundane Laboratory Atmosphere? Adolph Murie and the Place of Science in Denali National Park and Preserve,” Conference on Designing the Parks: The History of Park Planning and Design, Charlottesville, VA, May 21, 2008.

“‘Laboratoryizing’ the Wilderness: Trapping, Tranquilizing, and Tagging Wildlife in the National Parks, 1959-1972,” American Society for Environmental History, Boise, ID, Mar. 15, 2008.

“Field Research in the Public Eye: Tagging Whales after the Marine Mammal Protection Act of 1972,” History of Science Society, Crystal City, VA, Nov. 3, 2007.

“Animal-Human Boundaries in the Practice of Wildlife Biology,” Workshop on Animal-Human Boundaries: Disciplinary and Spatial Perspectives, Kennedy School of Government, Harvard University, Cambridge, MA, Nov. 9, 2006.

“Wired Animals and Radio Landscapes: Wildlife Radiotelemetry at the Cedar Creek Natural History Area,” Society for the History of Technology, Minneapolis, MN, Nov. 5, 2005.

“From Gooney Bird to Rational Forager: Wildlife Biology, Global Surveillance, and the Nature of the Albatross,” Conference on Anthropology and Science: Interdisciplinary Approaches, Manchester, UK, June 25, 2005.

“From Gooney Bird to Rational Forager: Wildlife Biology, Global Surveillance, and the Nature of the Albatross,” Workshop on Research in Progress: Interdisciplinary Dialogs, MIT, Cambridge, MA, Apr. 28, 2005.

“Space-Age Natural History: Tracking Grouse across Northern Minnesota’s Radio Landscape,” Workshop on the History of Environment, Agriculture, Technology, and Science, MIT, Cambridge, MA, Oct. 2, 2004.

CONFERENCE PANELS AND WORKSHOPS

Co-organizer (with Cameron Brinitzer) of workshop, “What is a Field?” University of Pennsylvania, Apr. 9-10, 2021. (virtual)

Roundtable organizer, “Beyond the Boundary: Reflections on the Past, Present, and Future of Envirotech,” Society for the History of Technology, New Orleans, Oct. 7-11, 2020 (cancelled due to pandemic).

Panel organizer, “A Science in Flux: Critical Histories of Geomorphology,” History of Science Society, New Orleans, Oct. 7-11, 2020 (cancelled due to pandemic).

Workshop co-organizer (with Christy Spackman), “Bodies of Water,” Scottsdale, AZ, Apr. 11-13, 2019.

Roundtable co-organizer (with James Fleming), “Environmental Humanities and the History of Technology,” Society for the History of Technology, St. Louis, MO, Oct. 11-14, 2018.

Panel co-organizer (with Peter Soppelsa), "Technology, Modernity, and Human-Animal Relations," Society for the History of Technology, St. Louis, MO, Oct. 11-14, 2018.

Workshop co-organizer (with Christy Spackman), "Bodies of Water," Social Science Research Council, Brooklyn, NY, Apr. 27, 2018.

Seminar co-leader (with Johan Gärdebo, Sabine Höhler, Karina Kalmbach, and Nina Wormbs), "Environging Technologies," Anthropocene Campus Philadelphia, Drexel University, Philadelphia, PA, Oct. 22, 2017.

Panel organizer, "Technical Environments and Environmental Techniques," Society for the History of Technology, Philadelphia, PA, Oct. 28, 2017.

Workshop co-organizer (with Wilko Graf von Hardenberg and Giacomo Parrinello), "Estimated Truths: Water, Science, and the Politics of Approximation," Max Planck Institute for the History of Science, Berlin, Aug. 16-17, 2017.

Symposium co-organizer (with Zeb Tortorici and Carolyn Fornoff), "Animals in the Archives," University of Pennsylvania, Philadelphia, PA, Oct. 27-28, 2016.

Symposium co-organizer (with Bethany Wiggin), "Infrastructures of Knowledge/The Future Is _____," Penn Program in Environmental Humanities, University of Pennsylvania, Philadelphia, PA, Mar. 29-30, 2016.

Panel organizer, "Life in Transit: Histories, Ecologies, Infrastructures," European Society for Environmental History, Munich, Aug. 23, 2013.

Panel organizer, "Ethics in Conservation Biology," Society for Social Studies of Science, Cleveland, OH, Nov. 4, 2011.

