

EVAN HEPLER-SMITH

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I. Academic Positions

Harvard University Center for the Environment, 2016-2018

Ziff Environmental Fellow

Project: "Regulating the Molecular World: Toxicology, Information Technology, and the Environment"

II. Education

Princeton University, 2010-2016

Ph.D. in History (Program in History of Science), July 2016

Dissertation: "Nominally Rational: Systematic Nomenclature and the Structure of Organic Chemistry, 1889-1940" (Committee: Michael Gordin, Angela Creager, Philip Nord, Carsten Reinhardt)

Major field: Modern Science (Michael Gordin)

Minor fields: Modern Europe (Philip Nord), Medicine (Keith Wailoo)

Harvard College, 2002-2006

A.B., *magna cum laude*, in Literature. Thesis: "Virginia Woolf's Symposia: Ideas of the Party in *Mrs. Dalloway*, *To The Lighthouse*, and *The Waves*"

III. Academic Honors and Fellowships

Porter Ogden Jacobus Fellowship (Princeton's top honor for graduate students), 2014-2015

Nathan Reingold Prize (Graduate student essay prize; History of Science Society), 2015

Partington Prize (Triennial essay prize; Society for the History of Alchemy and Chemistry), 2014

Visiting Predoctoral Fellowship ("Sciences of the Archives" project, Department II, Max Planck Institute for the History of Science, Berlin), February-April 2016

Herdegen Fellowship in the History of Scientific Information (Chemical Heritage Foundation), 2013-2014

Norberg Travel Grant (Charles Babbage Institute, University of Minnesota), 2017

Rumford Scholarship (Funds research travel in Europe; Society for the History of Alchemy and Chemistry & Chemical Heritage Foundation), 2012-2013

Phi Beta Kappa Society, 2006

Whitehill Prize (Humanities award; Lowell House, Harvard College), 2005

Lawrence Lader Prize in Expository Writing (Harvard College), 2003

IV. Teaching

Harvard University, Lecturer

History of Science 131V: "[Environments in Crisis](#)," Fall 2017

*Average student evaluations of 4.7/5 (course) and 4.8/5 (instructor);
awarded "Certificate of Excellence in Teaching"*

Princeton University, Preceptor

History 211: "Europe from Antiquity to 1600" (Anthony Grafton), Fall 2015

Average student evaluations of 4.8/5

History 292: "Science in the Modern World" (Michael Gordin), Fall 2012

Average student evaluations of 4.6/5

Completed Princeton Teaching Transcript, McGraw Center for Teaching & Learning

NSF / American Chemical Society Online Chemistry Course, Lecturer

[Cheminformatics Online Chemistry Course](#), Summer-Fall 2015, Winter-Spring 2017

Created modules on chemical structure representation; provided instructional support

Harvard University, Course Assistant

Math Xa and Math S-Xab: "Introduction to Functions and Calculus," Fall 2003,
Summer 2004, Fall 2004

Awarded "Certificate of Distinction in Teaching," Fall 2004

V. Publications

A. Book

Compound Words: Chemists, Information, and the Synthetic World

(Under contract with University of Chicago Press)

B. Articles under review and in preparation

"Molecularizing Hazard: Toxicological Information and Environmental Protection."

(under consideration with Environmental History; invited to revise based on reviews)

"François Dagognet et la chimie informatique." In *François Dagognet épistémologue*, ed.

Bernadette Bensaude-Vincent, Jean-François Braunstein, and Jean Gayon (Paris:
Éditions Matériologiques, forthcoming 2018).

(abridged and translated version of Hepler-Smith, "Paper Chemistry" (2018))

C. Scholarly articles and essays (* = peer-reviewed)

* "A Way of Thinking Backwards': Computing and Method in Synthetic Organic Chemistry."
Forthcoming in *Historical Studies in the Natural Sciences* 48:3 (June 2018).

