

IRINA MIKHALEVICH, PH.D.

Assistant Professor
Department of Philosophy
Rochester Institute of Technology

CURRICULUM VITAE

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ACADEMIC EMPLOYMENT

Rochester Institute of Technology, Department of Philosophy (2017 - present)

Assistant Professor

Northeastern University, Department of Philosophy and Religion (2016 - 2017)

Visiting Fellow

Humboldt-Universität, Berlin School of Mind and Brain (2016)

Postdoctoral Fellow

Washington University in St. Louis, Philosophy-Neuroscience-Psychology Program (2014 - 2016)

James S. McDonnell Postdoctoral Fellow

EDUCATION

Boston University, Ph.D. (2014)

Doctoral Dissertation Title: "Experiment and Bias: The Case of Parsimony in Comparative Cognition"; Advisors: Alisa Bokulich, Colin Allen (Pittsburgh)

Indiana University, Visiting Scholar (2012)

Supervised by Colin Allen, Distinguished Professor, University of Pittsburgh (then at Indiana University)

University of California at Berkeley, B.A. (2003)

Major: Philosophy

AREAS OF SPECIALIZATION AND COMPETENCE

AOS: Philosophy of Science, Philosophy of Cognitive Science (especially animal cognition), Bioethics

AOC: Philosophy of Mind, Moral and Political Philosophy, Philosophy of Biology

PUBLICATIONS

Mikhalevich, I. (*forthcoming, in preparation*) "Animal cognition." In *Mind, Cognition, and Neuroscience: A Philosophical Introduction*, eds. B.D. Young and C.D. Jennings. Routledge.

Mikhalevich, I., and Powell, R. (2020) "Minds without spines: evolutionarily inclusive animal ethics." *Animal Sentience* 29(1) (**target article**)

Mikhalevich, I., Powell, R. and Buchanan, A. (2020) "How the moral community evolves" In *Rethinking Moral Status*, eds. S. Clarke and J. Savulescu. Oxford University Press.

Mikhalevich, I. (2019) "Robot crickets and arthropod intelligence: How insect models shape metaphors of mind" *Proceedings of the Stan McKenzie Salon Speaker Series*.

Mikhalevich, I. (2018) "Animal suicide: An account worth giving?" *Animal Sentience* 20

Mikhalevich, I. (2017) "Consciousness, evidence, and moral standing: A reply to Woodruff on teleost consciousness" *Animal Sentience* 13

Mikhalevich, I., R. Powell, and C. Logan. (2017) "Is flexible behavior evidence of cognitive complexity? How evolution can inform comparative cognition" *Journal of the Royal Society Interface Focus* 7

- Powell, R, I. Mikhalevich, C. Logan, and N. Clayton. (2017) "Convergent minds: The evolution of cognitive complexity in nature," *Journal of the Royal Society Interface Focus* 7 (second author)
- Mikhalevich, I. (2017) "Simplicity and cognitive modeling: avoiding old mistakes in new experimental contexts." In *The Routledge Handbook of Philosophy of Animal Minds*, eds. K. Andrews and J. Beck.
- Mikhalevich, I. and Powell. R. (2016) "Sex, lies, and gender" 43:14-16 *Journal of Medical Ethics*
- Mikhalevich, I. (2015) "Experiment and animal minds: why the choice of the null hypothesis matters" *Philosophy of Science*. 82: 1-11
- Mikhalevich, I. (published under 'Meketa') (2015) "Honor among (the beneficiaries of) thieves." *Ethical Theory and Moral Practice* 18: 385-402
- Mikhalevich, I. (published under 'Meketa') (2014) "A critique of the principle of cognitive simplicity in comparative cognition." *Biology and Philosophy*. 29: 731-745

MAJOR GRANTS

2020-2023: Awarded \$234,000 from the Templeton World Charity Foundation through the Diverse Intelligences Initiative for a project titled, *Minds Without Spines: Uncovering the Deep Structure of Mind, Meaning, and Morality*, with Co-PIs, Russell Powell (Boston University) and Kristin Andrew (York University) and with input from Allen Buchanan (Arizona/Duke).

