## Curriculum Vitae - Matthew Nicholas Eisler

matthew.eisler@strath.ac.uk
matthew.nicholas.eisler@gmail.com
UK: 073-961-09104; USA: 434-270-1961
mattheweisler.weebly.com

## Education and Work Experience

| | |
|---|---|
| 2017- | Strathclyde Chancellor's Fellow, Lecturer, History in the Faculty of Humanities and Social Sciences, Strathclyde University |
| 2016-2017 | Teaching Assistant Professor and Director (Interim) of Science, Technology, and Society Program, North Carolina State University |
| 2015-2016 | Visiting Assistant Professor, Integrated Science and Technology Department, James Madison University |
| 2012-2015 | Lecturer, Department of Engineering and Society, School of Engineering and Applied Science, University of Virginia |
| 2011-2012 | Research Fellow, Chemical Heritage Foundation |
| 2009-2011 | Postdoctoral Fellow, Center for Nanotechnology in Society, University of California at Santa Barbara |
| 2008-2009 | Postdoctoral Fellow, Department of History, University of Western Ontario |
| 2008 | PhD History (modern US/science and technology), University of Alberta |
| 2005 | Pre-dissertation Fellow, National Air and Space Museum, Smithsonian Institution |
| 2005 | Pre-dissertation Fellow, Institute of Historical Research/Mellon Foundation/University of London |
| 2004 | Pre-dissertation Fellow, IEEE History Center |
| 2004 | Pre-dissertation Fellow, Chemical Heritage Foundation |
| 2002 | MA History (modern US/science and technology), University of Alberta |
| 2000 | BA History, University of Alberta (with distinction) |

## Publications

### Book

2012 *Overpotential: Fuel Cells, Futurism, and the Making of a Power Panacea*. Rutgers University Press.

### Peer-Reviewed Articles

2017 "Materials Science, Instrument Knowledge, and the Power Source Renaissance." *Proceedings of the IEEE* 105, no. 12: 2382-2389.

2017 "Exploding the Black Box: Personal Computing, the Notebook Battery Crisis, and Postindustrial Systems Thinking." *Technology and Culture* 58, no. 2: 368-391.

2016 "Cold War Computers, California Supercars, and the Pursuit of Lithium Ion Power." *Physics Today*, September 2016: 30-36.

2016 "Materials Research, Super Batteries, and the Technopolitics of Electric Automobility." *Historical Studies in the Natural Sciences* 46, no. 1: 44-66.

2013 "'The Ennobling Unity of Science and Technology:' Materials Sciences and Engineering, the Department of Energy, and the Nanotechnology Enigma." *Minerva* 51, no. 2: 225-251.

2011 With Motoyama, Yasuyuki. "Bibliometry and Nanotechnology: A Meta-Analysis." *Technological Forecasting and Social Change* 78, no. 7: 1174-1182.

2009 "'A Modern Philosopher's Stone:' Techno-Analogy and the Bacon Cell." *Technology and Culture* 50, no. 2: 345-365.

2009 "Getting Power to the People: Technological Dramaturgy and the Quest for the Electrochemical Engine." *History and Technology* 25, no. 1: 49-68.

### Popular Articles

2017 "Will Volvo Really Kill the Gasoline Engine?" *IEEE Spectrum*, 21.07.

2016 "The History of Lithium Ion Batteries is Explosive." *Slate*, 09.13.

2016 "The Bolt Probably Won't Make GM A Dime." *IEEE Spectrum*, 02.

2016 "A Tesla in Every Garage? Not So Fast." *IEEE Spectrum*, 02.

2015 "Can Tesla's Enthusiast Customers Help It Sell the Electric Car for the Everyperson?" *The Conversation*, 11.17.

2012 "Science, Silver Buckshot, and 'All of the Above:' Negotiating Energy R&D Policy at ARPA-E Energy Summit 2012." *Science Progress*, 04.02.

2011 "Energy Innovation at Nanoscale: Case Study of an Emergent Industry." *Science Progress*, 05.23.

2009 "Sustainability Made Easy? R&D and Energy Technopolitics." *Chemical Heritage* 27, no. 2: 1-3.

2008 With Katherine Zwicker. "Putting Region in its Place: An Interdisciplinary Conference on Health, Healing and Place." *The Gazette: Society for the Social History of Medicine* 44: 6-9.

2005 "Fuel Cell Research and Historical Consciousness." *Chemical Heritage* 23, no. 1.

