

Rachel Bell Burten, Ph.D. Candidate

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Education

- Current Ph.D. Candidate, Organismic and Evolutionary Biology
University of Massachusetts Amherst
Thesis: “The Impacts of Environment and Host Evolutionary Relationships on Lemur Microbiomes”
Advisor: Jason Kamilar, Ph.D.
- 2016 B.A., Evolutionary Biology of the Human Species
Columbia University
Thesis: “Factors Affecting the Activity Budgets of Female Blue Monkeys (*Cercopithecus mitis stuhlmanni*)”
Advisor: Marina Cords, Ph.D.

Grants and Fellowships

- 2022 Spaulding-Smith Fellowship (\$25,000)
University of Massachusetts Amherst
- 2021 Biological Anthropology Program - Doctoral Dissertation Research Improvement Grant (\$18,934)
National Science Foundation
- 2021 The Leakey Foundation Research Grant (\$14,978)
- 2019 Graduate Research Fellowship (\$138,000)
National Science Foundation
- 2019 Dissertation Fieldwork Grant (\$4,153)
University of Massachusetts Amherst
- 2019 Natural History Collections Summer Grant (\$3,954)
University of Massachusetts Amherst
- 2018 Natural History Collections Summer Grant (\$3,623)
University of Massachusetts Amherst
- 2018 Predissertation Research Grant (\$1,000)
University of Massachusetts Amherst
- 2017 Spaulding-Smith Fellowship (\$25,000)
University of Massachusetts Amherst

Peer-Reviewed Publications

- 2022 Kitrinos, C., **Bell, R.B.**, Bradley, B.J., Kamilar, J.M. Hair and skin microbiome diversity within and across primate species. *mSystems* 7, 4: e00478-22.
- 2021 **Bell, R.B.**, Bradley, B.J., Kamilar, J.M. The evolutionary ecology of primate hair coloration: a phylogenetic approach. *Journal of Mammalian Evolution* 28, 3: 911-927.
- 2018 Carpenter, K., **Bell, R.B.**, Yunus, J., Amon, A., and Berchowitz, L.E. Phosphorylation-mediated clearance of amyloid-like assemblies in meiosis. *Developmental Cell* 45, 3: 392-405.

Popular Science Publications

- 2022 **Bell, R.B.** Musings of a Hobby Mushroom Hunter. *That's Life [Science]*.
- 2021 **Bell, R.B.** How the search for a universal gene forever changed biology: the story of Carl Woese and 16S sequencing. *That's Life [Science]*.
- 2021 **Bell, R.B.** Why Don't Apes Have Tails? *That's Life [Science]*.
- 2021 **Bell, R.B.** A Breath of Fresh Air: How the Great Oxygenation Event Changed Life on Earth Forever. *That's Life [Science]*.
- 2021 **Bell, R.B.** Three Things STEM Undergrads Might Not Know (That You Can Teach Them!). *That's Life [Science]*.
- 2020 **Bell, R.B.** How Do Microbes Help Animals Adapt? *That's Life [Science]*.
- 2020 **Bell, R.B.** What's the World's Largest Virus? *That's Life [Science]*.
- 2020 **Bell, R.B.** How Community-based Conservation Helps Lemurs. *That's Life [Science]*.
- 2020 **Bell, R.B.** Sound the Alarm! One Unique Way Primates Avoid Being Eaten. *That's Life [Science]*.
- 2019 **Bell, R.B.** Why are some primate infants brightly colored? *That's Life [Science]*.
- 2019 **Bell, R.B.** The Traveling Field Biologist. *That's Life [Science]*.
- 2019 **Bell, R.B.** Sifak-huh? *That's Life [Science]*.
- 2019 **Bell, R.B.** Things That Glow Pink in the Night: Why do some animals have fluorescent coloration under ultraviolet light? *That's Life [Science]*.

- 2019 **Bell, R.B.** From the Field to the Lab: Sequencing Wild Microbiomes. *Kamilar Lab Blog*
- 2018 **Bell, R.B.** Tails from the Field: Studying Lemurs in Southwestern Madagascar. *That's Life [Science]*.
- 2018 **Bell, R.B.** The Colorful World of Primate Hair. *That's Life [Science]*.
- 2018 **Bell, R.B.** Your Body is an Ecosystem: Why Microbiomes Matter. *Kamilar Lab Blog*.
- 2018 **Bell, R.B.**, Fowler, A.E. Grad Students Meet Girl Scouts Part 2: Conserving Local Bee Habitats, One Person at a Time! *That's Life [Science]*.

