

### Positions and fellowships

- 2021–2025 Principal Investigator, DFG Project [463389772](#) “Living Matter Under the Microscope,” and Postdoctoral Research Associate at the [Chair for History of Science](#), Historisches Seminar, Ludwig-Maximilians-Universität München.
- Mar–Dec 2021 Visiting Postdoctoral Fellow, Max-Planck-Institut für Wissenschaftsgeschichte ([MPIWG Department III](#), Berlin, Germany.
- July 2020–Feb 2021 Digital Humanities Consultant, [“Oral Histories of Biology, Medicine, and Pandemic Response,”](#) Cold Spring Harbor Laboratory Library & Archives, New York.
- 2018–2020 Research Fellow, [ICI Berlin Institute for Cultural Inquiry](#).
- 2016–18 Andrew W. Mellon Postdoctoral Fellow in Biohumanities, University of Illinois at Urbana-Champaign (UIUC), [Illinois Program for Research in the Humanities](#). Samantha Frost, supervisor.
- Nov 2017 [MBL McDonnell Scholar](#), Marine Biological Laboratory, Woods Hole.
- Jun–Jul 2017 Visiting Postdoctoral Fellow, MPIWG, Department II.

### Education

- PhD, 2016 History of Science, Medicine and Technology, University of Wisconsin–Madison, Lynn K. Nyhart, advisor.
- MA, 2011 History of Science, Medicine and Technology, UW-Madison.
- BA, 2008 History, Reed College, Portland, Oregon.

### Publications, peer reviewed

*Book in progress: Visions of Life and Matter: Protoplasm, Microscopy, and the Cell Biology’s First Century*

- Under review* “Why is this journal called *Protoplasma*? A history of protoplasm theory and the divisions in cell biology before 1926,” invited essay for the 100<sup>th</sup> anniversary of the cell biology journal *Protoplasma*.
- Dec 2024 “Confronting the Limits of Optical Interpretation: Microscopic Details After the Abbe Diffraction Limit, 1874–1939,” in [Milieus of Minutiae](#), ed. Elizabeth Brodgen and Christiane Frey (University of Virginia Press), 122–48. Volume awarded the 3<sup>rd</sup> biennial Modern Language Association ([MLA](#)) Prize for an Edited Collection for [2023–24](#).
- June 2024 “The Schema and Organization of the Cell: An Introduction to Ernst Brücke’s *Die Elementarorganismen* (1861),” *Journal of the History of Biology*, vol. 57, no. 2: 281–304, doi:[10.1007/s10739-024-09774-8](https://doi.org/10.1007/s10739-024-09774-8).
- Ernst Brücke, “The Elementary Organisms,” translated by Daniel Liu, *Journal of the History of Biology*, vol. 57, no. 2: 305–30, doi:[10.1007/s10739-024-09773-9](https://doi.org/10.1007/s10739-024-09773-9).
- Sep 2023 with Margo Riggi, Hyun O. Lee, Simon L. Currie, David S. Goodsell, Janet H. Iwasa, and Ofer Rog, “Depicting a cellular space occupied by condensates,” *Molecular Biology of the Cell*, vol. 34, no. 10, doi:[10.1091/mbc.E22-11-0519](https://doi.org/10.1091/mbc.E22-11-0519).

- Feb 2021 with Mathias Grote, Lisa Onaga, Angela N. H. Creager, Soraya de Chadarevian, Gina Surita, and Sarah E. Tracy, “The Molecular Vista: Current Perspectives on Molecules and Life in the Twentieth Century,” *History and Philosophy of the Life Sciences*, vol. 43, no. 1, doi:[10.1007/s40656-020-00364-5](https://doi.org/10.1007/s40656-020-00364-5).
- Nov 2019 “The Artificial Cell, the Semipermeable Membrane, and the Life That Never Was, 1864–1901,” *Historical Studies in the Natural Sciences*, vol. 49, no. 5: 504–55, doi:[10.1525/hsns.2019.49.5.504](https://doi.org/10.1525/hsns.2019.49.5.504).
- Jan 2018 “[Heads and Tails](#): Molecular Imagination and the Lipid Bilayer, 1917–1941,” in [Visions of Cell Biology: Reflections Inspired by Cowdry’s General Cytology](#), ed. Karl Matlin, Jane Maienschein and Manfred Laubichler, (Univ. of Chicago Press), 209–45.
- Nov 2017 “The Cell and Protoplasm as Container, Object, and Substance, 1835–1861,” *Journal of the History of Biology*, vol. 50, no. 4: 889–925, doi:[10.1007/s10739-016-9460-9](https://doi.org/10.1007/s10739-016-9460-9). Awarded the 2020 Everett Mendelsohn Prize for the best article published in *JHB* in the preceding three years (doi:[10.1007/s10739-020-09593-7](https://doi.org/10.1007/s10739-020-09593-7)).

