

SILU WANG

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ACADEMIC POSITIONS

Postdoc + Jan. 2020 – Dec. 2021 Center of Theoretical & Evolutionary Biology.
University of California, Berkeley (UC Berkeley)

Postdoc + Jan. – Dec. 2022 Center for Population Biology, University of California, Davis (UC Davis)

EDUCATION

PhD Zoology, May 27th 2020. University of British Columbia (UBC)

Thesis: **Genomic architecture of speciation in a warbler species complex**

Committee: Darren Irwin (advisor), Sarah Otto, Loren Rieseberg, Dolph Schluter

MA Ecology, Evolution & Behavior; Computer Science (minor), 2014.

University of Texas, Austin (UT Austin)

Thesis: **Behavior, morphology, and genetic signatures of sexual selection in poeciliid fish**

Committee: Molly Cummings (advisor), Mike Ryan, Hans Hofmann

BS Behavior, Genetics & Neurobiology; Applied Statistics (minor), *high distinction*, 2011.

University of Toronto (U of T)

Thesis: **Aggressive behaviors, food-deprivation, and the foraging gene**

Advisor: Marla Sokolowski

PUBLICATIONS (*corresponding author; +equal contribution; ^ mentee)

2022

Wang S.* Coop G.M.* A complex evolutionary history of genetic barriers to gene flow in hybridizing warblers. [BioRxiv](#).

Li Q., Chen D., **Wang S.*** Tinamou egg color displacement at eco-geographical and song space overlap. [BioRxiv](#). [second senior author paper]

Ore M., **Wang, S.**, Irwin D.E. Coastal-inland gradients of genomics and songs in *Setophaga townsendi*. Ornithology. *Accepted*.

de Zwaan D. R., Mackenzie J. ^, Mikkelsen E.^, Wood, C., **Wang S.*** 2022. Opposing dominance within a color gene block is associated with maladaptive hybrid signal discordance. *PNAS nexus*. 1: 1-6. [first senior author paper]

Wang S., Nalley M.J., Chatla K., Aldaimalani R.^, MacPherson A., Wei KH-C., Corbett R., Mai D., Bachtrog D.* 2022. Neo-sex chromosome evolution shapes sex-dependent asymmetrical introgression barrier. *PNAS*. 119: e2119382119.

+MacPherson A.*, +**Wang S.** Rieseberg L., Yamaguchi R., Otto S. Parental population isolation and range expansion before secondary contact leads to greater hybrid relative fitness. 2022. *American Naturalist*. 200: E1-E15.

2021

Wang S.*, Ore M. Mikkelsen E.^, Lee-Yaw, J., Rohwer S., Irwin DE. 2021. Signatures of mitochondrial climate adaptation in a warbler species complex. *Nature Communications*. 12:4279.

2020

Wang S.*, Rohwer S., de Zwaan D. R., Toews D.P.L., Lovette I.J., Mackenzie J. ^, Irwin DE. 2020. Selection on a small genomic region underpins differentiation in multiple color traits between two warbler species. *Evolution Letters*. 4: 502-515.

2019

Wang S.*, Rohwer S., Delmore K., Irwin DE. **2019**. Cross-decades stability of an avian hybrid zone. *Journal of Evolutionary Biology*. 32:1242-1251.

(Work before PhD)

2017

Wang S., Sokolowski M. B.* **2017**. Aggressive behaviors, food-deprivation, and the *foraging* gene. *Royal Society Open Science*. 4:170042.

2015

Wang S.*, Cummings M. E., Kirkpatrick M. A. **2015**. Coevolution of male courtship and sexual conflict characters in mosquitofish. *Behavioral Ecology*. 26: 1013-1020.

2014

Wang S.M.T., Ramsey M., Cummings M. E.* **2014**. Plasticity of the mate choice mind: courtship evokes choice-like brain responses in females from a coercive mating system. *Genes, Brain and Behavior*. 13: 365-375.

Manuscripts in progress

Price S., Schumer M., **Wang S.**, Young R., Cummings M.* Individual variation in preference and affiliative behavior in sailfin fish refines the neurotranscriptomic pathway for mate preference. *Submitted*.