Other Publications

- 2021 Fuchs, A.J., Wilson, T.C., Kitrinos, C., Kunaparaju, A., & **Bell, R.B.** The sixth Annual Northeastern Evolutionary Primatologists (NEEP) meeting: Gone virtual!. *Evolutionary Anthropology* 1-3.
- 2019 **Bell, R.B.**, Fuchs, A., Rowan, J., Zintel, Z., Dorshorst, T., and Zamora, A.J. The 88th annual meeting of the American Association of Physical Anthropologists in Cleveland, Ohio. *Evolutionary Anthropology* 28, 3: 106.
- 2018 Fuchs, A.J., **Bell, R.B.**, Lazagabaster, I.A., and Zamora, A.J. The 87th annual meeting of the American Association of Physical Anthropologists in Austin, Texas. *Evolutionary Anthropology* 27, 3: 98-101.
- 2014 **Bell, R.B.** You Are What You Eat (Or Are You?): An Exploration of the Effects of Dietary Habits on Mandibular and Dental Morphology of the Genus *Gorilla*. *Sapient: The Undergraduate Journal of Biological Anthropology* 2: 23-26.

Professional Presentations

- 2022 **Bell, R.B.**, Lawler, R.R., Ratsirarson J., Ranaivonasy, J., Leduc, R., Kamilar, J.M. (2022). The hair microbiome of wild lemurs: insights from shotgun metagenomics [Invited Symposium Presentation]. American Association of Biological Anthropologists Meeting.
- 2022 Fuchs, A.J., **Bell, R.B.**, Kunaparaju, A., Rowan, J., Beaudrot, L., Reed, K.E., Kamilar, J.M. (2022). Using ecological niche modeling to assess how frugivorous non-primate mammals impact frugivorous primate distributions on a global scale [Poster Session]. American Association of Biological Anthropologists Meeting.
- 2022 Kitrinos, C.E., **Bell, R.B.**, Bradley, B.J., Kamilar, J.M. (2022). Is there a core primate hair microbiome? [Invited Symposium Presentation]. American Association of Biological Anthropologists Meeting.

- 2021 **Bell, R.B.**, Lawler, R.R., Ratsirarson, J., Ranaivonasy, J., Leduc, R., Kamilar, J.M. (2021). Characterizing wild lemur microbiomes across multiple body regions in southwest Madagascar [Poster Session]. American Association of Physical Anthropologists Meeting.
- 2021 Kitrinos, C.E., **Bell, R.B.**, Bradley, B.J., Kamilar, J.M. (2020). Hair microbiome diversity within and across 12 primate species [Podium Presentation]. American Association of Physical Anthropologists Meeting.
- 2020 Kitrinos, C.E., **Bell, R.B.**, Bradley, B.J., Kamilar, J.M. (2020). Hair microbiome diversity within and across 12 primate species [Poster Session]. Northeastern Evolutionary Primatologists Meeting.
- 2020 **Bell, R.B.**, Reed, K.E., Rowan, J., Beaudrot, L., Kamilar, J.M. How do non-primate competitors affect the potential distribution of frugivorous primates [Poster Session]? American Association of Physical Anthropologists Meeting.
- 2019 **Bell, R.B.**, Rowan, J., Reed, K.E., Kamilar, J.M. How do non-primate competitors affect the potential distribution of frugivorous primates [Poster Session]? Northeastern Evolutionary Primatologists Meeting.
- 2019 **Bell, R.B.** Investigating the impacts of ecological factors on lemur microbiome diversity at Beza Mahafaly Special Reserve, Madagascar [Podium Presentation]. Engaging Anthropology Conference.
- 2019 **Bell, R.B.**, Bradley, B.J., Kamilar, J.M. Comparing evolutionary models of primate hair color variation [Poster Session]. American Association of Physical Anthropologists Meeting.
- 2018 **Bell, R.B.**, Bradley, B.J., Kamilar, J.M. Comparing evolutionary models of primate hair color variation [Poster Session]. Northeastern Evolutionary Primatologists Meeting.
- 2016 **Bell, R.B.** Factors affecting the activity budgets of female blue monkeys (*Cercopithecus mitis stuhlmanni*). Evolutionary Biology of the Human Species Senior Thesis Presentation, Columbia University.
- 2015 **Bell, R.B.** Merits of observational vs. experimental evidence in studies of primate cognition. Current Controversies in Primate Behavior & Ecology Seminar, Columbia University.

