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RESEARCH INTERESTS

Sexual selection, sexual conflict, population genomics, experimental evolution, fertility biology

EDUCATION AND RESEARCH EXPERIENCE

- 2019 – 2023 Postdoctoral Fellow, Cutter and Rowe Labs, University of Toronto (UofT)
Research topic: Genomic resolution of sexual conflict and the evolution of sex-specific expression.
- 2014 – 2019 University of Oregon (UO) Eugene, Oregon
Ph.D. program, Institute of Ecology and Evolution
Research topic: The influence of sexual selection and sexual conflict on the evolution of post-insemination dynamics.
- 2009 – 2013 University of California, Santa Cruz (UCSC) Santa Cruz, California
B.S. Marine Biology with Honors
- 2012 University of Queensland (UQ) Brisbane, Australia
University of California Education Abroad Program

HONORS AND AWARDS

- 2021 Theodosius Dobzhansky Prize, Society for the Study of Evolution
- 2020 – 2022 Banting Postdoctoral Fellow. Natural Sciences and Engineering Research Council of Canada
- 2020 University of Toronto Faculty of Arts and Sciences Postdoctoral Fellowship (*declined*)
- 2019 (Spring) Genetics Society of America DeLill Nasser Award
- 2018 (Summer) University of Oregon Special “OPPS” Travel and Research Award
- 2015 – 2018 ARCS (Achievement Rewards for College Scientists) Scholar
- 2014 – 2015 Hill Fund Outstanding Graduate Teaching Fellow Award in Biology
- 2014 – 2015 University of Oregon Dan Kimble First Year Teaching Award

PREPRINTS AND IN PREPARATION (**These authors contributed equally*; ‡*Mentee*)

Kasimatis KR, Willis JH & Phillips PC (2023) Post-insemination sexual selection in males indirectly masculinizes the female transcriptome. *bioRxiv*
<https://doi.org/10.1101/2023.08.09.552689>

Kasimatis KR, Rehaluk C‡, Rowe L & Cutter AD (2023) No evidence of sexual conflict for a novel sperm-derived seminal fluid protein in *Caenorhabditis* nematodes. *bioRxiv*
<https://doi.org/10.1101/2022.09.22.509081>

Grieshop K, Ho EKH, & **Kasimatis KR** (2023) Dominance reversals, antagonistic pleiotropy, and the maintenance of genetic variation. *arXiv* <https://doi.org/10.48550/arXiv.2109.01571>
Accepted at Proceedings of the Royal Society B.

Schalkowski R, **Kasimatis KR**, Greischar MA & Cutter AD (2022) Reproductive interference alters species coexistence in nematodes due to asymmetric sperm-induced harm. *In Prep.*

PUBLICATIONS

Kasimatis KR, Moerdyk-Schauwecker MJ, Lancaster R[‡], Smith A[‡], Willis JH & Phillips PC (2022) Post-insemination selection dominates pre-insemination selection in driving rapid evolution of male competitive ability. *PLoS Genetics* 18(2): e1010063.

Kasimatis, KR*, Abraham A*, Ralph PL, Kern AD, Capra JA & Phillips PC (2021) Evaluating human autosomal loci for sexually antagonistic viability selection in two large biobanks. *Genetics* 217:1-10.

Kasimatis KR, Sanchez-Ramirez S, & Stevenson ZC (2021) Sexual dimorphism through the lens of genome manipulation, forward genetics, and spatio-temporal sequencing. *Genome Biology and Evolution* 13:1-13.

Kasimatis KR, Ralph PL & Phillips PC (2019) Limits to genomic divergence under sexually antagonistic selection. *G3* 9:3813-3824.

Kasimatis KR, Moerdyk-Schauwecker MJ, Timmermeyer N & Phillips PC (2018) Proteomic and evolutionary analyses of sperm activation identify uncharacterized genes in *Caenorhabditis* nematodes. *BMC Genomics* 19:1-13.

Kasimatis KR*, Moerdyk-Schauwecker MJ* & Phillips PC (2018) Auxin-mediated sterility induction system for longevity and mating studies in *Caenorhabditis elegans*. *G3* 8:2655-2662.

Kasimatis KR & Phillips PC (2018) Rapid gene family evolution of a nematode sperm protein despite sequence hyper-conservation. *G3* 8:353-362.

Borne F*[‡], **Kasimatis KR*** & Phillips PC (2017) Quantifying male and female pheromone-based mate choice in *Caenorhabditis* nematodes using a novel microfluidic technique. *PLoS ONE* 12:e0189679.

Kasimatis KR, Nelson TC & Phillips PC (2017) The genomic signatures of sexual conflict. *J. Heredity* 108:780-790.

