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Education

Ph.D., History, University of Houston, 2013.
M.A., Anthropology, Stanford University, 1980.
B.A., with Distinction, Phi Beta Kappa, Anthropology, Stanford University, 1979.

Publications

Book and Book Chapters:

The Grid: Biography of an American Technology (Cambridge, MA: MIT Press, 2017).

"Large-scale Renewables and Infrastructure Gatekeepers: How Local Actors Shaped the Texas Competitive Renewable Energy Zones (CREZ) Initiative," chapter in *Electrical Conquest: New Approaches to the History of Electricity*, W. Bernard Carlson and Erik M. Conway, editors (Springer, 2023). DOI: https://doi.org/10.1007/978-3-031-44591-0

"Blackouts, Bad Guys, and Belly Laughs," chapter in *American Energy Cinema,* Robert Lifset, Raechel Lutz, and Sarah Stanford-McIntyre, editors (Morgantown, WV: West Virginia University Press, 2023).

"Utilities as Conservationists? The Paradox of Electrification During the Progressive Era in North America," chapter in *Green Capitalism? Exploring the Crossroads of Environmental and Business History,* Hartmut Berghoff and Adam Rome, editors (Philadelphia: University of Pennsylvania Press, 2017), 94-111.

"Bias in Electric Power Systems: A Technological Fine Point at the Intersection of Commodity and Service," chapter in *Electric Worlds/Mondes électriques: Creations, Circulations, Tensions, Transitions (19th-21st Centuries),* Alain Beltran, Léonard Laborie, Pierre Lanthier, Stéphanie Le Gallic, eds. (New York: Peter Lang, 2016), 271-293.

"The Bonneville Power Administration," "Energy – Hydraulic," "Energy – Nuclear," "Utilities – Corporate," "Federal Law – Industrial Regulation," *Encyclopedia of American Environmental History*, Kathleen A. Brosnan, ed. (New York: Facts on File, 2010).

Journal Articles:

"From 'Animal Crackers' to Winter Storm Uri: Reflecting on Blackouts in the United States," in *IEEE Power and Energy Magazine*, vol. 21, no. 3, pp. 70-76, May-June 2023, doi: 10.1109/MPE.2023.3247044.

"Water powers: the Second World War and the mobilization of hydroelectricity in Canada, the United States, and Germany," with co-authors Matthew Evenden and Marc Landry, *Journal of Global History,* 15 no. 1 (March 2020).

"When the Grid was the Grid: the History of North America's Brief Coast-to-Coast Interconnected Machine," *Proceedings of the IEEE,* 107 no. 1 (January 2019).

"Data, Power, and Conservation: The Early Turn to Information Technologies to Manage Energy Resources," *Information and Culture,* 52 no. 3 (July 2017).

"'The old was analogue. The new was digital': Transitions from the Analog to the Digital Domain in Electric Power Systems," *IEEE Annals of the History of Computing*, 37 no. 3 (2015): 32-43.

"Alternating Currents: The Varying Responses of Communities to Long Distance Power Transmission in North America," Proceedings of *Le Pouvior des Riverains: Resistances, Accomodations, Illusions? Histoire et Anthropologie des Mobilisations Citoyennes (18e-21e s.), Namur, Belge, 9 et 10 Décembre 2013,* forthcoming.

"Capturing and Disseminating What Happens in the Classroom," *Educause Quarterly* 27, no. 3 (2004), with Hubert Daugherty and G. Anthony Gorry, Ph.D.

"The EduPop: Improving Streaming Video for an Electronic Community," *Educause Quarterly* 26, no.4 (2003), with Hubert Daugherty and G. Anthony Gorry, Ph.D.

Other Published Articles:

"What Does Success Look Like? Ensuring a Smooth Transition to the Next-Generation Power Grid," Policy Brief, Center for Energy Studies, Rice University's Baker Institute for Public Policy, June 12, 2024. https://doi.org/10.25613/GQAV-BN65.