## Reviews and other publications

- Sep 2025 with Elisabetta Rossi, Julien Gressot, and Jesse Garrison, “One of a Kind: A Unique Coulomb Torsion Balance with Modifications in the Collections of the Deutsches Museum, Munich.” *Bulletin of the Scientific Instrument Society*, no. 166: 14–21, <https://scientificinstrumentsociety.org/bulletin-166-september-2025>.
- Apr 2025 “Asilomar 2025: A Personal Reflection.” *History of Science Society Newsletter*, vol. 54, no. 2: 7–11. <https://hssonline.org/blogpost/1987463/510014/Asilomar-2025-A-Personal-Reflection>.
- Aug 2023 Review of Karl S. Matlin, *Crossing the Boundaries of Life: Günter Blobel and the Origins of Molecular Cell Biology* (University of Chicago Press, 2022), for *Journal of the History of Biology*, vol. 56, no. 2: 411–14, doi:[10.1007/s10739-023-09730-y](https://doi.org/10.1007/s10739-023-09730-y).
- Mar 2021 HIV/AIDS Research: Its History & Future — Annotated Transcripts, Index, and Bibliography of Oct 2016 meeting hosted by Cold Spring Harbor Laboratories on the history and future of HIV/AIDS research. Produced for NEH-CARES grant-supported project, “Oral Histories of Biology, Medicine, and Pandemic Response”: <https://libwiki.cshl.edu/confluence/pages/viewpage.action?pageId=1294336443> and [https://library.cshl.edu/Meetings/HIV\\_AIDS/](https://library.cshl.edu/Meetings/HIV_AIDS/).
- Jan 2021 “Introduction: Towards a Renewed Historical Materialism,” in *Materialism and Politics*, ed. Bernardo Bianchi, Émilie Filion-Donato, Marlon Miguel, and Ayşe Yuva, *Cultural Inquiry* 20 (ICI Berlin Press), 271–76.
- Oct 2020 “Scaling from Weather to Climate,” in *Weathering*, ed. Christoph Holzhey and Arnd Wedemeyer, *Cultural Inquiry* 17 (ICI Berlin Press), 93–118.
- Apr 2018 with Hanna Worliczek and Michelle LaBonte, “Hands-on HPS at the Marine Biological Laboratory,” *History of Science Society Newsletter*, vol. 47, no. 2: 14–16.
- June 2017 Essay review, “This Is the Synthetic Biology That Is,” *Studies in History and Philosophy of Biological and Biomedical Sciences* 63: 89–93, doi:[10.1016/j.shpsc.2017.03.002](https://doi.org/10.1016/j.shpsc.2017.03.002). Review of: Sophia Roosth, *Synthetic: How Life Got Made* (University of Chicago Press, 2017); and Andrew S. Balmer, Katie Bulpin, and Susan Molyneux-Hodgson, *Synthetic Biology: A Sociology of Changing Practices* (Palgrave Macmillan, 2016).
- June 2017 with Amanda DeMarco, “A Flâneur, But So What?: Franz Hessel and Objectivity in Weimar Berlin,” *Los Angeles Review of Books Blog*. <http://blog.lareviewofbooks.org/essays/flaneur-franz-hessel-objectivity-weimar-berlin/>

Mar 2017 with Amanda DeMarco, “Paul Scheerbart and the Art of Science,” *Los Angeles Review of Books*, <https://lareviewofbooks.org/article/paul-scheerbart-and-the-art-of-science/>

