

FINDLEY RANSLER FINSETH

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EDUCATION AND POSITIONS

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|---------------|---|--------------|
| | Keck Science Department , Claremont, CA Claremont McKenna, Pitzer, and Scripps Colleges Assistant Professor of Biology | 2016-present |
| | University of Montana , Missoula, MT Post-doctoral Research Associate Department of Organismal Biology and Ecology | 2013-present |
| Ph. D. | Cornell University , Ithaca, NY Ph.D. in Ecology and Evolution | 2006-2013 |
| | University of Denver , Denver, CO Research Associate Rocky Mountain Center for Conservation Genetics and Systematics | 2004-2006 |
| B. Sc. | University of Virginia , Charlottesville, VA B. Sc. in Biology with Distinction | 1999-2003 |

PUBLICATIONS

*Undergraduate co-author
Note: surname changed from “Ransler” to “Finseth”

Peer-reviewed publications

FR Finseth, RG Harrison. *Accepted at G3: Genes, Genomes, Genetics*. Genes integral to the sexual function of male reproductive tissues drive evolutionary rate heterogeneity.

AC Case**, FR Finseth**, CM Barr, L Fishman. (2016) Selfish evolution of cytonuclear incompatibility in *Mimulus*. *Proceedings of the Royal Society B*, 283: 20161493

**Shared first-authorship

M Hendrick**, FR Finseth**, M Matthiassen*, K Palmer*, E Broder*, L Fishman. (2016) Top-down and bottom-up approaches combine to identify a major gene underlying monkeyflower adaptation to an extreme habitat. *Molecular Ecology*, 25: 5647-5662

**Shared first-authorship

FR Finseth, Y Dong, AS Saunders, L Fishman. (2015) Duplication and adaptive evolution of a key kinetochore protein in *Mimulus*, a genus with female meiotic drive. *Molecular Biology and Evolution*, 32: 2694-706

- FR Finseth, ER Bondra*, RG Harrison (2014) Selective constraint dominates the evolution of a novel reproductive gland. *Molecular Biology and Evolution*, 12: 3266-3281
- FR Finseth, RG Harrison (2014) A comparison of next-generation sequencing technologies for transcriptome assembly and utility for RNA-Seq in a non-model bird. *PLoS ONE*, 9: e108550
- FR Finseth, SR Iacovelli*, RG Harrison, EK Adkins-Regan (2013) A non-semen copulatory fluid influences the outcome of sperm competition in Japanese quail. *Journal of Evolutionary Biology*, 26: 1875 -1889
– Highlighted in *New Scientist*, 12:06, 05 Aug 13
- FA Ransler, SJ Oyler-McCance, TW Quinn (2011) Genetic consequences of trumpeter swan (*Cygnus buccinator*) reintroductions. *Conservation Genetics*, 12: 257-268
- Oyler-McCance, SJ, FA Ransler, LK Berkman, TW Quinn. (2007) A rangewide population genetic study of trumpeter swans. *Conservation Genetics*, 8: 1339-1353
- Oyler-McCance SJ, FA Ransler, LK Berkman, Quinn TW (2006) A comparison of trumpeter swan populations using nuclear and mitochondrial genetic markers. Final Report, US Fish and Wildlife Service, Denver, CO
- St John, J, FA Ransler, TW Quinn, SJ Oyler-McCance. (2006) Characterization of microsatellite loci isolated in trumpeter swan (*Cygnus buccinator*). *Molecular Ecology Notes*, 6: 1083-1085.
- Blumstein, DT, A Runyan, M Seymour, A Nicodemus, A Ozgul, FA Ransler*, S Im, T Stark, C Zugmeyer, JC Daniel. (2004) Locomotor ability and wariness in yellow-bellied marmots. *Ethology*, 110, 615-634.
- Manuscripts in preparation***
- FR Finseth, L Fishman (*In prep*) A selfish chromosome drives centromeric histone evolution in *Mimulus*.
- K Muenzen*, J Monroy, FR Finseth (*In prep*) The evolution of titin, a giant sarcomeric protein, across mammals.