"From the Pages of History," *UNIFI Consortium Annual Newsletter 2023,* Universal Interoperability of Grid Forming Inverters Consortium (UNIFI), May 24, 2024, p. 3. https://unificonsortium.org/wp-content/uploads/2023_unifi_Newsletter.pdf.
"Approaching a Tipping Point for the Electric Grid," Policy Brief, Center for Energy Studies, Rice University's Baker Institute for Public Policy, November 20, 2023, https://doi.org/10.25613/rg62-1v68 .

"Two Years After Devastating Winter Storm, What Can We Say about the Isolated Texas Grid?," Policy Brief, Center for Energy Studies, Rice University's Baker Institute for Public Policy, November 20, 2023, https://doi.org/10.25613/TQZW-EP30 .

"Connecting Past and Future: A History of Texas' Isolated Power Grid," Center for Energy Studies, Rice University's Baker Institute for Public Policy, December 1, 2022, https://doi.org/10.25613/dpmy-r389

"Power Systems on the Cusp of Fundamental Transformation: From Spinning Machines to Power-electronics**,"** Policy Brief, Center for Energy Studies, Rice University's Baker Institute for Public Policy, August 2022, https://doi.org/10.25613/QC45-VR60 .

"Texas seceded from the nation's power grid. Now it's paying the price," *Washington Post Online,* February 17, 2021, https://www.washingtonpost.com/outlook/2021/02/17/texas-power-winter-storm/.

"Grids and Renewables," Policy Brief/Recommendations for the New Administration, with Olivera Jankovska and Kenneth B. Medlock III, Center for Energy Studies, Rice University's Baker Institute for Public Policy, November 2020, https://www.bakerinstitute.org/research/grids-renewables/

"Texas CREZ Lines: How Stakeholders Shape Major Energy Infrastructure Projects," with Olivera Jankovska, Center for Energy Studies, Rice University's Baker Institute for Public Policy, November 2020, https://www.bakerinstitute.org/research/texas-crez-lines-how-stakeholders-shape-major-energy-infrastructure-projects/.

"Historical Cases for Contemporary Electricity Decisions," Center for Energy Studies, Rice University's Baker Institute for Public Policy, February 2020, https://www.bakerinstitute.org/research/historical-cases-contemporary-electricity-decisions/.

Book Reviews:

In a New Light: Histories of Women and Energy edited by Abigail Harrison-Moore and R.W. Sandwell, H-Sci-Med-Tech, H-Net Reviews, October 2022, https://www.h-net.org/reviews/showrev.php?id=57974.

Power Lines: Electricity in American Life and Letters, 1882-1952 by Jennifer L. Lieberman, *Technology and Culture*, 62 no. 1 (January 2021) pp. 267-269.

Land of Nuclear Enchantment: A New Mexican History of the Nuclear Weapons Industry by Lucie Genay, *Southwestern Historical Quarterly,* 123 no. 3 (January 2020) pp. 387-389.

Wired Into Nature: The Telegraph and the North American Frontier by James Schwoch, *Southwestern Historical Quarterly* 122 no. 3 (January 2019), pp. 359-361.

Power Moves: Transportation, Politics, and Development in Houston by Kyle Shelton, *Environmental History* 24 no. 1 (January 2019), pp. 217-219.

Imaging Hoover Dam: The Making of a Cultural Icon by Antony F. Arrigo, *Environmental History* 21 no. 2 (April 2016), 387-388.

Power Lines: Phoenix and the Making of the Modern Southwest by Andrew Needham, *Environmental History* 20 no. 4 (October 2015), pp. 809-810.

Nuclear Implosions: The Rise and Fall of the Washington Public Power Supply System by Daniel Pope, *H-Net,* (March 2009).

Public Power, Private Dam: The Hells Canyon Dam Controversy by Karl Boyd Brooks, *Public Works History Review* 94 (Summer 2008).

Powerline: The First Battle of America's Energy War by Paul Wellstone and Barry M. Casper, *H-Energy* (November 2007).

Podcast and Documentary Interviews

"The Epic of the American Grid," Delphi Zero: The Climate Narrative for the Non-Scientific Crowd. "Waitbutwhy for Climate," August 16, 2024. https://delphizero.substack.com/p/american-grid.