## Grants and prizes

- 2025 [Deutsches Museum Publication Prize for 2024](#), research prize category, for three articles on the history of biological microscopy: “The Schema and Organization of the Cell” in *JHB* (vol. 57, no. 2), published together with an annotated translation of Ernst Brücke’s “The Elementary Organisms,” and “Confronting the Limits of Optical Interpretation” in the edited volume *Milieus of Minutiae*.  
Modern Language Association (MLA) 3<sup>rd</sup> biennial [Prize for an Edited Collection](#) for 2023–24 awarded to the volume *Milieus of Minutiae*, eds. Elizabeth Brogden and Christiane Frey. Contributed chapter, “Confronting the Limits of Optical Interpretation: Some Philosophical Considerations of Microscopic Details,” 122–48.
- 2021–25 Deutsche Forschungsgemeinschaft individual research grant (DFG Sachbeihilfe), third-party funding grant for principal investigators, project number [463389772](#).
- 2020 Everett Mendelsohn Prize, for the best article published in the *Journal of the History of Biology* in the preceding three years, for “The Cell and Protoplasm as Container, Object, and Substance, 1835–1861.” (Citation: Karen Rader and Marsha Richmond, “2020 Everett Mendelsohn Prize,” *Journal of the History of Biology* 53, no. 1 (March 2020): 1–3, doi:[10.1007/s10739-020-09593-7](#).)
- 2015–16 UW-Madison Chancellor’s Fellowship.
- 2015 Mellon-Wisconsin Summer Fellowship, award for dissertation writing and research.
- 2014–15 [Charles C. Price Dissertation Fellowship](#), Chemical Heritage Foundation (CHF), Philadelphia, Pennsylvania.
- May 2013 Research grant, Othmer Library of Chemical History, CHF.
- Fall 2011 Honored Instructor Award for undergraduate teaching, UW-Madison.
- 2009–10 John Neu Distinguished Graduate Fellowship, UW-Madison History of Science.

## Selected lectures and conference papers

- Nov 2025 “New and Old Approaches to the History of Light Microscopy: Objects, Texts, and Field Research,” Montagskolloquium des Deutschen Museums, Munich; and for the Forschungskolloquium zur Wissenschaftsgeschichte, Technische Universität Berlin, Institut für Philosophie, Literatur-, Wissenschafts- und Technikgeschichte.
- Sept 2025 “The History of the Microscope versus the History of Microscopy in Practice: Historiography and Sources,” Institute for the History of Natural Sciences, Chinese Academy of Sciences (中国科学院自然科学史研究所), Beijing.
- Nov 2024 “A Social History of Staining Techniques in the Heroic Age of Cytology, 1873–1899,” History of Science Society (HSS) annual meeting, Mérida.
- Jan 2024 “Ideology and Methodology in the Search for Protoplasmic Structure,” Séminaire H&P Bio, laboratoire SPHERE, Université Paris Cité.
- Sept 2023 with Jesse Garrison, Julien Gressot, and Elisabetta Rossi, “A Mysterious Coulomb Torsion Balance in the Collections of the Deutsches Museum, DM 1182,” XLII Scientific Instrument Symposium, Palermo.
- July 2023 “When Cell Theory Met Organic Chemistry: Schleiden vs. Mohl on Botanical Methodology, 1837–1846,” part of session “The Term ‘Cell’ is Not a Biological