TEACHING AND PROFESSIONAL EXPERIENCE

Instructor

- 2017 Genetics, Keck Science Department, lab
- 2017 Genomics and Bioinformatics, Keck Science Department, lab and lecture
- 2016 Genetics, Keck Science Department, lab
- 2010 Instructor, *Writing in the Majors: Evolution*, John S. Knight Writing Institute, Cornell University
**Student essay won 2nd place for the John S. Knight writing award, a university-wide writing competition
- 2007-2010 Lab Instructor, *Introductory Biology I/II*, Cornell University (six semesters)

Teaching Assistant

2013 Head Teaching Assistant, *Evolution and Biodiversity*, Cornell University
 2011 Head Teaching Assistant, *Evolution and Biodiversity*, Cornell University
 2011 Teaching Assistant, *Ecological Genetics*, Cornell University
 2007 Teaching Assistant, *Tropical Field Ornithology*, Cornell University
 2001 Teaching Assistant, *Vertebrate Zoology Laboratory*, University of Virginia

Guest Lectures

2011 “Conservation Genomics”, *Ecological Genetics*, Cornell University
 2011 “Population Structure”, *Ecological Genetics*, Cornell University

Technician Positions

2003 Field Technician, Kilauea Field Station, Hawaii Volcanoes National Park
 2002-2003 Lab Technician, Antonovics Lab, University of Virginia
 2002 Field Technician, Rocky Mountain Biological Laboratory

FELLOWSHIPS, GRANTS, AND AWARDS

Pending

2017 Johnson & Johnson, WiSTEM2D (department nominee) (\$150,000)

Fellowships

2011 P.E.O. Scholar Award (\$15,000)
 2007 Cornell Lab of Ornithology Summer Fellowship (\$1,500)
 2006-2007 Presidential Life Sciences Fellow, Cornell University (\$22,000)

Grants

2017 HHMI, collaborative grant, “Linking cell shape, a microscopic trait, to organismal-level selective pressures” (\$13,333)
 2017 HHMI student grants (\$9,500 x 3 students)
 2010-2012 NSF Doctoral Dissertation Improvement Grant, “Genetic Basis of a Unique Avian Reproductive Proteome” (\$14,994, DEB #1010757)
 2011 Paul F. Feeny Award (\$1000)
 2011, 2009 Cornell Sigma Xi Award (\$600; \$1000)
 2011 Orenstein Fund Award (\$750)
 2010 Frank M. Chapman Memorial Fund, American Museum of Natural History (\$3,000)
 2010, 2008 Andrew W. Mellon Grant (\$1,000; \$1,500)
 2009, 2008 Department of Ecology and Evolutionary Biology Research Award (\$500; \$750)
 2009-2012 Cornell Conference Travel Grant (\$675; \$440; \$515; \$515)
 2008 Society of Systematic Biologists, Student Research Award (\$1,650)

Awards

2010 Outstanding Graduate Teaching Assistant, College of Life and Agricultural Sciences, Cornell University
 2007, 2008 Honorable Mention, NSF Graduate Research Fellowship
 2003 Phi Beta Kappa, University of Virginia
 1999-2003 Echols Scholar, University of Virginia

MENTORING EXPERIENCE

Senior thesis, primary advisor

Kathleen Muenzen (Scripps College, '17)*
 Siria Medina (Scripps College '18)
 David Atilano (Claremont McKenna College, '18)
 Tessa Finley (Pomona College, '18)
 Shola Laja (Cornell University '08)

Undergraduate Independent Research

I have supervised 13 undergraduates engaged in independent research projects. For these students, I guided project choice, experimental design, lab work, data analysis (3 UM, 7 Keck Science), and writing up results for publication (2 Cornell) or a senior honors thesis (1 Cornell, 4 Keck Science). Five students have attended and/or presented at national conferences (Evolution, Portland, OR Jun 2017). Mariah McIntosh (UM) was awarded a Barry Goldwater fellowship and a UM grant for a project proposal written under my guidance.