Kasimatis K & Riginos C (2016) No simple trade-offs: relationships between egg size, clutch size, spawning mode, adult body size, and latitude in reef fishes. *Coral Reefs*. 35:387-397.

PRESENTATIONS

Invited Presentations

2023 Differences Derived from the Same Genome: Connecting Cryptic Signatures of Sex-Specific Selection Across the Lifecycle.

Départ. de Sciences Biologiques. Université de Montréal, QC, CAN. 8 March.

Dept. Biology, Indiana University, IN. 27 February.

Dept. Biology, University of San Francisco, CA. 21 February.

Dept. Evolution, Ecology & Organismal Biology, UC Riverside, CA. 16 February.

Dept. Molecular Biosciences, Northwestern, IL. 14 February.

Dept. Ecology & Evolutionary Biology, University of Kansas, KS. 8 February.

Dept. Ecology & Evolutionary Biology, University of Connecticut, CT. 30 January.

Depart. Biology, University of Massachusetts Amherst, MA. 26 January.
Depart. Biology, University of Virginia, VA. 23 January.

- 2021 Connecting Sex-Specific Selection and Sexual Conflict Across the Lifecycle. Division of Biological Sciences Seminar, University of Monash, Vic, AUS. 12 August.
- 2021 The Story of Separate Sexes: The Search for Cryptic Signatures of Sexual Conflict and Sex-Specific Selection. Dobzhansky Prize Talk at Society for the Study of Evolution Joint Virtual Meetings. 25 June.
- 2020 Connecting Sex-Specific Selection Across the Genotype-Phenotype-Fitness Map. Department of Biology Seminar, Emory University, GA. 17 September.
- 2020 Connecting Sex-Specific Selection and Sexual Conflict Across the Lifecycle. Division of Biological Sciences Seminar, University of Missouri, MO. 3 March.
- 2019 Partitioning Reproductive Success: Empirical Tests in a Nematode Model System. *as part of* “SteveFest: A Celebration of Steve Arnold’s Career and Contributions”. Oregon State University, OR. 27 July.

Contributed Presentations

- 2023 No evidence of sexual conflict for a novel sperm-derived seminal fluid protein in *Caenorhabditis* nematodes. Evolution. Albuquerque, New Mexico.
- 2022 Deconstructing male fertility: Quantifying fitness and function of the NSPF gene family during *Caenorhabditis* fertilization. EvoWorm Meeting. Hamilton, Ontario.
- 2021 Post-Insemination Selection Dominates Pre-Insemination Selection in Driving Rapid Evolution of Male Competitive Ability. Society for Molecular Biology and Evolution. Virtual Meeting.
- 2019 Limits to Detecting Genomic Divergence Between the Sexes: Theory and Empirical Tests. Society for the Study of Evolution Joint Meetings. Providence, Rhode Island.
- 2018 Clarifying the population genetics and empirical predictions for sex-specific genomic differentiation under antagonistic selection. II Joint Congress on Evolutionary Biology. Montpellier, France.
- 2017 Molecular Evolution of the *Caenorhabditis* Nematode Sperm Proteome. Society for the Study of Evolution Joint Meetings. Portland, Oregon.
- 2016 Hyper-Conservation of a Unique Sperm Protein Across *Caenorhabditis* Nematodes. American Genetics Association Special Symposium: Evolutionary Genomics of Sex. Tempe, Arizona.

Posters

- 2021 Deconstructing Male Fertility: Functional and Evolutionary Characterization of the NSPF Gene Family. International *C. elegans* Conference. Virtual Meeting.
- 2021 The Role of Sex-Specific Selection in Maintaining Genetic Diversity and Contributing to Adaptation. Commonwealth Science Conference. Virtual Meeting.
- 2020 Partitioning Reproductive Success: Experimental Evolution of Male Fertility. The Allied Genetics Conference. Virtual Meeting.

- 2018 Novel Proteomic Analysis and Molecular Evolution of *Caenorhabditis* Subcellular Sperm Proteins. *Evolutionary Biology of Caenorhabditis and Other Nematodes*. Hinxton, Cambridge.
- 2016 Evolutionary Analysis of the *Caenorhabditis* Nematode Sperm Proteome through Microfluidic Isolation. Society for the Study of Evolution Joint Meetings. Austin, Texas. Microfluidic Isolation and Evolutionary Analysis of the Nematode Sperm Proteome. *Evolutionary Biology of Caenorhabditis and Other Nematodes*. Cold Spring Harbor Laboratory, New York.