- Misnomer,” organized by Karl S. Matlin, International Society for the History, Philosophy, and Social Studies of Biology (ISHPSSB), Toronto.
- June 2023 “Ending Epigenesis: Cell Division and Protoplasm as a Developmental Agent in the 1840s,” keynote speaker for workshop “Mechanisms and Ontic Causation in the Life Sciences,” Institut supérieur de philosophie de l’université catholique de Louvain; and at I<sup>2</sup>SOS Colloquium, Universität Bielefeld.
- Oct 2022 “From Cell Structure to Colloids and Back: A Historical Survey,” public lecture and poster, part of workshop “Re-imagining a cellular space occupied by condensates,” University of Utah, organized by Janet Iwasa and Ofer Rog.
- Mar 2022 “Learning Microscopy on Vacation: The Zeiss Ferienkurse, 1907–1924,” Indiana University Sawyer Seminar series “Rigor: Experimental Control, Analysis, and Synthesis in Systematic Perspective,” organized by Bill Newman and Jutta Schickore.
- July 2021 “The Cell Membrane as Exemplary Boundary: 10 Historical Examples of Membrane Function,” part of session “Unsettled Boundaries in the Life Sciences,” organized by Alejandro Fábregas-Tejeda, ISHPSSB, Cold Spring Harbor Laboratory, New York.
- Jan 2020 Public lecture and panel discussion, “Art of Encounter: On Non-Human Art Production,” with Semâ Bekirović and Michael Marder; organized by Semâ Bekirović for her exhibition, “Reading by Osmosis: Nature Interprets Us,” at the Zentrum für Kunst und Urbanistik and ICI Berlin.
- Oct 2019 with Robert Meunier, “Life is Like Chemistry, Only More Complicated: The Loeb School and the Temperature Coefficient, 1900–1918,” part of workshop “Possibility and Certainty in Laboratory Environments,” ICI Berlin.
- July 2019 “Idioplasm, Plant Physiology, and the Heroic Age of Cytogenetics, 1858–1892,” part of session “Interfield Theories, Collaborations, and Organization in Heredity,” organized by Marsha Richmond, HSS Utrecht.
- July 2019 “Where does the History of Molecular Biology Begin?” part of session “Revisited & Undone: Fresh Perspectives on Molecules and Life in the 20<sup>th</sup> Century,” organized by Lisa Onaga and Mathias Grote, ISHPSSB, Oslo.
- May 2019 “Ideas of Life and Matter in the Aftermath of Protoplasm Theory,” Oberseminar “Perspektiven der Wissenschaftsgeschichte,” LMU München.
- Aug 2018 Invited lecture, “科学与社会的分离: 细胞膜历史中的编史学问题” (Dividing Science from Society: Historiographical Problems in the History of the Cell Membrane), Tsinghua University Department of the History of Science Lecture Series #15.
- May 2018 with Bonnie Mak, “Data Histories: Devices of Seeing, Describing, and Managing the World,” presented at symposium “The Classroom and the Future of the Historical Record,” School of Information Sciences, UIUC.
- Mar 2018 “Is it Pluralism, or is it Biophysics? Micellar Theory and the Philosophy of Science,” Indiana University History and Philosophy of Science Colloquium.
- Nov 2017 “How the Artificial Cell Invented the Cell Membrane and Other Colloids, 1864–1935,” HSS annual meeting, Toronto. Session organizer, “Making and Knowing in the Biological Sciences.”
- Aug 2017 “Of Micelles and Molecules: Seven Lives of Non-Molecular Theories of Chemical Matter from 1858–1938,” 11<sup>th</sup> Intl. Conf. on the History of Chemistry, Trondheim.
- Dec 2016 “Revisiting the ‘Dark Age of Biocolloidology’: Positivism and Reductionism in Interwar Biophysics,” presented at workshop, “New Styles of Thought and Practices in Early 20<sup>th</sup> Century Biology,” Ruhr-Universität-Bochum, Lehrstuhl für Wissenschaftstheorie und Wissenschaftsgeschichte.

- Nov 2015 “The Biology of the Spherical Horse and the Molecular Orientation of Life, 1917–1941,” HSS annual meeting, San Francisco.
- Sept 2015 “Seeing Cells Again: Molecular Vision at the Centenary of Cell Theory,” for the public colloquium series “Seeing the Invisible,” UW-Madison Program in the History of Science, Medicine, and Technology.
- July 2015 “Protoplasmic Structure and the End (?) of Cell Theory, 1882–1899,” ISHPSSB Montreal; and at Midwest Junto for the History of Science, UW-Madison, Apr 2015.
- Nov 2014 CHF Brown Bag Lunch lecture, “Molecules in Biology before Molecular Biology.”
- July 2011 “The Shoggoth of Science: Protoplasm and the Biological Disciplines, 1880–1940,” ISHPSSB, Salt Lake City.