"America's Grid – History of Power Outages and a Superpower's Power Infrastructure. Americans Without Power in Freezing Temps!" History Behind the News Podcast, S3E10, March 10, 2023, https://podcasters.spotify.com/pod/show/history-behind-news/episodes/S3E10-Americans-Without-Power-In-Freezing-Temps---History-of-Americas-Grid-e205b54.

"Is the Texas Power Grid Fixed?" Baker Briefing Podcasts, Baker Institute at Rice University, February 17, 2023. https://podcasts.apple.com/us/podcast/is-the-texas-power-grid-fixed/id1668671313?i=1000600965149.

"What is ERCOT? And how reliable is Texas's power grid?" Podcasts, KRLD News, December 19, 2022. https://www.audacy.com/podcasts/krld-news-742/what-is-ercot-and-how-reliable-is-texas-power-grid-1543889237.

"Net Zero: Episode 2. Electrifying America," Rational Middle, Baton Rouge, Louisiana, March 15, 2022. https://rationalmiddle.com/episodes/electrifying-america/.

"The Disconnect: Why is Texas on its own Grid?" KUT, Austin Public Radio, July 22, 2021, https://www.kut.org/energy-environment/2021-07-22/texas-electric-grid-february-blackouts-the-disconnect.

"A Pyrotechnic History of Humanity, Episode 4: The Future," BBC Radio 4, Laurence Knight, Producer, Justin Rowlett, Presenter, April 20, 2021, https://www.bbc.co.uk/programmes/m000v7pj.

"Drinks with the Deal: Electricity Grid Expert Julie Cohn," The Deal, David Marcus, Host, April 29, 2021.

"Policy Matters: The February Electrical Power Disaster in Texas: What Can Be Done to Avoid a Repeat," Rice University's Baker Institute for Public Policy, Joe Barnes, Host, March 10, 2021, https://www.bakerinstitute.org/podcast/.

"America's Democrats: Episode #530," AmericasDemocrats.org, Jim Cuddy, Host, March https://www.facebook.com/watch/?v=1137627200082635.

Conference Presentations

"Algorithms and Interviews: Using Historical Methods to Enhance Power Grid Engineering," with Daniel Molzahn, Mark Goldberg, Rachel Harris, and Jess Slater, INES Workshop: Engineering Interventions: Interdisciplinary Engagements with Engineers, November 13, 2024, online.

"Connected, but not Interconnected: Why the Texas Grid Stands Alone," The Week the Lights Went Out in Texas: Power, Infrastructure, and Crisis in Historical Context, Texas State Historical Association Annual Meeting, Austin, Texas, February 24-26, 2022.

"Becoming a Test-Bed: the Texas Case in American Electrification," Presentation to the Society for the History of Technology; Innovation out of the Blue: Managing Serendipity in Energy Conversion Systems Panel; St. Louis, MO, October 11-14, 2018.

"Electrification's "Golden Spike: Completion of North America's Power Grid," Presentation to the Society for the History of Technology; Big Power and the People: Electrification Projects and the Publics They Engage Panel; Philadelphia, PA, October 26-28, 2017.

"Pooling Beyond Mere "Puddles": How World War II Shaped North America's Grid," Presentation to the American Society for Environmental History; Power Struggles: The Second World War, Energy, and the Environment Panel; Washington, DC, March 18-22, 2015.

"Bias in Electric Power Systems: A Fine Point at the Intersection of Commodity and Service," Presentation to the International Conference hosted by Fondation EDF: Electric Worlds: Creations, Circulations, Tensions, Transitions, 19th – 21st Centuries; The Ties That Bind: Energy & The Environment in Europe and North America Panel; Paris, France, December 18-19, 2014.

"Controlling the Networks of Power: Challenges to Building the Grid: 1900-1940," Presentation to the Society for History of Technology Annual Meeting; The Contingent Nature of Implementing Electrical Systems, 1880-1940 Panel; Dearborn, Michigan, November 8, 2014.

"Utilities as Conservationists: The Conundrum of Electrification during the Progressive Era in North America," Presentation to "Green Capitalism?: Exploring the Crossroads of Environmental and Business History," Hagley Library and Museum, Wilmington, Delaware, October 30, 2014.