MENTORSHIP

- 2021 – 2023 Christine Rehaluk. Technician. University of Toronto.
Project: Functional characterization of the NSPF gene family.
- 2018 – 2019 Ruben Lancaster. Undergraduate Honor’s Thesis student. University of Oregon.
Project: Differential lifespan effects due to mating in two strains of Caenorhabditis elegans.
- 2018 – 2019 Alex Smith. Undergraduate student research assistant. University of Oregon.
- 2016 – 2017 Flora Borne. Master’s exchange student. Ecolé Normale Supérieure Paris-Saclay, Cachan, France.
Project: Microfluidic quantification of pheromone-based mate choice in Caenorhabditis nematodes.
- 2016 (Summer) Janice Hodges. Summer Program for Undergraduate Research (SPUR). University of Mississippi.
- 2015 –2016 John Johnson. Undergraduate student research assistant. University of Oregon.

TEACHING EXPERIENCE

- 2022 (Fall) UofT Department of Ecology and Evolutionary Biology, Faculty of Arts and Sciences
Co-instructor: Philosophy and Methods (EEB 1310; graduate course)
- 2014 – 2015 UO Biology Department, College of Arts and Sciences
Course assistant: General Biology III: Populations (BI 213) lab sections; General Biology I: Cells (BI 211) lab sections; Honors Biology III: Evolution, Diversity, and Ecology (BI 283H) lab sections
- 2010 – 2014 Private Tutor in Biology, Chemistry, and Mathematics

EQUITY, DIVERSITY, AND INCLUSION SERVICE

- 2022 – 2023 Co-Chair, Postdoctoral EEB Leadership. Department of Ecology and Evolutionary Biology, University of Toronto.
- 2021 – 2023 Postdoctoral Representative, Cultures of Care Network, Faculty of Arts & Sciences, University of Toronto.

- 2020 – 2021 Sub-Committee Chair, EEB Allyship Network. Department of Ecology and Evolutionary Biology, University of Toronto.
- 2019 – 2022 Postdoctoral Representative, Wellness Committee. Department of Ecology and Evolutionary Biology, University of Toronto.

PUBLIC OUTREACH

- 2023 Skype A Scientist. Honors Biology and Academic Biology Classes, South Iredell High School, Statesville, NC. 25 May.
- 2023 Skype A Scientist. 4th Grade Class, Dwight School, New York City, NY. 4 October.
- 2022 Skype A Scientist. Honors Biology and Academic Biology Classes, South Iredell High School, Statesville, NC. 20 May.
- 2022 Skype A Scientist. National Science Honor Society, South Iredell High School, Statesville, NC. 18 February.
- 2021 Skype A Scientist. Honors Biology, Notre Dame Academy, Duluth, GA. 23 & 26 April.
- 2020 Skype A Scientist. 11th Grade Class, Templeton Academy, Washington, DC. 30 October.
- 2020 Skype A Scientist. 6th Grade Class, Molly Ockett School, Fryeburg, ME. 30 March.
- 2019 Invited Speaker “Partitioning Reproductive Success: Empirical Tests in a Nematode Model System”. Eugene Chapter of 500 Women Scientists.
- 2019 Co-Coordinator of the Public Seminar Series: “Science, Policy, Society”. Graduate Evolutionary Biology and Ecology Student Association (GrEBES). University of Oregon.
- 2018 Keynote Panelist. ARCS Oregon Chapter Scholar Luncheon.
- 2018 Lead Coordinator of the Public Seminar: “40 Years of Evolution of Darwin’s Finches in the Galapagos” featuring Drs. Peter and Rosemary Grant. GrEBES. University of Oregon.
- 2017 Lead Coordinator of the Public Symposium: “Harnessing Ecology: Biofuels and Bioremediation”. GrEBES. University of Oregon.
- 2016 Lead Coordinator of the Public Seminar Series: “De-Extinction” featuring Dr. Jack Horner and Dr. Hank Greely. GrEBES. University of Oregon.
- 2016 Invited Speaker: “Evolution of Reproductive Proteins in the Context of Sexual Selection”. ARCS Oregon Chapter Educational Seminar.

DEPARTMENT AND UNIVERSITY SERVICE

- 2021 (Spring) Judge for the Ecology & Evolutionary Biology Undergraduate Virtual Research Fair, University of Toronto.
- 2020 (Spring) Judge for the Ecology & Evolutionary Biology Undergraduate Virtual Research Fair, University of Toronto.

2017 – 2019

Lead Coordinator of the Evolutionary Genetics Journal Club. University of Oregon.

PROFESSIONAL SERVICE

I have served as a reviewer for *American Naturalist*, *Cells*, *Evolution*, *Evolution Letters*, *Genetics*, *Human Molecular Genetics*, *micropublication*, and *Molecular Ecology*.

I have served as an external grant reviewer for NSF.

ACTIVE PROFESSIONAL MEMBERSHIPS

Genetics Society of America (GSA); Society for the Study of Evolution (SSE)