

BEATRICE LOLA STEINERT

Department of Organismic and Evolutionary Biology and of History of Science, Harvard University

Email: bsteinert@g.harvard.edu Phone: (347) 604-0222

EDUCATION

Harvard University PhD in Organismic and Evolutionary Biology and History of Science Dissertation: "The Practice of Form: The Art and Science of Multicellular Morphogenesis" Secondary field in Critical Media Practice	Cambridge, MA expected 2023
Brown University BA in Biology (Honors) and Science and Society	Providence, RI 2016
Rhode Island School of Design BA partly fulfilled in Printmaking	Providence, RI

SELECTED GRANTS AND AWARDS

Presidential Scholar , Harvard University	2018-2023
National Science Foundation Graduate Research Fellowship	2018-2021
Erwin Hiebert Dissertation Research Award , Harvard University	2022
Symbiosis Program , Imagine Science Films and Science Sandbox	2022
Bowdoin Prize for Graduate Essay in the Natural Sciences , Harvard University	2022
Simmons Award , Harvard Center for Biological Imaging	2020-2022
James S. McDonnell Initiative Fellowship , Marine Biological Laboratory	2018
Royce Fellowship , Swearer Center for Public Service, Brown University	2015-2016
National Science Foundation RI EPSCoR Fellowship , Rhode Island School of Design	2014

RESEARCH EXPERIENCE

Harvard University , Dept. of Organismic and Evolutionary Biology Graduate Researcher and PhD candidate, Advisor: Cassandra G. Extavour	Cambridge, MA 2019-present
<ul style="list-style-type: none">- Use immunohistochemistry and live-imaging to visualize contributions of cell lineage, cell shape and division dynamics, and cytoskeletal structures to the early embryonic construction of the body in the marine crustacean <i>Parhyale hawaiiensis</i>- Developed image-analysis pipelines in ImageJ and Matlab for analysis of complex, multi-day scanning laser lightsheet microscopy datasets	
Harvard University , Dept. of History of Science Graduate Researcher and PhD candidate, Advisor: Peter L. Galison	Cambridge, MA 2018-present
<ul style="list-style-type: none">- Curate and produce an exhibit on the history of visual thinking and practice in developmental biology- Researched the intersection of architectural model and image-making and studies of marine diatoms in mid-twentieth century Germany- Wrote and produced two short films communicating the practice and politics of science- Organized and participated in two departmental science film festivals in partnership with Imagine Science Films	
Marine Biological Laboratory , Bell Center for Regenerative Biology and Tissue Engineering McDonnell Initiative Fellow, Advisor: Duygu Özpolat	Woods Hole, MA 2018
<ul style="list-style-type: none">- Developed a method for visualizing cell-cell contacts in whole embryos of the marine worm <i>Platynereis dumerilii</i> using confocal microscopy, image segmentation, 3D reconstruction, and 3D printing- Reconstructed late-19th century methods of observing embryos of the marine worm <i>Nereis limbata</i> to compare with modern approaches	
Brown University , Dept. of Molecular Biology, Cellular Biology, and Biochemistry Research Assistant, Advisor: Kristi A. Wharton	Providence, RI 2016-2018
<ul style="list-style-type: none">- Investigated the role of mitochondria morphology and function in <i>Drosophila melanogaster</i> nervous system development and degeneration using living-imaging, immunohistochemistry, and genetic manipulation	

- Designed assays for testing drug efficacy on *Drosophila* models of Amyotrophic Lateral Sclerosis (ALS)
- Explored the potential of virtual reality theaters for observing and analyzing fluorescence microscopy images of embryos of the marine snail *Crepidula fornicata*

Nature Lab, Rhode Island School of Design Providence, RI
 Summer Research Fellow, Advisors: Neal Overstrom and Jennifer Bissonette 2014

- Assessed the role of the arts in communicating the importance of marine plankton in global ecosystems
- Wrote and illustrated a children's book about the ecology and life-cycles of marine plankton and conducted survey research on the efficacy of its message

TEACHING EXPERIENCE

Harvard University Cambridge, MA
Undergraduate Senior Thesis Advisor, History of Science Senior Tutorial, 2022-2023
Undergraduate Research Advisor, Organismic and Evolutionary Biology Supervised Research 2020-2021
Teaching Fellow, History of Science 100: Knowing the World Fall 2021
Guest Lecturer, Nature on Display Fall 2021

University of Chicago at MBL Woods Hole, MA
Guest Lecturer, Visualization and Biology: Science, Culture, and Representation Fall 2019

Brown University Providence, RI
Teaching Assistant and Guest Lecturer, Developmental Biology Fall 2017
Teaching Assistant, Biological Design: Structural Architecture of Organisms 2014-2015
 Dean Marjorie Thompson prize for outstanding student-educator

CONFERENCE PRESENTATIONS

Steinert, Beatrice, Leo Blondel, Valia Stamataki, Anastasios Pavlopoulos, Cassandra G. Extavour. "Formation of a cellular square grid in the *Parhyale hawaiiensis* embryo." Poster presentation delivered at the International Congress for Invertebrate Morphology, Vienna, Austria, August 2022.

