

Laura Jones Perovich

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MIT Media Lab, Cambridge MA

QUALIFICATIONS SUMMARY

Researcher in data visualization and citizen science for addressing environmental challenges in urban spaces. Interdisciplinary collaborator across design, engineering, the sciences, and the humanities. Extensive experience in air and water quality research and in fostering partnerships between academia, industry, and communities.

EDUCATION

Massachusetts Institute of Technology

Ph.D. 2020 exp

Cambridge, Massachusetts

Media Arts and Sciences

Working Thesis: Beyond awareness: combining art, science, technology, and community to move towards collective action on environmental challenges

Dissertation Committee: Ethan Zuckerman, Pattie Maes, Glorianna Davenport

Proposal Committee: V. Michael Bove, Ethan Zuckerman, Glorianna Davenport

Exam Committee: V. Michael Bove, Natalie Jeremijenko, Ethan Zuckerman

Massachusetts Institute of Technology

S.M. 2014

Cambridge, Massachusetts

Media Arts and Sciences

Thesis: Data Experiences: novel interfaces for data engagement using environmental health data

Committee: V. Michael Bove, Hiroshi Ishii, Pattie Maes, Julia G. Brody

Bowdoin College

A.B. 2005

Brunswick, Maine

Mathematics (Honors) & Religion; cumulative GPA: 3.867

PUBLICATIONS

Udesky, J.O., K.E. Boronow, P. Brown, L.J. Perovich., J.G. Brody. *Perceived Risks, Benefits and Interest in Participating in Environmental Health Studies that Share Data: A U.S. Survey of Prospective Participants*. Journal of Empirical Research on Human Research Ethics, 2020.

Boronow, K.E., L.J. Perovich, L. Sweeney, J. Yoo, R.A. Rudel, P. Brown, J.G. Brody. *Privacy Risks of Sharing Data from Environmental Health Studies*. Environmental Health Perspectives, 128(1), 2020.

Udesky, J.O., R.E. Dodson, L.J. Perovich, R.A. Rudel. *Wrangling Environmental Exposure Data: Guidance for Getting the Best Information from your Laboratory Measurements*. Environmental Health, 18, 99, 2019.

Perovich, L.J. *Environmental Art: a path to civic progress in a time of policy retreat in the United States*. Cogent Arts & Humanities, 5:1, 1-18, 2018.

Perovich, L.J., S. Wylie, R. Bongiovanni. *Pokémon Go, pH, and projectors: applying transformation design and participatory action research to an environmental justice collaboration in Chelsea, MA*. Cogent Arts & Humanities, 5:1, 1-22, 2018.

Perovich, L.J., J.L. Ohayon, E.M. Cousins, R. Morello-Frosch, P. Brown, G. Adamkiewicz, J.G. Brody. *Reporting to parents on children's exposures to asthma triggers in low-income and public housing, an interview-based case study of ethics, environmental literacy, individual action, and public health benefits*. Environmental Health, 17:48, 2018.

Sweeney L, J. Yoo, L. Perovich, K. Boronow, P. Brown, J. Brody. 2017. *Re-identification Risks in HIPAA Safe Harbor Data: A study of data from one environmental health study*. Technology Science: 2017082801.

- Zarate, O., J.G. Brody, P. Brown, M.D. Ramirez-Andreotta, L. Perovich, J. Matz. *Balancing Benefits and Risks of Immortal Data: Participants' Views of Open Consent in the Personal Genome Project*. The Hastings Center Report, Vol 46, Issue 1, p. 36–45, January/February 2016.
- Perovich, L., P. Mothersill, J. Broutin-Farah. *Awakened Apparel: Embedded Soft Actuators for Expressive Fashion and Functional Garments*. TEI: International Conference on Tangible, Embedded and Embodied Interaction, 2014; Germany.
- Dodson, R.E., N. Van den Eede, A. Covaci, L.J. Perovich, J.G. Brody, R.A. Rudel. *Urinary Biomonitoring of Phosphate Flame Retardants: Levels in California Adults and Recommendations for Future Studies*. Environ. Sci. Technol., 2014, 48 (23), pp 13625–13633
- Ervin, C., D. Dand, R. Hemsley, D. Nunez, L. Perovich. *What's Cookin?: A Platform for Remote Collaboration*. CHI 2013 Extended Abstracts on Human Factors in Computing Systems: 2799-2800.
- Dodson, R.E., L.J. Perovich, A. Covaci, N. Van den Eede, A.C. Ionas, A.C. Dirtu, J.G. Brody, R.A. Rudel. *After the PBDE phase-out: A broad suite of flame retardants in repeat house dust samples from California*. Environmental Science & Technology, 2012; 46 (24).
- Rudel, R.A. and L.J. Perovich. *Accurate risk-based chemical screening relies on robust exposure estimates*. Toxicological Sciences, 2012; 128 (1): 295-296.
- Dodson, R.E., M. Nishioka, L.J. Standley, L.J. Perovich, J.G. Brody, R.A. Rudel. *Endocrine Disruptors and Asthma-Associated Chemicals in Consumer Products*. Environmental Health Perspectives, July 2012; 120(7): 935–943.
- Rudel R.A., R.E. Dodson, L.J. Perovich, R. Morello-Frosch, D.E. Camann, M.M Zuniga, A.Y. Yau, A. Just, J.G. Brody. *Semivolatile endocrine disrupting compounds in paired indoor and outdoor air in two northern California communities*. Environmental Science & Technology. 2010. 44 (17): 6583–6590.
- Rudel R.A., L.J. Perovich. *Endocrine disrupting chemicals in indoor and outdoor air*. Atmospheric Environment. 2009; 43: 170-181.
- Taylor S., E. Campbell, L. Perovich, J. Lever, J. Pennington. *Characteristics of Composition B particles from blow in-place detonations*. Chemosphere. 2006 Nov; 65(8):1405-13.
- Lever J.H., S. Taylor, L. Perovich, K. Bjella, B. Packer. *Dissolution of composition B detonation residuals*. Environmental Science & Technology. 2005 Nov, 15;39(22):8803-11.
- Taylor S, A. Hewitt, J. Lever, C. Hayes, L. Perovich, P. Thorne, C. Daghljan. *TNT particle size distributions from detonated 155-mm howitzer rounds*. Chemosphere. 2004 Apr; 55(3):357-67.

