

Curriculum Vitae

JESSICA A. BOLKER

Department of Biological Sciences, University of New Hampshire
216 Rudman Hall, 46 College Road, Durham, NH 03824 USA
ph 603-862-0071; fax 603-862-3784
jbolker@unh.edu

EDUCATION

Yale University	Biology	B.S. <i>magna cum laude</i> 1986
University of California, Berkeley	Zoology	Ph.D. 1993

PROFESSIONAL APPOINTMENTS

Postdoctoral researcher, Department of Biology, Indiana Univ. Bloomington	1993 –1996
Assistant Professor, Department of Zoology, Univ. of New Hampshire	1997-2002
Associate Director, Shoals Marine Laboratory	2002-2011
Associate Professor, Dept. of Biological Sciences, Univ. of New Hampshire	2002-2016
Affiliate Faculty, Dept. of Philosophy, Univ. of New Hampshire	2014-current
Professor, Dept. of Biological Sciences, Univ. of New Hampshire	2016-current
Faculty Fellow, Graduate School, Univ. of New Hampshire	2017-current

HONORS AND AWARDS

Visiting Faculty Fellow, Center for Biology and Society, Arizona State University	2017
Karen Von Damm Leadership Development award, UNH ADVANCE-PAID	2010-2011
Faculty Excellence in Teaching Award, UNH College of Life Sciences and Agriculture	2009
HERS-New England Management Institute	2003-2004

SCHOLARSHIP

SELECTED PUBLICATIONS

* invited; + student coauthor

Bolker, J.A. 2024. The role of biological plasticity in model-based translational research. *Organisms* 7(1). DOI: 10.53136/97912218136854

***Bolker, J.A.** 2022. Rachel Ankeny and Sabina Leonelli's Model Organisms. *BJPS Review of Books*, 2022.

***Bolker, J.A.** and +Trachtenberg, L.G. 2021. Evo-Devo: Non-model Species in Cell and Developmental Biology. Book review. *The Quarterly Review of Biology* 96(91):51-52.

+ Milosavljevic-Ardeljan, J., **Bolker, J.A.**, and + Kanaskie, C.R. 2020. Strengthening communication and community: the multiple roles of broad-based graduate support programs. *GradEdge*, Council of Graduate Schools. Summer 2020 issue.

***Bolker, J.A.** 2019. Selection of models: Evolution and the choice of models for translational research. *Brain, Behavior and Evolution* 93:82-91.

Bolker, J.A. 2017. Animal models in translational research: Rosetta Stone or stumbling block? *BioEssays* 39(12). <https://doi.org/10.1002/bies.201700089>

*O'Malley, M., Velicer, G., Travisano, M. and **Bolker, J.A.** 2015. How do microbial populations and communities function as model systems? *Quarterly Review of Biology*, 90(3):269-293.

***Bolker, J.A.** and Brauckmann, S. 2015. From experimental zoology to big data: observation and integration in the study of animal development. *Journal of Experimental Zoology Part A* 00A:1-15

Bolker, J.A. 2014. Model species in evo-devo: a philosophical perspective. *Evolution and Development* 16(1):49-56.

***Bolker, J.A.** 2013. The use of natural kinds in evolutionary developmental biology. *Biological Theory* 2013:1-9.

***Bolker, J.A.** 2012. There's more to life than rats and flies. (Comment) *Nature* 491:31-32.

Meredith, D. and **Bolker, J.A.** 2012. Rounding off the cow: challenges and successes in an interdisciplinary physics course for life science students. *American Journal of Physics* 80(10):913-922.

Bolker, J.A. 2009. Exemplary and surrogate models: two modes of representation in biology. *Perspectives in Biology and Medicine* 52(4):485-499.

+ Martinez, G.M., + M.P. Baron and **J.A. Bolker**. 2007. Skeletal and pigmentation defects following retinoic acid exposure in larval summer flounder (*Paralichthys dentatus*). *Journal of the World Aquaculture Society* 38(3):353-366.