### **Conferences, workshops, and panels organized**

- Nov 2022 Session co-organizer with Emily S. Hutcheson, Judy Kaplan, Erika Lorraine Milam, Michael Robinson, and Patrick Walsh, “Biological Lynndividuality,” HSS annual meeting, Chicago.
- May 2020 Organizer, “Context Collapse,” with author Ryan Ruby, ICI Berlin.
- Oct 2019 Workshop co-organizer with Robert Meunier (Uni-Kassel), “Lab Environments: Spaces of Possibility and Certainty in Scientific Practice,” ICI Berlin.
- Mar 2018 Symposium co-organizer with Rosine Kelz, “Beyond Therapy and Enhancement: Restructuring Ethical Debates on Biotechnological Innovation,” UIUC.
- Nov 2017 Session organizer, “Making and Knowing in the Biological Sciences,” HSS Toronto.
- Apr 2016 Member of organizing committee, American Institute of Physics (AIP) History Center Early Career Conference; Annapolis, Maryland.
- Apr 2015 Member of organizing and programming committees, 58th Midwest Junto for the History of Science; hosted by University of Wisconsin–Madison.

### **Workshops, vacation courses, summer schools attended**

- Feb 2023 “Material Culture in the History of Physics,” Detusches Museum, Munich, organized by Julia Bloemer, Johannes-Geert Hagmann, Peter Heering, and Richard Kremer.
- May 2022 “On the Historiography of the Cell” workshop, MBL Woods Hole.
- Nov 2017 MBL McDonnell Scholarship and Workshop, “The Life Cycles of Microscopic Imaging in Biology.”
- May 2017 “A Century of Engineering Life: Cells and Organisms,” hosted by Arizona State University and MBL, Woods Hole.
- Oct 2015 “Revisiting Cowdry’s General Cytology,” MBL, Woods Hole.
- June 2013 Ischia Summer School for the History of the Life Sciences, “Creating Life: From Alchemy to Synthetic Biology.”

### **Teaching positions**

- Spring 2018 Hum 395, “Imagining Molecular Reality,” UIUC honors undergraduate seminar.
- Spring 2014 Teaching Assistant, History of Science/Medical History 133: “Biology & Society, 1950–Today”; Prof. Nicole Nelson, UW-Madison.

Spring 2013	Associate Lecturer, Interdisciplinary Agriculture 375: “Research Past and Present at the UW College of Agriculture and Life Sciences.”
Spring 2012	Teaching Assistant, History of Science 202: “The Making of Modern Science”; Prof. Richard Staley, UW-Madison.
Fall 2010, 2011, 2013	Teaching Assistant, History of Science/Integrated Liberal Studies 201: “The Origins of Scientific Thought”; Prof. Florence Hsia, UW-Madison.

## Professional service, memberships, and activities

since 2022	Member of the <a href="#">editorial board</a> of the <i>Journal of the History of Biology</i>
since 2011	Member of the History of Science Society (HSS)
since 2011	Member of <a href="#">Int'l Society</a> for the History, Philosophy, and Social Studies of Biology
2019–23	Member of the <a href="#">Biological Engineering Collaboratory</a>
2017–20	Book reviews editor for H-Net group H-Sci-Med-Tech
2017–19	Member of American Physics Society Forum on the History of Physics
2013–19	Member of the working groups for Biological Sciences and Physical Sciences, Consortium for History of Science, Technology and Medicine, Philadelphia
2015–17	Book reviews editor for H-Net group H-PhysicalSciences
2011–16	Member of Midwest Junto for the History of Science
2015–16	Co-president of the History of Science, Medicine, and Technology Graduate Council, registered student group of the UW-Madison student body (ASM)
2013–15	Membership Secretary, Teaching Assistants' Association (TAA), UW-Madison graduate assistants' union (AFT Local 3220, AFL-CIO)
2013, 2014	Booth organizer, Darwin Day outreach event, Wisconsin Institutes of Discovery.
2013–14	Grad member Dept. History of Science's Community and Alumni Relations Cmte.
2011–12	Department graduate assistant union steward, TAA
2012	Graduate student faculty liaison, UW-Madison Dept. of History of Science

## Referee and peer review work

Presses:	University of Chicago Press
Journals:	<i>Journal of the History of Biology</i> ; <i>History and Philosophy of the Life Sciences</i> ; <i>Journal of Plant Physiology</i> ; <i>Historical Studies in the Natural Sciences</i> ; <i>History of the Human Sciences</i> ; <i>Journal of the History of Science and Technology</i> ; <i>Studies in the History of Philosophy of Science</i> ; and <i>Berichte zur Wissenschaftsgeschichte</i>
Orgs:	Consortium for History of Science, Technology and Medicine research fellowships

(last updated January 2026)