Workshop organizer, "Regulating Research," Department II, Max Planck Institute for the History of Science, Berlin, Mar. 16-17, 2012.

PUBLIC LECTURES AND OUTREACH

"Imagining the Global Environment Anew: The History and Future of a Big Idea," Annual Science and Technology Wing Lecture, University of Pennsylvania, Philadelphia, PA, Feb. 15, 2018.

"Caring About 'the' Environment: A Very Brief History," 60-Second Lecture, University of Pennsylvania, Philadelphia, PA, Apr. 5, 2017.

<https://vimeo.com/211707154>

Panelist/facilitator, "Teach-In on DataRefuge and Environmental Justice," Penn Program in Environmental Humanities, University of Pennsylvania, Philadelphia, PA, Jan. 13, 2017.

Speaker, "Engaging Students Through Technology Lightning Round," Weigle Information Commons, University of Pennsylvania, Philadelphia, PA, Apr. 26, 2016. Video: <https://www.youtube.com/watch?v=uwKHKNbsVc>

Panelist, "Big Ideas: Invention, Environment, and You," organized by the Schuylkill Center for Environmental Education, Bourbon & Branch, Philadelphia, PA, Feb. 18, 2016.

Faculty participant, PennGreen Cookies and Conversation undergraduate pre-orientation event, University of Pennsylvania, Philadelphia, PA, Aug. 2015, 2016

Panelist, "See the Filth Floating on the Waters'/The Redemption of the Lower Schuylkill: The River as it Was," Slought Foundation, Philadelphia, PA, May 18, 2015, https://slought.org/resources/the_river_as_it_was.

Lecturer, "Multispecies Communities in Historical Perspective," Spring 2015 University of Nature, Schuylkill Center for Environmental Education, Philadelphia, PA, Apr. 11, 2015.

Exhibition walkthrough co-leader, "Placing the Golden Spike: Landscapes of the Anthropocene," group exhibit curated by Dehlia Hannah and Sara Krajewski, Institute of Visual Arts, University of Wisconsin-Milwaukee, Mar. 27, 2015.

Panelist, "Managing and Cultivating your Digital Media Presence as an Academic," Faculty Conversations on the Academic Job Search and Academic Life, Penn Career Services, University of Pennsylvania, Philadelphia, PA, Mar. 17, 2015

"The Anthropococene: Narcissism and Humility in the 'Age of Man,'" 60-Second Lecture, University of Pennsylvania, Philadelphia, PA, Apr. 9, 2014, <http://www.sas.upenn.edu/60second/archive/anthropococene-narcissism-and-humility-age-man>.

Public lecture, "How the Gray Squirrel Conquered the American City," Penn Science Café, World Cafe Live, Philadelphia, PA, Feb. 11, 2014.

"A History of 'the Environment,'" HASTS 25th Anniversary Symposium, MIT, Cambridge, MA, Nov. 9, 2013.

COLLABORATIVE PROJECTS

Co-organizer (with Christy Spackman), Ways of Water research collective, supported by the Social Science Research Council's Scholarly Borderlands initiative, 2018-2021

Project Collaborator, "Digital Animalities: Media Representations of Nonhuman Life," supported by the Social Sciences and Humanities Research Council (Canada).

Principal Investigator: Jody Berland, York University. 2016-2019

Member, Working Group on Historicizing Big Data, Max Planck Institute for the History of Science, Department II, 2013-2016

Member, Working Group on Endangerment and Its Consequences, Max Planck Institute for the History of Science, Department II, 2010-2013

PRIZES

David Edge Prize from the Society for the Social Study of Science for an outstanding peer-reviewed article or book chapter in Science and Technology Studies (for "A Centrifuge of Calculation"), 2019

Joel A. Tarr Prize from the Envirotech Special Interest Group of the Society for the History of Technology for best article on the relationship between technology and the environment in history (for "Generating Infrastructural Invisibility"), 2016

Bernard S. Finn IEEE History Prize from the Society for the History of Technology for the best published paper in the history of electrotechnology (for “Generating Infrastructural Invisibility”), 2016

GRANTS AND FELLOWSHIPS

Conference Grant for “What is a Field?” (\$5,000), School of Arts and Sciences, University of Pennsylvania, 2020

Advisor/Co-PI for “Dissertation Grant: Temporal Ice: Deciphering Deep Time in the Cryosphere,” with Alexis Rider, Science, Technology, and Society Program, National Science Foundation, Award #1849495 (\$15,639), 2019-2021