In review

- Perovich, L.J., S.A. Wylie, R. Bongiovanni. *Chemicals in the Creek: designing a situated data physicalization of open government data with the community*. IEEE Information Visualization [In review].
- Perovich, L.J., P. Cai, A. Guo, K. Zimmerman, K. Paseman, D. Espinoza Silva, J.B. Brody. *Data shirts and BigBarChart: designing physical data reports on indoor air pollutants for individuals and communities*. IEEE Computer Graphics and Applications [In review].
- Offenhuber, D., L.J. Perovich. *Data as Environment* [book chapter] in Making Data: The creative practice of materialising digital information. Editor: Ian Gwilt. [In review].
- Perovich, L.J. *SeeBoat* [book chapter] in Data Physicalization. Editors: Samuel Huron, Lora Oehlberg, Wesley Willett, Till Nagel. [In review].

In preparation

- Perovich, L.J. *ArtBoat: community-informed design of participatory urban art*. Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21) [In revision].
- Perovich, L.J., T. Spitz, R. Bayliss, S. Struckman, R. Rebei, R. Henning, D. Blair, B. Mayton. *SeeBoat: open source water quality sensors for rivers, lakes, and streams*. Sensors [In preparation].
- Perovich, L.J., T. Spitz, C. Chen. *SeeBoat: remote controlled boats for water quality sensing and data display in communities*. IEEE Information Visualization. [In preparation].

RESEARCH EXPERIENCE

MIT Media Lab

Research Assistant

Cambridge, Massachusetts

September 2012 - present

Research artistic technology-based approaches to engaging new communities with environmental issues to create change. Develop and evaluate novel data physicalizations of indoor pollutants in Boston public housing communities. Launch participatory action research project on environmental justice and water quality in Chelsea, MA with GreenRoots and Northeastern University. Synthesize diverse disciplines, create prototypes, and mentor undergraduate students to create new research areas and partnerships.

Silent Spring Institute

Research Assistant

Newton, Massachusetts

September 2007 - September 2012

Researched environmental health, including endocrine disruptors and emerging indoor containments connected to health issues including cancer. Contributed to community based participatory research and participant data reporting. Established research program on participant privacy in open source data and assisted in proposal writing and development. Managed data and conducted statistical analyses to publish research in partnership with Harvard University and Brown University.

Cold Regions Research and Engineering Laboratories (ERDC-CRREL)

Research Assistant

Hanover, New Hampshire

Summers 2002 - 2004

Conducted experiments on the environmental impact of explosive residue on military training grounds. Assisted in refining experimental procedures and writing publications.

TEACHING & MENTORSHIP

Workshop leader, Dagstuhl Seminar (with Dr. Till Nagel & Dr. Dietmar Offenhuber) Fall 2018

Co-taught and designed materials for a hands-on workshop "Environmental Art as Physicalization Technique" as part of the Dagstuhl seminar on Data Physicalization.

Collaborating instructor, Microsoft High School Summer Research Program Summer 2018

Designed materials and scoped technical project related to SeeBoat research for Microsoft Cambridge's first high school summer internship program. Collaborated with Microsoft employees to support student work.

Visiting lecturer & co-teacher, Northeastern University (with Dr. Sara Wylie) Fall 2017

Co-taught and designed materials for hands-on data explorations in sociology graduate methods course Community-Based Participatory Research. Led data physicalization and reporting discussions.

Instructor & organizer, Environmental Justice & Citizen Science Workshops 2016 - present

Designed and co-taught weekly summer workshops in Chelsea, MA based in a participatory action research framework and assisted with technology workshops at Northeastern University.