2005 "Francis Thomas Bacon and the Fuel Cell." *IEEE-USA Today's Engineer Online.*

## Book Chapters

2014 "At Arm's Length: Energy and the Construction of a Peripheral Prairie Petrometropolis." In *Energy Capitals*, eds. Martin V. Melosi and Joe Pratt, 111-126. University of Pittsburgh Press.

2012 "Chapter 1: Perspective: Where Nano Came From." In *Nanotechnology and the Public: Risk Perception and Risk Communication*, ed. Susanna Hornig Priest, 9-19. Boca Raton, FL: CRC Press/Taylor & Francis Group.

2012 "Chapter 2: Science That Pays for Itself: Nanotechnology and the Discourse of Science Policy Reform." In *The Social Life of Nanotechnology*, eds. Barbara Herr Harthorn and John W. Mohr, 19-36. London: Routledge.

## Encyclopedia Entries

2018 "Characterizing Convergence: Materials Science, Electrochemistry, and the Tools of Advanced Power Source Technoscience." Forthcoming in *WSPC Encyclopedia of the Development and History of Materials Science: Tools of Materials Research*. World Scientific.

2010 "Department of Energy (US)," "Nanotechnology in Manufacturing," "Occupational Safety and Health Enforcement," "Self-Assembly," "Science Policy," "Spintronics." *Encyclopedia of Nanoscience and Society*. SAGE.

2006 "Nuclear Weapons," "Anti-Ballistic Missiles," "New Look Defense Policy." *Postwar America: An Encyclopedia of Social, Political, Cultural, and Economic History.* M.E. Sharpe.

2004 "Nuclear Reactors: Fusion, Later Designs (Tokamak)." *Encyclopedia of Twentieth Century Technology*. Routledge.

**Book Reviews**

2017 R.W., Sandwell, ed. *Powering Up Canada: A History of Power, Fuel, and Energy from 1600*. Forthcoming in *Business History Review*.

2013 Montgomery, Scott L. *The Powers That Be: Global Energy for the Twenty-First Century and Beyond.* In *Chemical Heritage* 30, no. 3: 42-43.

2010 Moody, Roger. *Rocks and Hard Places: The Globalization of Mining*. In *Labour/Le Travail* 66: 292-295.

2010 Johnson, Carol Siri. *The Language of Work: Technical Communication at Lukens Steel, 1810 to 1925*. In *Technology & Culture* 51, no. 1: 252-254.

2009 Hamilton, Shane. *Trucking Country: The Road to America's Wal-Mart Economy.* In *Business History Review* 83, no. 3.

2007 Bradford, Travis. *Solar Revolution: The Economic Transformation of the Global Energy Industry*; Podobnik, Bruce. *Global Energy Shifts: Fostering Sustainability in a Turbulent Age*. In *Chemical Heritage* 25, no. 3.

2005 Josephson, Paul R. *Industrialized Nature: Brute Force Technology and the Transformation of the Natural World*. In *H-Net: Humanities and Social Sciences Online.*

2004 Romm, Joseph J. *The Hype About Hydrogen: Fact and Fiction in the Race to Save the Climate*. In *Chemical Heritage* 23, no. 2.

2004 Offner, Arnold A. *Another Such Victory: President Truman and the Cold War, 1945-1953*. In *Canadian Journal of History* 34, no. 1: 193-195.

## Teaching

Fall 2017 V1488, Science, Technology, and Industrial Innovation I (1945-1980) Strathclyde University

Spring 2017 STS 214-001, Introduction to Science, Technology, and Society, North Carolina State University

STS 403-002, Seminar in Science, Technology, and Society, North Carolina State University

Spring 2016 ISAT 131-01/02/03: Technology, Science, and Society (3 sections), James Madison University

| | |
|---|---|
| January 2016 | STS 2500-05/EVSC 2559-01: Organic Machines, Engineered Environments, and Hybrid Natures, University of Virginia |
| Fall 2015 | ISAT 160-02: Problem Solving Applications in Science and Technology, James Madison University |
| | ISAT 231-01/02: Political Economy of Technology and Science (2 sections), James Madison University |
| Spring 2015 | STS 4600-023 (024/025/026): Engineering Ethics and Professional Responsibility (3 sections), University of Virginia |
| Fall 2014 | STS 4500-025/101/102: STS and Engineering Practice (3 sections), University of Virginia |
| Spring 2014 | STS 4600-020 (021/022): Engineering Ethics and Professional Responsibility (2 sections), University of Virginia |
| | USEM 1570-004: Intersections of Art and Science, University of Virginia |
| Fall 2013 | STS 4500-101/102: STS and Engineering Practice (2 sections), University of Virginia |
| | USEM 1570-005: Intersections of Art and Science, University of Virginia |
| Spring 2013 | STS 4600-014/015/016: Engineering Ethics and Professional Responsibility (3 sections), University of Virginia |
| Fall 2012 | STS 4500-005/009: STS and Engineering Practice (2 sections), University of Virginia |
| Fall/Spring, 2008-09 | History 4704E-001: Technology and Society in North America, University of Western Ontario |
| Spring 2008 | History 112: Modern World History, Grant MacEwan College |
| Fall 2007 | History 486 SEM A1: Understanding the Military Industrial Complex, University of Alberta |
| Summer 2007 | History 115 LEC B1: Technology and History, University of Alberta |
| Spring 2007 | History 115 LEC B1: Technology and History, University of Alberta |