Wang S., Aldaimalani R.^, Nalley M.J., Chatla K., Bachtrog D. Parsing out snowball effect, large X effect, and inversion effect in introgression with comparative multi-generations hybrid swarms.

Wang S., Coop G., Stepwise divergence of genomic contributors of speciation.

ACADEMIC SERVICES

Leadership

- 2020-22 [Speciation & Introgression Webinar Series](#), organizer
i.e. **weekly** international zoom seminar-discussion group with over 470 researchers.
Between **Jan. 2020 to Dec. 2021**, over 100 speakers were hosted to discuss scientific progress in speciation and/or introgression research.
- 2017-19 Biodiversity Seminar Committee, A/V coordinator, Biodiversity Research Center, UBC

Reviewer service

Auk, American Naturalist, Biology Letters, Evolution, Genome Biology and Evolution, Integrative and Comparative Biology, Journal of Avian Biology, Molecular Biology and Evolution, Molecular Ecology, Scientific Reports, National Science Foundation Grant Proposal, Poland National Science Center Grant Proposal.

INVITED PRESENTATIONS

- 2022** Eco-Evo Lunch Seminar, Department of Biology, Stanford University
2022 Department of Evolution, Ecology, and Organismal Biology, University of California, Riverside
2022 Department of Biological Science, University of Nevada, Las Vegas
2022 Department of Integrative Biology, University of Texas, San Antonio
2022 Department of Biology, George Washington University
2022 Biological Science Division, University of Chicago
2021 Center of Theoretical Evolutionary Genomics seminar, UC Berkeley
2021 Museum Seminar Series, Museum of Natural Sciences, Louisiana State University
2021 Advances in the Study of Reproductive Isolation in Birds Symposium (AOS meeting).

- 2021** Barton Group, Institute of Science and Technology Austria.
- 2021** Evolution, Genomics, Behavioral Ecology, French National Centre for Scientific Research.
- 2021** Department of Biology, University of North Dakota
- 2021** Evolution, Ecology, Genetics, and Genomics, University of Rochester.
- 2021** Center of Population Biology, UC Davis
- 2020** Population Genetics seminar, Duke University.
- 2020** Ornithology Discussion, University of New Mexico.
- 2019** Center of Theoretical Evolutionary Genomics seminar, UC Berkeley.
- 2019** Les Ecologistes seminar, Simon Fraser University.
- 2018** BLISS seminar, University of British Columbia.
- 2013** Lunch seminar, School of Geological Science, UT Austin.
- 2013** Brain, Behavior & Evolution (BBE) Seminar, UT Austin.
- 2013** Biology Department Seminar, University of Oklahoma.
- 2012** BBE Seminar, UT Austin.

ORAL PRESENTATIONS

- 2022** Inferring Evolutionary Processes with Ancestral Recombination Graph, SMBE (Global Virtual)
- 2022** Biodiversity Genomics, Global Virtual
- 2022** The Society for the Study of Evolution meeting, Cleveland, OH, USA.
- 2021** Speciation Introgression Discussion Group, Virtual.
- 2021** American Ornithological Society (AOS) meeting, Virtual.
- 2021** The Society for the Study of Evolution meeting, Virtual.
- 2021** Population Genomics Journal Club, UC Berkeley, Virtual.
- 2021** Annual Drosophila Research Conference, The Genetics Society of America, Virtual .
- 2019** The Society for the Study of Evolution meeting, Providence, Rhode Island, USA.
- 2019** Eco-Evo Retreat, Brackendale, BC, Canada.
- 2018** International Ornithological Congress meeting, Vancouver, BC, Canada.
- 2017** The Society for the Study of Evolution meeting, Portland, OR, USA.
- 2017** Canadian Society for Ecology and Evolution meeting, Victoria, BC, Canada.
- 2016** North American Ornithological Congress, Washington, DC, USA.
- 2015** American Ornithologists' Union & Cooper's Ornithological Society meeting, OK, USA.
- 2014** International Ornithological Congress, Tokyo, Japan.
- 2014** American Society of Naturalists meeting, Pacific Grove, CA, USA.
- 2014** Society for Integrative and Comparative Biology Meeting, Austin, TX, USA.
- 2012** The Society for the Study of Evolution, Ottawa, ON, Canada.
- 2012** Animal Behavior Society meeting, Albuquerque, NM, USA.
- 2012** Integrative Biology Graduate Symposium, UT Austin.
- 2011** American Ornithologists' Union, Jacksonville, FL, USA.