JOURNAL ISSUES EDITED

Special Issue of the Royal Society's *Interface: Focus*, titled: "Convergent Minds: The Evolution of Cognitive Complexity in Nature" (co-editors: Nicola S. Clayton FRS, Corina Logan, Russell Powell)

TALKS AND PRESENTATIONS

- Invited panelist/presenter for two-day workshop on Allen Buchanan's forthcoming book, "Beyond Tribalism: The Evolution of Exclusive Morality," *The Center for Philosophy of Freedom*. University of Arizona, Tucson, AZ. March 2019
- "Robot Crickets and Arthropod Intelligence: How Insect Models Shape Metaphors of Mind." *Stan McKenzie Salon Speaker Series* titled "Liberal Arts and AI," Rochester Institute of Technology. December 2018
- "Arthropod Intelligence: What Entomology Can Teach AP" *Artificial Intelligence Seminar Series*, Rochester Institute of Technology, Rochester, NY. November 2018
- "Simplicity and Models of Mind" invited speaker at the *Cognitive Science Colloquium Series* at the Center for Cognitive Science, University at Buffalo. Buffalo, NY. November 2018
- "Cognitive Bias and Moral Deliberation: The Case of Invertebrate Animals." "Ethics in Entomology: Considerations for Research and Policy" symposium at the *Joint Annual Meeting of the Entomological Society of America and the Entomological Society of Canada*, Vancouver, Ca. November 2018
- "Experimentation and Manipulation," *Philosophy of Science Association*, Seattle WA. November 2018.
- "Minds Without Spines" *Seminar Series* at the Uehiro Centre for Practical Ethics, Oxford University, Oxford, England. June 2018
- "Minds Without Spines: Toward a More Comprehensive Animal Ethics." *Animal Philosophy Lecture Series*. Williams College, MA. April 2018
- "Minds Without Spines: Implications of Invertebrate Cognition for Cognitive Science and Animal Ethics" *Cognitive Science Lecture Series*. York University. Toronto, CA. February 2018
- "Minds Without Spines: Toward a More Comprehensive Animal Ethics" *Hale Ethics Series*, Rochester Institute of Technology, Rochester NY. October 2017
- "Experimenting and Intervening" *Upstate Philosophy of Science Workshop Series*, Hobart & William Smith Colleges, Geneva, NY. August 2017
- "Is Behavioral Flexibility Evidence of Cognitive Complexity?" *Faculty Works-in-Progress Series*

- Northeastern University. January 2017
- “Simplicity in Cognitive Modeling” *Colloquium Series for the Adaptive Rationality & Adaptive Behavior and Cognition Groups*, Max Planck Institute for Human Development, Berlin Germany. July 2016
- “No Simplicity Simpliciter” *Mind-Brain Lecture Series* at the Berlin School of Mind and Brain, Humboldt University. Berlin, Germany. July 2016
- “Smart Moves: Is Behavioral Flexibility Evidence of Cognitive Complexity?” *Convergent Minds: Investigating the Evolution of Cognitive Complexity in Nature* at Boston University. October 2015
- Invited Commentary for Marta Halina’s “Inference and Error in Comparative Psychology: The Case of Mindreading” *Minds Online Conference*. September 2015
- “Experimenting and Intervening” *Australasian Association of Philosophy Conference* at Macquarie University. July 2015
- “Behavioral Flexibility as Evidence of Cognitive Complexity: The Argument Behind the Intuition” *Philosophy-Neuroscience-Psychology Colloquium* at Washington University-St. Louis. March 2015
- “Behavioral Flexibility as Evidence of Cognitive Complexity: The Argument Behind the Intuition” *Saint Louis Area Philosophy of Science Association Conference*. St. Louis University, March 2015
- “Experiment and Animal Minds: Why Statistical Choices Matter” *Biennial Meeting of the Philosophy of Science Association*, November 2014
- “A Critique of the Principle of Cognitive Simplicity in Comparative Cognition” *History and Philosophy of Science Research Group* at the University of Cambridge, UK. October 2014
- “How Parsimony Biases Experimental Design in Comparative Cognition.” *Philosophy of Scientific Experimentation Conference 4 (PSX4)* hosted by The Center for Philosophy of Science at the University of Pittsburgh, April 2014
- “A Critique of the Principle of Cognitive Simplicity in Comparative Cognition.” *Southern Society for Philosophy and Psychology (SSPP)*. February 2014
- “A Critique of the Principle of Cognitive Simplicity in Comparative Cognition.” *Fourth Conference of the European Philosophy of Science Association (EPSA)* at the University of Helsinki. August 2013 (paper was accepted but I was unable to attend the conference)
- “Constructing the Null Hypothesis: Epistemic and Non-Epistemic Values in Statistical Methods.” *Symposium Session at the APA Pacific Division*. San Francisco, CA. March 2013
- “A Critique of the Principle of Cognitive Simplicity in Comparative Cognition.” *39th Annual Meeting of the Society for Philosophy and Psychology* at Brown University. May 2013 (poster)
- “Coping with Interdisciplinarity in Animal Studies.” *Navigating a Multispecies World: A Graduate Student Conference on the Species Turn*. Harvard University. April 2013
- Invited Commentary for Dan W. Brock’s “Physician-Assisted Suicide and End-of-Life Issues.” *Boston University Institute for Philosophy and Religion 2013–2014 Lecture Series*. October 2013
- “The False Dichotomy Between Experiment and Observation: The Case of Comparative Cognition.” *Philosophy of Scientific Experimentation Conference 3 (PSX3)*. University of Colorado. October 2012
- “The Importance of Attending to the Null Hypothesis in Comparative Psychology: Replacing Occamism with Empirical Information in Statistical Analysis.” *Animal Cognition Conference*. Ruhr Universität. Bochum, Germany. June 2012
- “Sentimentality and Objectivity: Challenging the Ideal of Emotional Detachment in Comparative Cognition.” *Minding Animals Conference* at Utrecht, Netherlands. July 2012 (poster)
- “Experiment and Observation in Comparative Cognition.” Indiana University Center for Integrative Study of Animal Behavior. September 2012
- Invited Commentary for Ronald Sandler’s “Climate Change, Ecosystem Management, and Ecological Virtue.” *Boston University Karbank Symposium in Environmental Philosophy*. April 2010
- “Irreversible Loss of Personhood: Toward a Viable Model of Human Death.” *Graduate Student Presentation Series*, Boston University. June 2008