## Oral Histories (conducted for Chemical Heritage Foundation)

July 2013 — John B. Goodenough, Virginia H. Cockrell Centennial Chair in Engineering, Cockrell School of Engineering, University of Texas at Austin

April 2012 — Esther S. Takeuchi, Chief Scientist, Global and Regional Solutions Directorate, Brookhaven National Laboratory/SUNY Distinguished Professor, Stony Brook University, SUNY Buffalo

February 2012 — Mihal E. Gross, Program Manager, Nanoscale Science Research Centers and E-beam Microcharacterization Centers, Office of Basic Energy Sciences, Department of Energy

## Presentations

### Invited Presentations

May 2016 — "Emerging Energy Technologies and the Uses of Technofutures." Presented at the Program in the History of Science, Technology, and Medicine, University of Minnesota

April 2016 — "Gender and Science and Technology Studies/History of Science and Technology." Presented at the Department of Integrated Science and Technology, James Madison University

February 2015 — "Emerging Technoscience and the Uses of Technofutures." Presented at the Department of Science and Technology Studies, York University

March 2013 — "You Say You Want a Revolution: Marginal Technoscience and the Promissory Economy of Sustainable Energy." Presented at the Science Technology and Innovation Studies Program, University of Edinburgh

April 2012 — "Innovation and Ideology: Producing and Interpreting Facts from Lab to Policy Salon in the Energy R&D Sector." Presented at the Chemical Heritage Foundation

March 2012 — "Boundaries of Science Policy Communication." Presented at the Eighth Laboratory History Conference, Georgia Institute of Technology

March 2012 — "Paradoxes of a Prairie Petro-Metropolis: Energy Politics and Citybuilding in Calgary." Presented at the American Society for Environmental History, Madison

January 2012 — "Innovation and Ideology: Producing and Interpreting Facts from Lab to Policy Salon in the Energy R&D Sector." Presented at the University of Puget Sound

May 2011 — "Energy History as Social History." Presented at the Royal Institute of Technology, Stockholm

April 2010 "Paradoxes of a Prairie Petro-Metropolis: Energy Politics and Citybuilding in Calgary." Presented at the University of Houston

February 2009 "Subterranean Frontier: Transnational Hydrocarbon Pipelines and Energy Technopolitics in North America, 1947-1960." Presented at McMaster University

**Selected Conference and Workshop Presentations**

November 2016 "A Sense of Place: A Collaboration Between a Place-Based Marine Scientist, a Creative Writer, and an Environmental Historian." Breakout session, presented at Alliance for the Arts in Research Universities, University of Colorado, Denver

November 2015 "Powering the Personal Computer in the Age of Distributed Innovation." Presented at the Society for Social Studies of Science, Denver

October 2015 "Materiality, Super Batteries, and the Technopolitics of Electric Automobility." Presented at the Society for the History of Technology, Albuquerque

March 2015 "Methods in Contemporary History." Presented at the American Society for Environmental History, Washington, DC

March 2015 "Green Technopolitical Theatre and the Uses of Technofutures." Presented at the University of Virginia

July 2013 "The Lithium Economy, Distributed Industrialization, and the Managing of Power Source Heterodoxy." Presented at the International Congress of the History of Science, Technology and Medicine, University of Manchester, UK

November 2011 "Boundaries of Science Communication in the Era of Nanotechnology." Presented at the Society for the Study of Nanoscience and Emerging Technologies, Tempe, AZ

November 2011 "Boundaries of Science Communication in the Era of Nanotechnology." Presented at the Society for Social Studies of Science, Cleveland

September 2010 "Making Nanomaterials Work in Energy Conversion Technology." Presented at the Society for the Study of Nanoscience and Emerging Technologies, Darmstadt, Germany

October 2009 "Hydrogen Futurism in Environmental and Energy Technopolitics." Presented at the Society for the History of Technology, Pittsburgh