"Power Experts as Conservationists: Twentieth Century Conservation and the North American Electric Utility Industry," Presentation to the Second World Congress of Environmental History; Nature's Energy: Electricity, Conservation, and Development Panel; Guimaräes, Portugal, July 8-12, 2014.

"Alternating Currents: The Varying Responses of Communities to Long Distance Power Transmission in North America," Lecture presented to the International Colloquium hosted by the Catholic University of Louvain and the University of Namur: Local Resident's Power: Resistance, Accommodation, Illusion? History and Anthropology of Civic Actions (18th – 21st c.), Namur, Belgium, December 9-10, 2013.

"'The Old Was Analogue, the New Was Digital': Transitions from the Analog to the Digital Domain in Electric Power Systems," Presentation to the Society for the History of Technology Special Interest Group: Computers, Information and Society Workshop; Old Ideas on Control and Communication Panel; Portland, Maine, October 13, 2013.

"Expansion for Conservation," Presentation to the American Society for Environmental History; History of Energy Systems Panel; Phoenix, Arizona, April 16, 2011

"The Grid in Crisis - The Case of the 1965 Blackout," Presentation to the American Society for Environmental History; Electricity and Crisis Panel; Portland, Oregon, March 3, 2010.

Invited Presentations

The Grid: Biography of an American Technology," Presentation to the University of Minnesota Center for Electric Energy, August 27, 2024, online.

"Electrifying Indonesia," Buffett Book Talk with author, Anto Mohsin, and co-discussant, Suzanne Moon, Buffett Institute for Global Affairs, Northwestern University, Evanston, Illinois, Friday, February 16, 2024. https://buffett.northwestern.edu/news/2024/electrifying-indonesia-book-talk-with-anto-mohsin.html.

"Myths and History," Enhancing The Electrical Grid Resilience Against Unprecedented Challenges Panel, BCON South Business Conference 2023, Houston, Texas, December 1, 2023.

Presentation with Daniel Molzahn, Assistant Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology, to The General Motors Geek Series, "From Edison's Bulbs to Chevy Bolts:A Historical Look at Power Gridsand the Road Ahead," online, November 16, 2023.

Keynote Presentation to the Power and Energy Conference at Illinois, "When the Grid was "The Grid": A Short History of Building Our Electric Power Networks," University of Illinois Urbana, March 2, 2023.

Presentation to the North American Electric Reliability Corporation Resources Committee, "A Raging Controversy? How Power Systems Experts Negotiated Bias in the 1950s," NERC Offices, Atlanta, Georgia, January 26, 2023.

Presentation to the Universal Interoperability of Grid-Forming Inverters Consortium January Meeting, Georgia Institute of Technology, Atlanta, Georgia, January 25, 2023.

Presentation to the Distinguished Lecture Series, Houston Museum of Natural Science, "The Grid, Biography of an American Technology," online, November 15, 2022.

Presentation to the Department of Energy's Solar Energy Technology Office Colloquium, "A Raging Controversy? How Power Systems Experts Negotiated Bias in the 1950s," online October 13, 2022.

Presentation to the Public Safety and Homeland Security Committee of the Houston City Council, "Texas Grid Overview," online, September 8, 2022.

Presentation to the Universal Interoperability of Grid-Forming Inverters Consortium (UNIFI), "A Raging Controversy? How Power Systems Experts Negotiated Bias in the 1950s," National Renewable Energy Laboratory, Golden, Colorado, July 21, 2022.

Presentation to the IEEE – Power and Energy Society, Cleveland Section, "When the Grid was "The Grid": A Short History of Building Our Electric Power Networks," held online, April 21, 2022.

Presentation to the Science and Technology Working Group of the Glasscock Center for the Humanities Research & Aggies in Science, Technology, and Engineering Policy, "The Future and Past of Texas Energy Infrastructure: The CREZ Initiative, Large-Scale

Renewables, and Local Gatekeepers," Department of History, Texas A&M University, College Station, Texas, April 6, 2022.

"Energy and Electricity Policy," for PSAA 671 Science, Technology and Innovation Policy, The Bush School of Government and Public Service, Texas A&M University, College Station, Texas, April 6, 2022

Keynote Address, 53rd North America Power Systems Conference, "When the Grid was "The Grid": A Short History of Building Our Electric Power Networks, Texas A & M University, College Station, Texas, November 15, 2021.