Instructor & organizer, "Fabrication from Fabric" Independent Activities Period Course 2014

Prepared curricula and co-taught project-based intensive course on clothing design and fabrication.

Undergraduate mentor & supervisor, MIT Media Lab

2014 - present

Kristin Zimmerman

Spring 2014

Dayanna A Espinoza Silva

Summer 2014

Phoebe Cai

Fall 2015 - Spring 2016

Amber Guo

Spring 2016

Susan Seijo Mendez, University of Puerto Rico

Summer 2016

Katrina Hinojosa

Fall 2016

Jose Soto Rivera

Fall 2016

<i>Robert Henning</i>	<i>Fall 2016 - Spring 2017</i>
<i>Claudia Chen</i>	<i>Fall 2016 - Spring 2017</i>
<i>Patricia Lu</i>	<i>Spring 2017</i>
<i>Sophia Struckman</i>	<i>Summer 2017</i>
<i>Katherine Paseman</i>	<i>Summer 2017-Spring 2018</i>
<i>Rod Bayliss</i>	<i>Fall 2017</i>
<i>Emily Schachtele, Northeastern University (co-mentor)</i>	<i>Spring 2018</i>
<i>Yaseen Alkhafaji</i>	<i>Spring 2018</i>
<i>Xavier Mojica, GreenRoots (co-mentor)</i>	<i>Summer 2018</i>
<i>Shawn Sullivan, Northeastern University (co-mentor)</i>	<i>Fall 2018</i>
<i>Michael Still, Boston University (co-mentor)</i>	<i>Fall 2018</i>
<i>Maggie Zhang</i>	<i>Fall 2018</i>
<i>Gustavo Santiago Reyes</i>	<i>Fall 2018</i>
<i>Jacqueline Chen</i>	<i>Fall 2018-Spring 2019</i>
<i>Simon Ganeles</i>	<i>Spring 2019</i>
<i>Rima Rebei</i>	<i>Spring 2019</i>
<i>Talia Spitz</i>	<i>Spring 2019-Fall 2019</i>

Math Teacher & Project Coordinator, Peace Corps Guinea 2005 - 2007
Prepared curricula and taught 9th and 10th grade math classes of 40 to 70 students. Developed curricula to conduct an 11-week teacher-training program and trained 29 Peace Corps trainees using participatory teaching methods.

Program Founder and Gymnastics Instructor, Austine School for the Deaf 2000 - 2001
Launched and coordinated a physical education gymnastics program, instructing ten Deaf students in a weekly 90-minute gymnastics class.

ART

Group show: <i>Untold Possibilities at the Last Minute</i> , City of Cambridge, MA	2019
Solo show: <i>Participatory Self-Portrait</i> , Wiesner Gallery, MIT	2019
Fellow, Royal Society of the Arts	2019 – present
Arts Scholar, MIT	2016 – present
Student representative, Arts at MIT hiring group	2019
Dancer, MIT Ballroom Dance Team	2012 - present
Dancer & instructor, Rumba y Timbal dance company	2009 - 2013
Fiber artist	1995 - present

ACTIVITIES

Member, MIT Media Lab Diversity Committee	2013 - 2019
Reviewer, Students Offering Support Program, MIT Media Lab	2015 - 2018
Paper Reviewer, Design and Semantics of Form and Movement (DeSForM)	2019

Guest scientist, Global Challenge, Cambridge Public Schools	2019
Reviewer, MIT Summer Research Program, MIT	2018
Guest Critic, Environment, Technology and Society, Northeastern University	2016
Guide, Anita Borg Computer Science School Visit Day, MIT	2016
Participant, MIT Conflict Management Training, Tiers 1-3	2015
Reviewer, Maker Portfolios for Undergraduate Admissions, MIT	2015
Paper Reviewer, UbiComp Workshop Session	2015
Organizer, Media Lab PhD critique group	2015 - 2018

AWARDS & GRANTS

Recipient, CRESSH grant (with Dr. Sara Wylie & Roseann Bongiovanni) <i>\$15,000 9-month support of community based data physicalization research</i>	2018
Materials Grant, Council for the Arts at MIT	2017
2nd place winner, Schnitzer Prize in the Visual Arts at MIT	2016
Graduate Student RA Fellowship, MIT Media Lab <i>Elements Environmental Fellowship starting 2018</i>	2012 - present
Recipient, Knight Foundation Prototype grant <i>\$35,000 six-month support of data experience research</i>	2013
Semi-finalist, Knight Foundation News Challenge: Health grant	2013
Goldwater Scholar for Exceptional Work and Potential in the Sciences	2004 - 2005
Phi Beta Kappa, <i>magna cum laude</i> , Bowdoin College	2005
Varsity Softball Athlete, Bowdoin College <i>Co-Captain: 2003-2004 and 2004-2005</i>	2001 - 2005
Varsity Indoor Track & Field Pole Vaulter and Thrower, Bowdoin College, <i>School Record Holder & DIII National Championship Competitor, 20-pound weight</i>	2002 - 2005