(revised version of essay awarded the 2015 Reingold Prize)

* "Paper Chemistry: François Dagognet and the Chemical Graph." *Ambix* 65:1 (Feb 2018)

(special issue in honor of Ursula Klein).

- * “‘Just as the Structural Formula Does’: Names, Diagrams, and the Structure of Organic Chemistry at the 1892 Geneva Nomenclature Congress.” *Ambix* 62:1 (Feb 2015): 1-28. (revised version of essay awarded the 2014 Partington Prize)
- “Review: Grasping the Technical Image,” *Historical Studies in the Natural Sciences* 47:1 (Feb 2017): 117-125.
- “Changing Names and Naming Change: Transformations in the ‘International Machinery’ of Chemical Information.” *Proceedings of the International Workshop on the History of Chemistry, March 2-4 2015, Tokyo* (2016): 68-76.
<http://kagakushi.org/iwhc2015/proceedings>.
- “Remaking the X-Ray as an Instrument of Authentication.” *Proceedings of the Authentication in Art Congress 2014* (July 2015). <http://www.authenticationinart.org/congress-2014/congress-papers/>.
- “Think Piece: Simple Problems.” *IEEE Annals of Computing* 36:1 (Mar 2014): 85-88.
- D. Articles and reviews for broader audiences**
- “How to Save Your Sperm: We don’t just need safer chemicals, we need safer chemistry.” *The New York Times*, 31 Jul 2017, <https://nyti.ms/2hi0rHI>.
- “Book Review: ‘American Eclipse’ by David Baron.” *The Wall Street Journal*, 21 Aug 2017.
- “A Leak in the Chemical Archive,” in Virtual Roundtable on Compression. *Public Books*, 13 Oct 2017, <http://www.publicbooks.org/virtual-roundtable-compression/#hepler-smith>.
- “Environmental Data, Public Trust, and Guerrilla Archiving.” *First 100 Days: Narratives of Normalization and Disruption*, (Program on Science, Technology, and Society, Harvard Kennedy School), 8 Feb 2017, <http://first100days.stsprogram.org/2017/02/08/environmental-data-public-trust-and-guerrilla-archiving/>.
- “The Canary in Donald Trump’s Literal Coal Mine.” *TIME.com*, 14 Dec 2016, <http://time.com/4596033/donald-trump-environment/>.
- “Book Review: ‘Database of Dreams’ by Rebecca Lemov.” *The Wall Street Journal*, 14 Dec 2015.
- “Systematic Flexibility and the History of the IUPAC Nomenclature of Organic Chemistry.” *Chemistry International* 37:2 (Mar 2015): 10-14.
- “Book Review: ‘Making Marie Curie’ by Eva Hemmungs Wírten.” *The Wall Street Journal*, 21 Mar 2015.
- “The Pedagogical Construction of Chemistry. Review of *Inventing Chemistry: Herman Boerhaave and the Reform of the Chemical Arts*, John C. Powers.” *Endeavour* 37:4 (Dec 2013): 193-194.
- “Quest for Permanence.” *Chemical Heritage* 31:1 (Spring 2013): 20-26 (with Augustin Cerveaux).

VI. Workshops and Symposia

“Grappling with the Futures: Insights from Philosophy, History, and Science, Technology and Society,” Harvard University & Boston University, April 2018, <https://grapplingwiththefutures.com/>. (Member of [symposium committee](#).)

“Internationality: Modes of International Cooperation in Science,” co-organized with Geert Somsen, International Congress of History of Science & Technology, Rio de Janeiro, July 2017.

“The Science of Information, 1870-1945: The Universalization of Knowledge in a Utopian Age,” co-organized with Lynn Ransom and Robert Fox, Univ. of Pennsylvania, February 2017, http://www.library.upenn.edu/exhibits/lectures/science_of_information.html.