Presentation to the University of Houston Houston Scholars Seminar, "Intertwined Energy Systems: Electrification in Texas," held online, October 28, 2021.

Panelist, "What to Say? What to Say? Tackling the Grant Writing Process," University of Houston Center for Public History Grant Writing Workshop, held online, October 14, 2021.

Presentation to the UNIFI Seminar Series on Grid-Forming Invertors, "The Grid: Biography of An American Technology," held online, September 27, 2021

Panelist, "When the Lights (and Heat) Went Out in Texas" The Texas Blackout in Historical Context," CPH Lecture Series, Center for Public History, University of Houston, held online, April 13, 2021.

Presentation to the Houston Museum of Natural Science Energy Exchange, held online, April 8, 2021.

"The World's Largest Interconnected Machine: A Short History of Our Electric Power Grid," for the IEEE Power and Energy Society @ Georgia Institute of Technology, held online, March 18, 2021.

"The World's Largest Interconnected Machine: A Short History of Our Electric Power Grid," Keynote address for the 2021 Texas Power and Energy Conference, Texas A&M University, held online, February 5, 2021.
https://www.youtube.com/watch?v=hySvmwXYe8g.

"The World's Largest Interconnected Machine: A Short History of Our Electric Power Grid," for the Carnegie Mellon Electricity Industry Center together with the Department of History, Carnegie Mellon University, Pittsburgh, Pennsylvania, November 7, 2018.

"The World's Largest Interconnected Machine: A Short History of Our Electric Power Grid," for Glasscock Center Science and Technology Working Group and Texas A&M Energy Institute," Texas A&M University, College Station, Texas, April 10, 2018.

"Writing *The Grid*," for graduate class titled U.S. Environmental History Seminar, University of Oklahoma, Kathleen Brosnan, Professor, Norman, Oklahoma, April 24, 2018.

"The Grid: A Very Short History of the World's Largest Interconnected Machine," for the Whitehall Club Meeting, Houston, Texas, March 21, 2014.

"Electricity and the City," for class titled Modernism and its Discontents: Architecture and the Built Environment From World War Two to the Present, UH College of Architecture, Michelangelo Sabatino, Professor, October 28, 2013.

Conference and Online Roundtables

"Materially Different: A Discussion of 'Computers on Wheels?' by Matthew Eisler," *Issues*, Winter 2023, https://issues.org/electric-vehicles-computers-on-wheels-eisler-forum/.

"Baker Briefing: Is the Texas Power Grid 'Fixed'?" Rice University's Baker Institute for Public Policy, Houston, Texas, February 15, 2023.

"Beyond the Technology of Artificial Lighting," discussion of Jeremy Zallen, *American Lucifers: The Dark History of Artificial Light, 1750-1886* (Chapel Hill: The University of North Carolina Press, 2019), H-Environment Roundtable Reviews, Volume 13, No. 1 (2023), https://networks.h-net.org/system/files/contributed-files/env-roundtable-13-1.pdf.

"Harnessing the Power of Energy History: A Roundtable Discussion," Society for the History of Technology Annual Meeting, New Orleans, Louisiana November 12, 2022, November 12, 2022.

"Large-scale Renewables and Local Gatekeepers: Moving Wind and Solar Power Across the Landscape," Agency in the Network: Contextualizing Sustainability, Reconceptualizing the Grid, Roundtable, Society for the History of Technology Virtual Forum, October 8-11, 2020, held online.

"Large-scale renewables and local gatekeepers, moving wind and solar power across the landscape," Rethinking Electrical History: From Esoteric Knowledge to Invisible Infrastructure to Fragile Networks, workshop sponsored by the Research Institute for the History of Science and Technology at Caltech and the Huntington Library, September 1-30, 2020, held online.

"Needham, 'Power Lines,'" Roundtable Review, Vol. 9, No. 4, May 7, 2019, H-Environment, https://networks.h-net.org/node/19397/pages/20803/roundtable-reviews.