Awards and Honors

- 2022 Organismic & Evolutionary Biology Service & Outreach Award (\$500)
- 2020 Finalist, Graduate School ‘Images of Research’
University of Massachusetts Amherst

- 2019 Juan Comas Prize for Excellent Presentation (\$500)
American Association of Physical Anthropologists
- 2019 William S. Pollitzer Student Travel Award (\$500)
American Association of Physical Anthropologists
- 2018 NEEP Best Poster Award (\$100)
Northeastern Evolutionary Primatologists
- 2018 William S. Pollitzer Student Travel Award (\$500)
American Association of Physical Anthropologists
- 2016 Thesis Award, Dept. of Ecology, Evolution & Environmental Biology
Columbia University
- 2016 Dobzhansky Prize, Dept. of Ecology, Evolution & Environmental Biology (\$500)
Columbia University

Teaching Experience

Aug 23, 2020-Jan 2, 2021; Aug 29, 2021-Jan 8, 2022—Unseen Ecosystems: How Microbiomes Shape Life on Earth, University of Massachusetts, Amherst

Instructor of Record

Sep 13, 2021—Writing in Microbiology, University of Massachusetts, Amherst

Guest Lecturer

Feb 26, 2020—Primate Conservation, University of Massachusetts, Amherst

Guest Lecturer

Sep 2019-Dec 2019—Primate Behavior, University of Massachusetts, Amherst

Teaching Assistant

Oct 24, 2018; Oct 23, 2019—Primate Behavior, University of Massachusetts, Amherst

Guest Lecturer

Aug 2018; Aug 2019— ESSA-Forêts Annual Field School, University of Antananarivo

Guest Lecturer

Jan 2019-May 2019—Biology of Social Issues, University of Massachusetts, Amherst

Teaching Assistant

June 2016-Sep 2016—Queens Zoo, Wildlife Conservation Society

Conservation Education Fellow

Sep 2013-Jun 2014—Earth Institute Center for Environmental Sustainability

Course Assistant

Professional Service

Mar 2023—FEMS Microbiology Ecology

Reviewer for Journal

Sep 2021, Dec 2021, Mar 2023—International Journal of Primatology

Reviewer for Journal

Jan 2019, Sep 2022—Evolutionary Anthropology

Reviewer for Journal

Sep 2018-Jul 2022—Graduate Employee Organization

Organismic and Evolutionary Biology GEO Steward Sep 2018-May 2021

Steward Assembly Co-Chair Jun 2020-May 2021

Elections Committee Member Feb 2022-July 2022

May 2022—American Journal of Primatology

Reviewer for Journal

Jun 2020, Nov 2020—Ecology and Evolution

Reviewer for Journal

Sep 2019-Jan 2020—Pioneer Valley Microbiology Symposium

Organizing Committee Member

Mar 2013-May 2016—Sapient: The Undergraduate Journal of Biological Anthropology

Senior Editor Jan 2016- May 2016

Editor-in-Chief Jan 2015- Dec 2015

Artistic Director Mar 2013- Dec 2014

Outreach and Education

Sep 2017-Present—That's Life [Science]

President July 2021-June 2022

Vice President Aug 2020-July 2021

Managing Editor May 2019-June 2022

Contributing Writer Sep 2017-Present

Feb 15, 2019; Mar 6, 2020—Lemur Day, Crocker Farm Elementary School

Lemur Day Presenter

Jun 2018—Eureka! Workshop

Workshop Leader

Field and Research Experience

Aug 2018-Present—Beza Mahafaly Special Reserve, Madagascar; UMass Amherst

Principal Investigator, The Impacts of Environment and Host Evolutionary Relationships on Lemur Microbiomes

Sep 2018-Dec 2018; Jun 2021-Dec 2021—Comparative Primatology Laboratory, UMass Amherst

Graduate Research Assistant, Understanding Temporal Variation in Primate Communities

May 2019-Aug 2019—Comparative Primatology Laboratory, UMass Amherst

Graduate Research Assistant, The Evolutionary Ecology of Primate Hair and Skin Microbiomes

Oct 2016-Aug 2017—Berchowitz Laboratory, Columbia University Irving Medical Center

Research Technician

Sep 2015-June 2016—EcoHealth Alliance

Research Intern

Sep 2014-May 2015—Marina Cords Laboratory, Columbia University

Undergraduate Research Assistant

June 2013-July 2013—Wildtracks

Student Volunteer

Professional Affiliations

American Association for the Advancement of Science

American Association of Biological Anthropologists

Society for the Study of Evolution

Professional References

Jason Kamilar

Associate Professor,

University of Massachusetts, Amherst

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Jill Shapiro

Senior Lecturer,

Columbia University

jss19@columbia.edu

Richard Lawler

Associate Professor,

James Madison University

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