“Aesthetics and the Life Sciences,” public symposium co-organized with Helen M. Berman, Stephen K. Burley, Kathryn Maxson Jones, and Christine Zardecki, Rutgers University, October 2016, <http://artlifesci.rcsb.org/>.

“Unnatural Kinds: Contemporary Perspectives on Scientific Classification,” interdisciplinary workshop co-organized with Julia Bursten, San Francisco State University, May 2016, <http://unnaturalkinds.wordpress.com/>.

VII. Lectures and Presentations

“Substitution,” presentation in the workshop “Technologies in Use,” organized by Lissa Roberts and Lee Vinsel, Max Planck Institute for the History of Science, Berlin, April 2018.

“Chemistries of Regret,” presentation in the symposium “Toxic Tales and Climatic Conundrums,” organized by Ruth Goldstein, Harvard University, March 2018.

“Molecularizing Hazard: Toxicological Information and Environmental Protection,” American Society for Environmental History, Riverside, March 2018, in session “Organizing Pollution: Knowledge and Power in Postwar Environmental Regulation,” organized by Colleen Lanier-Christensen and Lucas Mueller.

“Joint disagreements: Chemical information, chemical naming, and internationalism as process, 1919-1930,” History of Science Society, Toronto, November 2017, in session “Scientific and Engineering Internationalism: Processes, Practices, Conflicts,” organized by Evan Hepler-Smith and Heidi Voskuhl.

“SMILES to go: Chemical Harm, Regulatory Weakness, and a Computational Tool,” Society for the History of Technology, Philadelphia, October 2017, in session “Technology, Law, & Injury,” organized by Mary X. Mitchell.

“Molecular Government, Toxicological Information, and Environmental Protection,” invited presentation to Harvard STS Circle, September 2017.

“Transition States: Compressing Molecules across Time and Media,” Size Matters: Knowledge, Storage, and the History of Compression, Harvard University, April 2017.

“Maintaining Chemical Information for Research and Regulation,” The Maintainers II, Stevens Institute of Technology, April 2017.

“Chemical Nomenclature, International Chemistry, and the Particulars of Universalism, 1910-1930,” *The Science of Information, 1870-1945: The Universalization of Knowledge in a Utopian Age*, University of Pennsylvania, February 2017.

“Pronounced Variation: Chemical English in America,” *History of Science Society*, Atlanta, November 2016, in session “The language of science and the science of language: Exchanges, transformations, negotiations 1790-1950” organized by Jan Surman.

“ChemDraw,” *Society for the Social Studies of Science*, Barcelona, August 2016, in session “Soft Focus: How Personal Software Reshaped Technical Vision and Practice” organized by William Deringer and Evan Hepler-Smith.

“Paper Tools, Paper Things and a ‘Third-Order Science of Organization,’” *American Chemical Society National Meeting*, Philadelphia, August 2016, invited presentation in HIST Award symposium honoring Ursula Klein, organized by Mary Jo Nye and Gary Patterson.

“Pouring new materials into old bottles: Nanomaterials classification in historical perspective,” *Unnatural Kinds: Contemporary Perspectives on Scientific Classification*, San Francisco State University, May 2016.

“Naming Matters: Nomenclature and the Structure of Modern Chemistry,” *Harvard University Department of History of Science*, February 2016.

“Thinking backwards: Artificial intelligence and the making of a human scientific method,” *Princeton University Center for Information Technology Policy*, November 2015.
https://www.youtube.com/watch?v=4l605K1_XeA

“‘The sins of our forefathers’: Chemists, information systems, and the elusive ideal of unique chemical names,” *Society for the History of Technology*, Albuquerque, October 2015, in session “Computer Users, Experts, and Citizens,” organized by Andrew L. Russell, sponsored by SIGCIS.

“Chemical literacy for the ages: Essential skills in 2D chemical representation,” *American Chemical Society National Meeting*, Boston, August 2015 (with Leah McEwen).

“The Chemical History of Graph Theory,” *History of Data / Data in History*, Columbia University, April 2015.