September 2008 "Battery vs. Fuel Cell: Electrochemical Power Sources and the Technopolitics of Green Automobility." Presented at the Sixth International Conference on the History of Transport, Traffic and Mobility, Ottawa, Ontario

| | |
|---|---|
| June 2008 | "Technological Metaphor and Fuel Cell Research and Development." Presented at the Canadian Society for the History and Philosophy of Science, University of British Columbia |
| October 2007 | "Fuel Cells." Presented at the Society for the History of Technology, Washington, DC |
| October 2007 | "Ballard Power Systems and the Rise and Fall of the Fuel Cell Automobile." Presented at the Canadian Science and Technology Historical Association, University of Toronto |
| August 2007 | "Fueling Dreams of Grandeur: Fuel Cell Research and Development and the Pursuit of the Abundant Energy Machine, 1945-2000." Presented at the Institute of Electrical and Electronics Engineers Triennial Conference on the History of Electric Power, Newark, NJ |
| March 2006 | "The Green Machine: Technological Utopia and the Discourse of the Hydrogen Fuel Cell." Presented at the American Society for Environmental History/Forest History Society, St. Paul, MN |
| November 2005 | "Bringing it Down to Earth: The U.S. Army, NASA, and the Politics of Fuel Cell Research and Development, 1959-1970." Presented at the History of Science Society/Society for the History of Technology, Minneapolis |

## Research Income/Grants

| | |
|---|---|
| 2011-2012 | US $47,000 + $1500 in expenses: Research Fellow, Chemical Heritage Foundation |
| 2009-2011 | US $82,000 + $4000 in expenses: Postdoctoral Fellow, Center for Nanotechnology in Society, University of California at Santa Barbara |
| 2008-2009 | CAD $25,000: Postdoctoral Fellow, Department of History, University of Western Ontario |

## Awards and Honors

| | |
|---|---|
| 2007 | Travel Grant, Society for the History of Technology |
| 2007 | J. Gordin Kaplan Graduate Student Award (University of Alberta) |
| 2006 | Beryl Steel Travel Award (University of Alberta) |
| 2005 | Travel Grant, Society for the History of Technology |
| 2005-2006 | Walter H. Johns Graduate Fellowship (University of Alberta) |

| | |
|---|---|
| 2005 | Travel Award, Churchill Foundation (University of Alberta) |
| 2004-2006 | Social Sciences and Humanities Research Council Graduate Scholarship (Government of Canada) |
| 2004-2005 | Walter H. Johns Graduate Fellowship (University of Alberta) |
| 2004-2005 | Province of Alberta Graduate Fellowship |
| 2003-2004 | Province of Alberta Graduate Fellowship |
| 2001-2002 | J.R. Schrumm Memorial History Prize (University of Alberta) |
| 2000-2001 | Merit-Based Bursary (University of Alberta) |
| 1999-2000 | University of Alberta Faculty of Arts/Scotiabank Scholarship |
| 1999-2000 | Millennium Scholarship (Government of Canada) |
| 1999-2000 | George Malcolm Smith Memorial Book Prize (University of Alberta) |
| 1998-1999 | Honorable Mention, History of Science Essay Prize (University of Alberta) |

## Professional Service

| | |
|---|---|
| 2017 | Da Vinci Prize Committee<br>Member, Society for the History of Technology |
| 2016-2017 | Bernard S. Finn IEEE History Prize Committee<br>Chair, Society for the History of Technology |
| 2016-2017 | Science, Technology, and Society Working Group/Curriculum Committee<br>Member, Interdisciplinary Studies, North Carolina State University |
| 2016-2017 | IDS Undergraduate Grant Committee<br>Member, Interdisciplinary Studies, North Carolina State University |
| 2015-2016 | Bernard S. Finn IEEE History Prize Committee<br>Member, Society for the History of Technology |
| 2015-2016 | Assessment Committee<br>Member, ISAT Department, James Madison University |

| | |
|---|---|
| 2015 | "Technogoverning Sustainable Landscapes" Workshop<br>Co-organizer, University of Virginia |
| 2011 | "Situating Emerging Technology" Panel<br>Co-organizer, Society for Social Studies of Science |
| 2011 | Robinson Prize Committee<br>Member, Society for the History of Technology |
| 2011 | Interdisciplinary Research Group 1 Seminar Series<br>Organizer, Center for Nanotechnology in Society |
| 2010 | "Nanodays" Exhibit<br>Guide, Center for Nanotechnology in Society |
| 2009 | "Chemical Trails" Panel<br>Organizer and Chair, Society for the History of Technology |
| 2007 | "Putting Region in its Place" Workshop<br>Co-organizer, University of Alberta |
| 2004 | First Annual CHF-SCI Innovation Day<br>Rapporteur |
| 2003-2004 | *Past Imperfect: History and Classics Graduate Student Journal* 10<br>Associate Editor, University of Alberta |
| 2002-2003 | *Past Imperfect: History and Classics Graduate Student Journal* 9<br>Editor, University of Alberta |