Undergraduate/Graduate training

I have trained a total of 26 students in primary research—one high-school student (University of Denver), 16 undergraduates (University of Montana-2, Cornell-3, University of Denver-4, Keck Science-7), 2 post-baccalaureates (University of Montana, Keck Science Department), and seven first-year veterinary or junior graduate students (Cornell University). Many of these students were from underrepresented groups in science, including 22 women and numerous students from under-represented minorities (e.g., African-American, biracial, Latino, and LGBTQ). Under my guidance, Kathleen Muenzen (Keck Science Department) developed and led a “Programming in Python” workshop for summer research students.

INVITED PRESENTATIONS AND POSTERS

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| Oct 2017 | Reproductive conflict in yellow monkeyflowers. <i>Invited oral presentation at Cal Poly San Luis Obispo, San Luis Obispo, CA</i> |
| Feb 2017 | Genomic consequences of genetic conflict in yellow monkeyflowers. <i>Invited oral presentation at Pomona College, Claremont, CA.</i> |
| Dec 2016 | Genomic consequences of genetic conflict in yellow monkeyflowers. <i>Invited oral presentation at Rancho Santa Ana Botanic Garden, Claremont, CA</i> |
| Nov 2016 | Genomic consequences of genetic conflict in yellow monkeyflowers. <i>Invited oral presentation at Biology Department, Harvey Mudd College.</i> |
| Nov 2016 | Genomic consequences of genetic conflict in yellow monkeyflowers. <i>Invited oral presentation at Keck Science Department, Claremont Colleges.</i> |
| Apr 2016 | Causes and consequences of reproductive conflict. <i>Invited oral presentation at Department of Integrative Biology, CU Denver.</i> |

- Dec 2015 Causes and consequences of reproductive conflict. *Invited oral presentation* at Keck Science Department, Claremont Colleges.
- Dec 2014 Reproductive conflict and genomic variation. *Invited oral presentation* at Pacific University
- Jun 2014 Exploring centromeric diversity in *Mimulus*. *Invited oral presentation* at *Mimulus* meetings, Duke University
- Sep 2013 selection and selective constraint: the evolution of a novel reproductive gland. *Invited oral presentation* at Department of Organismal Biology & Ecology, University of Montana
- Sep 2013 Selective constraint and sperm competition during the evolution of a novel reproductive gland. *Invited oral presentation* at Biology of Sperm Meeting, University of Sheffield
- Jan 2012 Rapid evolution of genes encoding a unique reproductive proteome in Japanese quail. *Invited oral presentation* at Center for Vertebrate Genomics, Cornell
- Dec 2011 Rapid evolution of genes encoding a unique reproductive proteome. *Invited oral presentation* at Evolution Group, Cornell University
- Sep 2011 A unique copulatory foam produced by male Japanese quail. *Invited poster* at Biology of Sperm Meeting, University of Sheffield, Sheffield, UK

CONTRIBUTED PRESENTATIONS AND POSTERS

Oral Presentations

- Jun 2016 A selfish centromere drives centromeric-histone coevolution in *Mimulus*. *Oral presentation* at Evolution Society Meetings, Austin, TX
- Jun 2014 Duplication and adaptive evolution of a key kinetochore protein in *Mimulus*, a genus with centromere-associated meiotic drive. *Oral presentation* at Evolution Society Meetings, Raleigh, NC
- Jun 2014 Using genomics to explore centromere diversity in *Mimulus*. *Oral presentation* at *Mimulus* Meetings, Raleigh, NC
- Jun 2012 Rapid evolution of genes encoding a unique reproductive proteome in Japanese quail. *Oral presentation* at Evolution Society Meetings, Ottawa, CA
- Dec 2011 Rapid evolution of genes encoding a unique reproductive proteome. *Oral presentation* at December Symposium, Department of Ecology and Evolutionary Biology, Cornell University