“Rules, Formulas, Names: The Lexical Legacy of the 1892 Geneva Nomenclature Congress,” *American Chemical Society National Meeting*, Denver, March 2015.

“Changing Names and Naming Change: Transformations in the ‘International Machinery’ of Chemical Information,” *International Workshop on the History of Chemistry*, Tokyo Institute of Technology, March 2015.

“Between Regulation and Information: Tracing Chemical Novelty,” *History of Science Society*, Chicago, November 2014, in session “Historical Tracers and the Historiography of Science,” organized by Evan Hepler-Smith.

“Leveraging history to develop community sourced best practices in chemical information systems development: An interactive online teaching module,” *American Chemical Society National Meeting*, San Francisco, August 2014 (with Leah McEwen).

“The Structure of Compounds, the Function of Nomenclature, and the History of Chemical Information,” invited presentation to the Heritage Council of the Chemical Heritage Foundation, May 2014.

“Remaking the X-Ray as an Instrument of Authentication,” Authentication in Art Congress 2014, The Hague, May 2014, in session “Historical Developments in Painting Authentication,” organized by Martin Kemp.

“Structured Names, Structures of Knowledge: Systematic Nomenclature, Translation, and the Global Order of Organic Chemistry,” Chemical Reactions: Chemistry and Global History (Cain Conference 2014), Chemical Heritage Foundation, April 2014.

“What’s in a Nomenclature? Structures of Crisis and Reform at the Geneva Nomenclature Congress,” Chemical Heritage Foundation, December 2013.

“The Colorful Language of Paul Ehrlich,” History of Science Society, Boston, November 2013, in session “The Materiality of Words in Chemistry and Pharmacy,” organized by Alisha Rankin.

“How Chemists Learned to Think Like Computers,” Society for the History of Technology, Copenhagen, October 2012, in session “Made in Automation,” organized by Stephanie Dick.

“Standards Bound to Disappoint: A Rational Chemical Nomenclature Defeated,” History of Science Society, Cleveland, November 2011, in session “Defending Science Against Standardization,” organized by Evan Hepler-Smith.

“The Deception Expert: Maximilian Toch’s Science of Authentication,” Chemical Heritage Foundation, October 2011.

“‘An Ensemble as Euphonic as Possible’: Thinking Through Organic Nomenclature, 1889-1898,” 8th International Conference on History of Chemistry, Rostock, September 2011.

VIII. Related Experience

Research Assistant, Princeton University (Winter 2012-2013)

Assisted Professor Angela Creager in preparing the manuscript of *Life Atomic: A History of Radioisotopes in Science and Medicine* (University of Chicago Press, 2013)

Content Manager, Knewton Inc., New York, NY (2008-2009)

Built GMAT and LSAT test-prep curricula for online education startup; developed taxonomies of mathematical and verbal-reasoning concepts; worked with software engineers and psychometricians to develop computer-adaptive testing software package

IX. Service and Affiliations

Member: *History of Science Society, Society for the History of Technology, SIGCIS, American Society for Environmental History, American Historical Association, Society for the History of Alchemy and Chemistry, American Chemical Society Division of History of Chemistry, Research Data Alliance Chemistry Research Data Interest Group*

Fellowships reviewer: *Chemical Heritage Foundation; Consortium for History of Science, Technology and Medicine*

Manuscript referee: *Ambix; Annals of the History of Computing; Centaurus*

Harvard Environmental History Working Group (Co-organizer, 2017-18)

History of Science Society: *Committee on Advocacy (2016-18); Forum for the History of Chemical Sciences (Executive Committee, 2013-15, Program Committee, 2017-)*

[American Science](#) blog (Co-administrator and regular contributor, 2014-15)

Princeton Graduate History Association (President, 2012-13)

X. Languages

Research-level proficiency in French, German, and Latin

Last Updated: March 25, 2018