MAJOR CONFERENCES ORGANIZED

October 2015: “Convergent Minds: Investigating the Evolution of Cognitive Complexity in Nature” held at Boston University (co-organized with Russell Powell, Boston University).

DISSERTATION ABSTRACT

Experiment and Bias: The Case of Parsimony in Comparative Cognition

Although parsimony is traditionally viewed as a virtue of scientific hypotheses, I argue that it is problematically embedded in the standard statistical method in comparative cognition and results in a bias toward under-attributing putatively complex cognitive abilities to nonhuman animals. In effect, parsimony sets the null hypothesis to the non-presence of the more sophisticated cognitive abilities. I argue that the role of parsimony in the experimental setting of comparative cognition is deeply problematic, for several reasons. First, the notion of a cognitive hierarchy running from simplest to most complex is difficult to construct both because cognition does not fall along a continuum of complexity and because the notion of “parsimony” is ambiguous. Second, contrary to some intuitions, the parsimony preference is inconsistent with evolutionary expectations. Third, it increases the risk of wrongly attributing the absence of a morally relevant cognitive feature to nonhuman animals. I offer strategies for amending the standard statistical methods in comparative cognition in order to guard against an unwarranted under-attribution bias, and I develop an evidence-based strategy for choosing a null hypothesis that is appropriate to the particular experimental context. Finally, I suggest a role for non-epistemic values, such as ethical or pragmatic values, in our choice and design of statistical models. Taken as a whole, this work demonstrates that various philosophical investigations of scientific practice—from inquiry into the nature of scientific evidence to analysis of the role of values in science—would be greatly enriched by increased attention to experimental methodology, including the choice and interpretation of statistical models.

ACADEMIC AND PROFESSIONAL AWARDS

Outstanding Teaching Fellow Award, Boston University (2009)

Shimony Prize for best philosophy of science essay for: “Value-explicit Demarcation Criteria: Is There a Difference Between Bad Science and Pseudoscience?” (2007)

Travel grants: *Animal Cognition Conference*, awarded by the Department of Philosophy at Ruhr Universität in Bochum, Germany (2012) and the *Philosophy of Scientific Experimentation Conference*, by the Department of Physics at the University of Colorado, Boulder (2012)

Research Fellowship, Boston University (fall 2012)

Dissertation Fellowship, Boston University (2010-2011)

REFeree WORK

Synthese, *British Journal for the Philosophy of Science*, *Philosophy of Science*, *Biology & Philosophy*, *Philosophical Psychology*, *Medicine Healthcare & Philosophy*, *Review of Philosophy and Psychology*

PROFESSIONAL CONSULTING

Panelist, National Science Foundation. Science, Technology, and Society General Advisory Panel, Washington D.C. (Apr. 2019, 4 days)