Bolker, J.A., +T.F. Hakala, and +J.E. Quist. 2005. Pigmentation development, defects, and patterning in summer flounder (*Paralichthys dentatus*). *Zoology* 108:183-193

SELECTED PRESENTATIONS

* invited

- * **Bolker, J.A.** 2024. “Here we are: history, biology, and questions on Appledore Island.” Shoals Marine Laboratory Rock Talk (all-island seminar). June 2024.
- * **Bolker, J.A.** 2020. “Writing during a pandemic” workshop. Graduate Program in Modern Thought and Literature, Stanford University. June 2020. (via zoom)
- * **Bolker, J.A.** 2018. Selection of models: Evolution and the choice of models for translational research. J.B. Johnston Club/Society for Neuroscience workshop on “The Role of Species Diversity in Neuroscience.” San Diego, CA.
- ***Bolker, J.A.** 2018. Use of animal models in translational research: strengths, weaknesses, and points to consider. American Association of Pharmaceutical Scientists annual meeting. Washington, DC.
- ***Bolker, J.A.** 2017. Animal models in translational research: Rosetta Stone or stumbling block? Center for Biology and Society, Arizona State University.
- Milosavljevic-Ardeljan, J. and **J.A. Bolker.** 2017. Centralizing graduate communication support: integration and expansion. Council on Graduate Communication. Monterey, CA.
- Bolker, J.A.** 2015. Applying epistemology to help bridge the translational gap. International Society for History, Philosophy, and Social Studies of Biology biennial meeting, Montréal, Quebec.
- ***Bolker, J.A.** 2015. From biology to philosophy, and back. Institute for History and Philosophy of Science and Technology, Univ. of Paris 1/CNRS, France.
- ***Bolker, J.A.** 2015. Bridging biology and philosophy. Department of Biology, Eastern Connecticut State University.
- ***Bolker, J.A.** 2013. What microbes can model. International Society for History, Philosophy, and Social Studies of Biology biennial meeting, Montpellier, France.
- ***Bolker, J.A.** 2011. Model organisms meet digital history and philosophy of science. International workshop sponsored by NSF and the Center for Biology and Society, Arizona State Univ. Marine Biological Laboratory, Woods Hole, MA.
- ***Bolker, J.A.** 2011. Natural kinds in evolutionary developmental biology. International workshop “Natural kinds in philosophy and in the life sciences: scholastic twilight or new dawn?” University of Granada, Spain.

TEACHING

UNDERGRADUATE COURSES

BIOL 714 – Model systems in translational research
HONR 500 – *Arcadia*: theater, science, philosophy

ZOOL 529 - Developmental biology
ZOOL 690W – Evolution
MEFB 410 - Marine Immersion (for incoming freshmen, taught at Shoals Marine Laboratory)

previously taught

PHYS 401, PHYS 402 - Introductory physics (co-taught with Dawn Meredith, Physics)
ZOOL 412 – Biology of Animals
ZOOL 415/515 – Biomechanics (initially co-taught with Karen Carleton, Zoology)
ZOOL 416 – Biophysics (co-taught with Karen Carleton, Zoology)
ZOOL/INQ 444/444H - Dogs to dragons: origins of species

GRADUATE COURSES

BIOL 814 Model systems in translational research
BIOL/ZOOL 902 Scientific Writing (taught every year since 2006; prefix has varied)
BIOL 950 Scientific Communication (co-taught 2013, 2014, 2016; solo since 2018)

previously taught

BIOL 901 Introductory Graduate Seminar/Biological Sciences (2015-2023)
GRAD 932 Research Communication (summer 2018)

GRADUATE STUDENT ADVISING

i. Primary or co-advisor

Camryn Berry Ph.D., Integrative Biology in progress; candidacy Jan. 2024
Laura Trachtenberg M.S., Integrative Biology 2022 *co-sponsored with A. Andrade*
Yvette Garner M.S., Zoology *co-sponsored with M.K. Litvaitis*
 Ph.D. in NRESS, 2013; now Assistant Professor, University of West Georgia
Erica Westerman M.S., Zoology, 2007 *co-sponsored with L. Harris*
 Ph.D. in Biology, Yale University 2012; postdoctoral researcher, University of Chicago
Gabriela M. Martinez (now Bradt) Ph.D., Zoology, 2004
 now Commercial Fisheries Specialist, New Hampshire Sea Grant
Michael P. Baron M.S., Zoology, 2003
 now teaching at Monson Jr./Sr. H.S., Monson MA
R. Craig Albertson Ph.D., Zoology, 2002 *co-sponsored with T. Kocher*
 now Associate Professor, Department of Biology, UMass-Amherst

ii. Committee member

Caroline Kanaskie	Ph.D. NRESS	current
Nancy Fernandes	Ph.D. Biochemistry	current
Jessie Briggs	Ph.D. Biol. Sciences	2023
Jordan Bader	Ph.D. Biol. Sciences	2022
Wyatt Shell	Ph.D. Biol. Sciences	2021
Jovana Milosavljevic-Ardeljan	Ph.D. Education	2021
Sara Edquist	Ph.D. Zoology	2021
Seth Goodnight	Ph.D. Biol. Sciences	2021