Steinert, Beatrice (roundtable with Elaine Ayers and Nick Hopwood). "Dying Things: Making Things Visible in the History of Science." Oral presentation delivered at the British Society for the History of Science Global Digital History of Science Festival, July 2020.

Steinert, Beatrice and Kristi A. Wharton. "Mitochondrial Dysfunction Associated with a SOD1-ALS Knock-In Model." Poster presentation delivered at the Boston Area *Drosophila* Meeting, Boston, MA, June 2018.

Steinert, Beatrice. "Drawing Embryos Together: Seeing 'The Embryology of *Crepidula*.'" Oral presentation delivered at the Joint Atlantic Seminar for the History of Biology, Philadelphia, PA, March 2017.

Steinert, Beatrice. "Seeing *Crepidula fornicata* Development under the Microscope and in Virtual Reality." Poster presentation delivered at the *Society for Developmental Biology 75th Annual Meeting*, Boston, MA, August, 2016.

Steinert, Beatrice and Noah Schlottman. "Let Me Tell You a Story: Curating Charisma for Successful Science Communication." Oral presentation delivered at Better World by Design, Providence, RI, September 2014.

INVITED TALKS

"Exploring the Past, Present, and Future of Cell Lineage Studies," Marine Biological Laboratory Embryo Journal Club, Woods Hole, MA, June 2018.

"Drawing Embryos Together: Seeing 'The Embryology of *Crepidula*,'" Marine Biological Laboratory, Woods Hole, MA, July 2017 and Princeton History of Science department, Princeton, NJ, December 2017.

PEER-REVIEWED PUBLICATIONS

Steinert, Beatrice. "Drawing Embryos: Animation and Embodiment in the Lab and Archive," manuscript in preparation.

Nemtsova, Yuliya, **Beatrice L. Steinert**, Kristi A. Wharton, "Mitochondrial Dysfunction Specific to Distinct Subcellular Compartments of Sensory Neurons in a Knock-in Model of ALS," under revision at *Molecular and Cellular Neuroscience*.

Yanagi, Katherine S., Zhijin Wu, Joshua Amaya, Natalie Chapkis, Amanda M. Duffy, Kaitlyn H. Hajdarovic, Aaron Held, Arjun D. Mathur, Kathryn Russo, Veronica H. Ryan, **Beatrice L. Steinert**, Joshua P. Whitt, Justin R. Fallon, Nicolas L. Fawzi, Diane Lipscombe, Robert A. Reenan, Kristi A. Wharton, Anne C. Hart, "Meta-Analysis of Genetic Modifiers Reveals Candidate Dysregulated Pathways in Amyotrophic Lateral Sclerosis." *Neuroscience* 396 (January 1, 2019): A3–20.

Steinert, Beatrice and Kate MacCord, "Visualizing the Cell: Pictorial Styles and their Epistemic Goals in General Cytology," in *Visions of Cell Biology: Reflections Inspired by Cowdry's General Cytology*, eds. Karl Matlin, Jane Maienschein, and Manfred Laubichler, University of Chicago Press, 2018.

REVIEW ARTICLES

Steinert, Beatrice. "Janina Wellmann, The Form of Becoming: Embryology and the Epistemology of Rhythm, 1760-1830," *Journal of the History of Biology* 52 (September 2019), 493-495.

EXHIBITIONS

Imagine Science Film Festival, New York, NY / 2022 (artist)

Science New Wave Film Festival, Cambridge, MA / 2021, 2022 (artist)

Visual Science: The Art of Research, Harvard CHSI Gallery, Cambridge, MA / 2019 (research assistant)

Potters and Printmakers, Russell Janis Gallery, Brooklyn, NY / 2017 (artist)

Wonder: Nature Lab 80th Anniversary, RISD Nature Lab, Providence, RI / 2017 (artist)

Visual Media in Embryology, MBL History Project digital exhibit / 2017 (curator)

Edmund Beecher Wilson, MBL History Project digital exhibit / 2016 (research assistant).

STEAMshow, Brown University Science Center, Providence, RI / 2014 (artist)

REFERENCES

Cassandra G. Extavour

HHMI Investigator

Timken Professor of Organismic and Evolutionary Biology and of Molecular and Cellular Biology, College Professor
Harvard University

extavour@oeb.harvard.edu

Peter L. Galison

Joseph Pellegrino University Professor of the History of Science and of Physics

Director, Collection of Historical Scientific Instruments

Harvard University

galisonasst@fas.harvard.edu

Alexis Gambis

Director, Labocine and Imagine Science Films

Associate Professor of Biology, Film, and New Media

New York University

agambis@labocine.com

*Additional references and contact information available upon request.