Panelist, National Science Foundation. Science, Technology, and Society General Advisory Panel, Washington D.C. (Nov. 2019, 4 days)

PROFESSIONAL AFFILIATIONS

Philosophy of Science Association, American Philosophical Association, Society for Philosophy and Psychology, Comparative Cognition Society

SERVICES AND ACTIVITIES

2019-2020 Master's in Artificial Intelligence Taskforce Committee at RIT
2018-2020 PhD in Cognitive Science Development Committee at RIT
2017 Co-organizer of the RIT Undergraduate Philosophy Conference
2015 Co-organizer of the joint Washington University-St. Louis and Boston University international conference, "*Convergent Minds: Investigating the Evolution of Cognitive Complexity in Nature*," hosted by Boston University's Center for Philosophy and History of Science
2014-2016 Co-organizer of the PNP/Medical School Colloquium Series at Washington University in St. Louis
2012-2013 Founder of weekly Boston University Dissertation Writing Group
2011 Moderator and co-organizer of the Boston University Center for the Philosophy and History of Science Colloquium, titled "Animal Minds"
2008-2009 President of the Graduate Student Association (intra-departmental)
2009-2010, Summer 2010 Organizer and moderator of the bi-monthly Boston University Graduate Student Presentation Series (BU GSPS)
2006-2007, 2010-2011 Representative for the Philosophy Department at the Boston University Graduate Student Organization (inter-departmental)

TEACHING EXPERIENCE

Spring 2020 Philosophy of Science - *Rochester Institute of Technology*
Introduction to Moral Issues - *Rochester Institute of Technology*

Fall 2019 Philosophy of Mind - *Rochester Institute of Technology*
Introduction to Moral Issues - *Rochester Institute of Technology*

Spring 2019 Bioethics and Society (online course)
Introduction to Moral Issues (online course)

Fall 2018 Responsible Knowing - *Rochester Institute of Technology*
Introduction to Moral Issues (x2) - *Rochester Institute of Technology*

Summer 2018 Introduction to Moral Issues (online course) - *Rochester Institute of Technology*

Spring 2018 Introduction to Moral Issues - *Rochester Institute of Technology*
Fall 2017 Bioethics and Society - *Rochester Institute of Technology*
Animals, Minds, and Morals - *Rochester Institute of Technology*
Introduction to Moral Issues (x2) - *Rochester Institute of Technology*

Spring 2017 Moral and Social Problems in Healthcare (x2) - *Northeastern University*
Fall 2016 Philosophy of Science (Capstone course) - *Northeastern University*

Moral and Social Problems in Healthcare (x2) - *Northeastern University*

Summer 2016 Philosophy of Experiment (graduate seminar) - *Berlin School of Mind and Brain, Humboldt University*

Fall 2014, Spring 2015, Fall 2015 (x2) Introduction to Cognitive Science - *Washington University in St. Louis, Philosophy-Neuroscience-Psychology Program*

Spring 2014 Ethics of Healthcare (upper-division undergraduate/graduate) - *Boston University*
Introduction to Ethics (supervised one graduate student teaching fellow) - *Boston University*

Fall 2013 Medical Ethics (x2; supervised four graduate student teaching fellows)- *Boston University*
Introduction to Ethics - *Boston University*

Summer 2010 Philosophy of Science - *Boston University*

LANGUAGES

Russian (native); Italian (fair reading)

REFERENCES

DR. KRISTIN ANDREWS
Professor of Philosophy and
York Research Chair in Animal Ethics
York University
Email: andrewsk@yorku.ca

DR. COLIN ALLEN
Distinguished Professor
History & Philosophy of Science
University of Pittsburgh
Email: colin.allen@pitt.edu

DR. ALISA BOKULICH
Professor of Philosophy
Director, Center for Philosophy & History of Science
Boston University
Email: abokulic@bu.edu

DR. RON MALLON
Associate Professor of Philosophy and
Director of Philosophy-Neuroscience-
Psychology
Program
Washington University-St. Louis
Email: rmallon@artsci.wustl.edu

DR. DALE JAMIESON
Chair of the Environmental Studies Department
Professor of Environmental Studies, Philosophy
Founding Director of Environmental Studies and
Animal Studies
Affiliated Professor of Bioethics
Affiliated Professor of Law
dale.jamieson@nyu.edu

DR. MARC BEKOFF
Professor Emeritus, Ecology and
Evolutionary Biology
University of Colorado, Boulder
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DR. WALTER HOPP
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Boston University
Email: hopp@bu.edu