Alexander Sitek	M.S. Biol. Sciences	2021
Kenneth Flynn	Ph.D. Microbiology	2014
Yvette Garner	Ph.D. NRESS	2013
Jason Goldstein	Ph.D. Zoology	2012
Rachel Staples	M.S. Microbiology	2012
Crystal Ellis	Ph.D. Genetics	2011
Emily LaFiandra	Ph.D. Natural Resources	2006
Carmen Panaitof	Ph.D. Zoology	2004
R. Craig Albertson	M.S. Genetics	1998

Cognate in College Teaching: C. Fiore (2013), M. Walsh (2012), C. Ellis (2011), D. Goodwin (2009)

ADDITIONAL ACTIVITIES IN SUPPORT OF GRADUATE EDUCATION (SELECTED/RECENT)

- Faculty Fellow, UNH Graduate School 2017-current
 Responsibilities have included revision of Graduate School handbooks and other documents, participation in all stages of program review, and collaborative initiation and presentation of a range of professional development programs for graduate students (focusing on writing and communication skills). I provide major support to the annual winter writing retreat (now the Dean Cari Moorhead Winter Writing Academy).
- Graduate Coordinator, UNH Biological Sciences Program 2015-2023
 First coordinator for new program; involved in transition and launch, including developing policies, handbook, website, and essential procedures and documents.
- UNH Graduate Council 2015-2023
 Chair, Program Review Committee
 Liaison to COLSA Executive Committee 2015-2021
- UNH Graduate School Dissertation Boot Camp 2017, 2018
 Individual consultations with students working on diverse writing projects
- Dissertation Year Fellowship Office Hours 2017, 2018
 Individual consultations with students preparing applications
- “Communicating Across Disciplines” workshop 2017
 Conceived, organized, and presented a series of three sessions for diverse group of graduate students from STEM and humanities disciplines, focusing on developing communication skills and projects centered on their own research (in collaboration with S. Hollen (Physics) and J. Milosavljevic-Ardeljan (Graduate School)).
- Graduate workshop: “Decoding science papers: tools for non-scientists” 2017
 International Society for History, Philosophy, and Social Studies of Biology biennial meeting, São Paulo, Brazil.

Funding application: National Science Foundation, NRT-IGE funding proposal – co-PI.
“Communicating beyond the disciplines: a graduate academy at the University of New Hampshire (UNH).” Requested amount: \$499,722. *Not funded.*

At least once a year (usually more), I am invited to serve as a panelist or workshop presenter for UNH events focused on graduate education and professional development. Past topics have included dissertation writing strategies, and writing as a woman in STEM. These invitations often originate from graduate student groups or organizations.

PROFESSIONAL SERVICE (SELECTED/RECENT)

UNH

School of Marine Sciences and Ocean Engineering 2019-2021
Executive Committee member
Chair, Education Committee
Institutional Animal Care and Use Committee - IACUC (past Chair)
Responsible Conduct of Research Committee
Graduate Council and related committees

COLSA

COLSA Safety Committee (co-Chair)
Executive Committee (was liaison for Graduate Council)
Promotion and Tenure Committee

External

International Society for History, Philosophy, and Social Studies of Biology – ISHPSSB
Governing Council 2009-2017
Program co-chair for summer 2017 biennial meeting in São Paulo, Brazil

Manuscript and grant reviewer:

European Journal of Neuroscience; Development; Biological Chemistry; Philosophy, Theory and Practice in Biology; Brain, Behavior and Evolution; Trends in Ecology and Evolution; Nature Immunology; Biology and Philosophy; Philosophy of Science; Integrative and Comparative Biology; Journal of Fish Biology; MIT Press (reviewed book proposal); National Science Foundation (ad hoc proposal review)