“Scholars Award: A History of Data Practices in the Water Sciences,” Science, Technology, and Society Program, Award #1827876 (\$279,194), 2018-2020

Integrating Sustainability Across the Curriculum grant (half-time, eight-week summer research assistant), University of Pennsylvania, 2018

Penn Faculty Fellowship, Wolf Humanities Center, Theme Year on “Stuff,” 2018-2019

Penn Undergraduate Research Mentoring (PURM) grant (full-time, ten-week summer research assistant), University of Pennsylvania, 2018

School of Arts and Sciences Faculty Working Group Grant: Environmental Humanities (with Bethany Wiggin) (\$5,000), University of Pennsylvania, 2016-2017

Andrew W. Mellon Faculty Fellowship, Price Lab for Digital Humanities, University of Pennsylvania, Spring 2016

School of Arts and Sciences Conference Grant for “Animals in the Archives” (\$5,000), University of Pennsylvania, 2016

School of Arts and Sciences Research Opportunity Grant (\$5,000), University of Pennsylvania, 2014

“Dissertation Research: Tracking the Wild: Surveillance Technology, Conservation Biology, and Human-Animal Relations, 1950-2000,” Co-PI/Advisor: Harriet Ritvo, National Science Foundation, Science and Society Program, Award #0646249 (\$8,000), 2007-2008

Melvin Kranzberg Dissertation Fellowship, Society for the History of Technology, 2007

Joseph L. Fisher Dissertation Fellowship, Resources for the Future, 2007

Summer Study Award, MIT Center for International Studies, 2007

Martin Family Fellowship for Sustainability, MIT, 2006

Mass Media Science and Engineering Fellowship, American Association for the Advancement of Science, 2001

COURSES TAUGHT

University of Pennsylvania (2013-2022)

Undergraduate: Technology and Society (STSC-003); The Information Age (STSC-160); Environment and Society (STSC-168); Engineering Planet Earth (STSC-169); Cyberculture (STSC-260); Data Dreams (STSC-360), The Anthropocene (INTG-002)

Graduate: Seminar in History and Sociology of Science (HSSC-505); Environmental History (HSSC-565); Humanities Beyond the Human (HSSC-588)

New York University–Berlin (2012-2013):

Undergraduate: Environment and Society (ENVST-UA 9101)

University of Chicago (2011):

Undergraduate: Tracking Nature (HIPS 23101)

PHD DISSERTATIONS SUPERVISED

Cameron Brinitzer, “Culturing Evolution: A History and Anthropology of a Cognitive Science of Culture in Illiberal Hungary” (2022)

Alexis Rider, “A Melting Fossil: Constituting Planetary Time in the Cryosphere, 1815-1980” (2022)

Dalal Musaed Alsayer, “Architecture, Environment, Development: The United States and the Making of Modern Arabia, 1949-61” (2019, co-supervised with Daniel Barber)

Nicole Welk-Joerger, “Feeding Others to Feed Ourselves: Animal Nutrition and the Politics of Health, 1900-2019” (2020, co-supervised with Beth Linker)

Jesse Smith, “Servicescapes: Cruises and the Production of Experience” (2019)

SELECTED PROFESSIONAL SERVICE

Advisory board member, *Journal of the History of Biology*, 2022-present

Advisory board member, *Osiris*, 2022-present

Advisory board member for book series: *Tiere in der Geschichte / Animals in History*, Böhlau Verlag, 2021-present

Graduate Group Chair, Department of History and Sociology of Science, University of Pennsylvania, 2021-2022

Undergraduate Chair for the Science, Technology & Society (STSC) Major, Department of History and Sociology of Science, University of Pennsylvania, 2017-2019, 2020-2021

Selection Committee Member (Chair in 2022), Pauly Prize for the Best Book in the History of Science in the Americas, History of Science Society, 2020-2022

Member, Executive Council, Society for the History of Technology, 2020-present

Co-convener, Envirotech Special Interest Group, Society for the History of Technology, 2018-2021

Member, Strategic Committee, Penn Program in Environmental Humanities, University of Pennsylvania, 2016-2022

Co-convener, Earth and Environmental Sciences Working Group, Consortium for the History of Science, Technology, and Medicine, Philadelphia, 2015-2016

Chair, Best Article Prize Committee, European Society for Environmental History, 2015