## Manuscripts Refereed

| | |
|---|---|
| 2017 | "Employer Ownership of Invention: The History of Business Control over Research and Researchers, from Early America to Knowledge Management," for *Physics Today* |
| 2017 | "A High-Power DC-DC Converter Topology for Battery Charging Applications," for *Energies* |
| 2016 | "In Singapore, Robocars are in Hailing Distance," for *IEEE Spectrum* |
| 2016 | *The Man Who Saw Tomorrow: The Life and Inventions of Stanford Ovshinsky*, for The MIT Press |

2016 "A Bibliometric Analysis of the Development of Next Generation Complex Engineered Nanomaterials," for *Journal of Nanoparticle Research*

2016 "What Happens to a Dream Deferred? The Emergence and Re-emergence of Concentrating Solar Power," for *Technology and Culture*

2015 "NSF Proposal 1556902: The Potential for Adoption of Nanotechnology for the Sustainable Treatment and Monitoring of Arsenic in Drinking Water," for National Science Foundation

2015 "Nanotechnology: The Secret of the Fifth Industrial Revolution," for *Nusantara Bioscience*

2013 "Running on Hydrogen: Visions of Alternative Mobility and the Hydrogen Hype, ca. 1970-2010," for *Journal of Transport History*

2012 "Energizing Technology: Expectations of Fuel Cells and the Hydrogen Economy, 1990-2005," for *History and Technology*

2010 "20 Golden Years of Battery R&D at CSIR (1974-1994): A Contribution to the History of Science in South Africa," for *South African Journal of Science*

2010 "Composing a Technology Delivery System for an Emerging Technology: The Case of Dye-Sensitized Solar Cells," for *Journal of Technology Transfer*

## Impact

2016 Subject of *JMU News* article: "How a JMU Professor is Filling the Knowledge Void About Battery-Powered Cars," 01/21/16

2015 Interview with Eric Gorton, Public Affairs Coordinator, James Madison University, 11/30/15

2015 Telephone interview with Alan Stahler, KVMR-FM (Nevada City, CA), 07/03/15

## References

Dr Bob Kolvoord, Dean
College of Integrated Science and Engineering
James Madison University
ISAT/CS 353, ISAT-CS Building
701 Carrier Drive, MSC 4116
Harrisonburg, Virginia, USA 22807
ph: 540.568.2752
kolvoora@jmu.edu

Dr Bryan Pfaffenberger, Professor Emeritus
Department of Engineering and Society
University of Virginia
Thornton Hall, A217, 351 McCormick Road
Charlottesville, Virginia, USA 22904-4744
ph: 434.924.3425
fax: 434.924.4306
bp@eservices.virginia.edu

Dr Robert W. Smith, Professor
Department of History and Classics
University of Alberta
2-1 Tory Building
Edmonton, Alberta, Canada T6G 2H4
ph: 780.492.3918
fax: 780.492.9125
rwsmith@ualberta.ca

Dr Michael E. Gorman, Professor and Director, STS Program
Department of Engineering and Society
University of Virginia
Thornton Hall, A217, 351 McCormick Road
Charlottesville, Virginia, USA 22904-4744
ph: 434.825.9766
meg3c@virginia.edu

Dr Jody A. Roberts, Director
Institute for Research
Chemical Heritage Foundation
315 Chestnut Street
Philadelphia, Pennsylvania, USA 19106
ph: 215.873.8281
fax: 215.629.5281
jroberts@chemheritage.org

Dr W. Patrick McCray, Professor
Department of History
University of California at Santa Barbara
Santa Barbara, California, USA 93106-2150
ph: 805.893.2665
fax: 805.893.7995
pmccray@history.ucsb.edu

Dr Michael N. Geselowitz, Senior Director
IEEE History Center
Stevens Institute of Technology
Castle Point on Hudson
Hoboken, New Jersey, USA 07030
ph: 1.732.562.5450
fax: 1.732.562.6020
m.geselowitz@ieee.org

Dr Robert MacDougall, Associate Professor
Department of History
Lawson Hall 2201
Western University
London, Ontario, Canada N6A 5B8
ph: 519.661.2111 ext. 85305
fax: 519.661.3010
rmacdou@uwo.ca