"Charting New Directions in Energy History: Infrastructures, Inequalities, and Intersectionality," American Society for Environmental History, Columbus, Ohio, April 10-14, 2019.

"The History and Unexpected Policy Legacy of PURPA," Policy History Conference, Phoenix, Arizona, May 16-19, 2018.

Awards and Fellowships

2018 Bernard S. Finn IEEE History Prize for "Data, Power, and Conservation: the Early Turn to Information Technologies to Manage Energy Resources" *Information & Culture,* 52 (3): 334-361.

Society for the History of Technology, Special Interest Group on Computers Information and Society, MIT Press Travel Award, October 2013.

UH College of Liberal Arts and Social Sciences Dissertation Completion Grant, 2012-2013.

IEEE Life Member Fellowship in Electrical History, IEEE History Center, Institute for Electrical and Electronics Engineers, New Brunswick, New Jersey, July 2010-June 2011.

Murray A. Miller Dissertation Research Scholarship, University of Houston, Houston, Texas, 2010 and 2012.

Center for Public History Research Fellowship, University of Houston, Houston, Texas, 2009-2010, academic year.

Current Grant-Funded and Contracted Projects

"Algorithms and Power Systems Architecture: Using Historical Analysis to Envision a Sustainable Future," in collaboration with Daniel Molzahn, P.I., Georgia Institute of Technology; Mark Goldberg, University of Houston; and Sairaj Dhople, University of Minnesota; funded by the Sloan Foundation, 2023-2024.

"Achieving a Reliable Decarbonized Electric System," in collaboration with Carl Pechman, KeyLogic Consultants, and others; funded by the U.S. Department of Energy, 2023-2024.

"Historical Record of UNIFI Consortium Project," oral history project as subcontract to the National Renewable Energy Laboratory, 2024-2026

Past Professional Employment

Project Manager, Center for Technology in Teaching and Learning, Rice University, Houston, Texas, 1998-2005.

Consultant, Program and Project Planning, Houston, Texas, 1990-1998.

Director, Office of the Mayor, Houston, Texas, 1982-1990.

Major Collaborative Projects

Resilient Houston: Documenting Hurricane Harvey – collaborated on initiative to collect, archive, and disseminate oral histories and follow-on projects related to Hurricane Harvey.

Center for Advanced Strategies in Energy and the Environment – developed concept for collaborative research center at the University of Houston to enhance intellectual engagement around problems at the intersection of energy and environment.

Capture Classroom – Installed technologies in university classrooms to allow cost-effective capture, storage, and sharing of intellectual assets.

The EduPop Project – Created high-speed Internet routing point between commercial Internet Service Providers, Texas GigaPOP institutions, and school districts.

Teacher Preparation in a Virtual Classroom – Developed online, asynchronous, graduate-level coursework for Alternative Certification Program teacher candidates.

Electronic Community of Teachers – Built online community of elementary teachers through technology training in conjunction with District-wide math/science training program.

ECOTMedia Broadcasting System – Provided on-the-spot digital video produced by educators, students, and museums to K-12 institutions for instructional programs.

Memberships

American Association of University Women
American Historical Association
American Society for Environmental History
Organization of American Historians
Phi Beta Kappa Society
Society for the History of Technology (SHOT)
SHOT Special Interest Groups:
    Computers, Information, and Society
    Envirotech
    Women in Technology History
Women's Environmental History Network

Service

Co-Convenor, Women in Technology History Special Interest Group of the Society for the History of Technology, 2021 – date.

Committee Member and Past Chair, Martha Trescott Prize, Society for the History of Technology, 2021-date.

Convenor and Advisory Council Member, Women's Environmental History Network, 2016 – date.

Committee Member, Joan Cahalin Robinson Prize, Society for the History of Technology, 2017, 2018.

Co-Convener, Monthly Meeting of the University of Houston Center for Public History Research Colloquium, 2007-2020.

Committee Member and Chair, Hal Rothman Fellowship, American Society for Environmental History, 2016, 2017.

Co-Chair and Committee Member, Women in Technology History Travel Grant, Society for the History of Technology Annual Meeting, 2014-2021.

Committee Member, Rachel Carson Dissertation Prize, American Society for Environmental History, 2014, 2015.