Jun 2011 The role of foam in sperm competition. *Oral presentation* at Evolution Society Meetings, University of Oklahoma

Dec 2010 The role of foam in sperm competition. *Oral presentation* at December Symposium, Department of Ecology and Evolutionary Biology, Cornell University

Selected Posters

Jun 2017 K Muenzen*, J Monroy, FR Finseth. Evolution of titin, a giant sarcomeric protein, across mammals *Poster* at Evolution Society Meetings, Portland, OR
*undergraduate

Aug 2010 Evolution of a unique reproductive proteome: the foam of Japanese quail. Genetics and the Origin of Species: The Continuing Synthesis. A symposium in honor of Richard G. Harrison, Cornell University

Jun 2010 Evolution of a unique reproductive proteome: the foam of Japanese quail. Evolution Society Meetings, Portland State University

Jun 2010 Evolution of a unique reproductive proteome: the foam of Japanese quail. Center for Comparative Genomics and Population Genomics Retreat, Cornell University

SERVICE

Reviewer

Proceedings of the National Academy of Sciences, Molecular Ecology, Evolution, Molecular Biology and Evolution, BMC Genomics, PLoS ONE, Auk, Conservation Genetics, United States Geological Survey, Scientific Reports, French National Research Agency, Cornell Sigma Xi grant review board

Outreach

- Science fair organizer, Sycamore elementary school (AY 2017-2018)
- Developed and presented educational materials and hands-on activities for local science museums. Specifically, crafted and presented speciation (Paleontological Research Institute, Ithaca, NY, 2011), *Mimulus* diversity (SpectrUM, Missoula, MT, 2014), and pollinator adaptation (SpectrUM, Missoula, MT, 2014) exhibits
- Judge, Montana State Science Fair (2014, 2015)
- Mentor in *Expanding Your Horizons* science program, STEM conference for middle-school aged women (2007 - 2011)
- Designed materials and exhibits for Rocky Mountain Center for Conservation Genetics and Systematics' public open house (2006)

Membership

- Co-organizer, Keck Summer Research Symposium (Summer 2017)
- Panelist, Fulbright interview committee, Scripps College (Fall 2017)
- *Society for the Study of Evolution, Sigma Xi, Society for Systematic Biologists, Genetics Society of America*
- Post-Baccalaureate Faculty Committee, Scripps College (2016-2017)
- Member of various graduate student committees (2006-2013)

TEACHER TRAINING ACTIVITIES

Panel member, *“Technology in the classroom”*, Claremont Colleges (2017)

Participant in *“Transparency in Teaching”* and *“Difficult classroom discussions”*, workshops held by the Center for Teaching and Learning at the Claremont Colleges (2016)

Participant in *“Teaching at CMC: Excellence, Innovation, and Technology”*, workshop held at Claremont McKenna College

Participant in *“Mimulus in the Classroom”*, a workshop for the development, implementation, and dissemination of *Mimulus* lab exercises in the classroom (2014)

Teaching Writing: Writing in the Majors, a graduate training course for teaching undergraduate writing in the disciplines (2010)

REFERENCES

Research

***Dr. Rick Harrison[^]**

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Associate Professor
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***Dr. Elizabeth Adkins-Regan**

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Teaching

Dr. Jeremy Searle

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Dr. Brian Lazzaro

Associate Professor
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***Dr. Laurel Hester**

Assistant Professor of Biology
Division of Natural Sciences and Mathematics
Keuka College
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*primary references

[^]Rick passed away suddenly in the Spring of 2016. Cornell EEB's department chair is sending a letter that Rick wrote for a different position in Spring 2016 via Patty Jordan (the graduate student administrator).