POSTERS (*best poster award)

- 2019*** The Society for the Study of Evolution, Providence, RI, USA.
- 2018** Evo-Wibo Conference, Port Townsend, WA, USA.
- 2018** Evo-Eco Department Retreat, Brackendale, BC, Canada.
- 2018*** UBC Zoology Graduate Spring Symposium, Vancouver, BC, Canada.
- 2017** The Society for the Study of Evolution Meeting, Portland, OR, USA.
- 2017*** UBC Zoology Graduate Symposium, Vancouver, BC, Canada.
- 2010** Ontario Biology Day, Toronto, ON, Canada.
- 2010** Crime Prevention Conference, Mississauga, ON, Canada.

AWARDS GRANTS & HONORS

2019	Ruth Patrick Student Poster Award, American Society of Naturalists	\$1,000
2019	Zoology Travel Award, Department of Zoology, UBC	\$500
2019	Best Talk Award, Eco-Evo Retreat, Brackendale, BC	
2018-2019	Zoology Graduate Fellowship, UBC	\$16,000
2018	Gibson's citation, Green College, UBC	
2018	Best Poster Award, Zoology Graduate Spring Symposium	
2018	Graduate Student Travel Fund, UBC	\$500
2017	Best Poster Award, Zoology Graduate Spring Symposium	
2016	Werner and Hildegard Hesse Research Award in Ornithology	\$2,500
2015-2018	Postgraduate Scholarship D (PGS D) Natural Sciences and Engineering Research Council of Canada (NSERC)	\$63,000
2015	Werner and Hildegard Hesse Research Award in Ornithology	\$3,500
2014	Biodiversity Research: Integrative Training & Education Grant, UBC	\$4,000
2014	R Howard Webster Foundation Fellowship, UBC	\$2,500
2014-2018	Four Year Doctoral Fellowship, UBC	\$18,000
2014	Student Travel grant, International Ornithological Congress	\$500
2014	Travel grant, Ecology, Evolution and Behavior, UT Austin	\$1,000
2012-2013	Texas Ecolab Research Grant	\$3,000
2011	Student Travel Award, American Ornithologists' Union	\$600
2011	Ontario Graduate Scholarship, Ministry of Training, Colleges and Universities of Ontario	\$6,000
2011	Excellence Award in the Natural Sciences and Engineering, U of T	\$5,600
2010, 2011	Honor Roll in Department of Mathematical and Computational Sciences, U of T	
2010	Student Membership Award, American Ornithologists' Union	

TEACHING/MENTORING EXPERIENCE

Teach assistance

• BIOL336:	Fundamentals of Evolution Biology, UBC	2018 Spring and Fall
• BIO321:	Introduction to Computational Biology, UT Austin	2014 Spring
• BIO370:	Evolution, UT Austin	2012 Spring, 2013 Fall
• BIO311:	Introductory Biology, UT Austin	2012 Fall
• BIO206:	Structure & Function of Organisms, UT Austin	2012 Summer
• BIO318:	Biostatistics, UT Austin	2011 Fall
• STA257:	Probability and Statistics I, U of T	2010 Fall
• BIO329:	Mammalian Biology field section, U of T	2009 Fall

Guest lecture

BIOL427:	Ornithology and Herpetology	2019 Fall, 2021 Spring
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Mentoring

Anton Pederson: 2012; Arvind Pillai: 2013; Korey Conley: 2013-14;
 Ruth Midgley: 2015; Else Mikkelsen: 2016-17; Jacqueline Mackenzie: 2017; Reema Aldaimalani 2021

TEACHING SKILLS

Field ornithology: banding, mist-netting, measurements, blood and feather sampling, song recording and analyses, plumage pigment study, field behavioral experiments

Computational biology: coding and statistical analyses in R, spatial genomics, bioinformatics in Unix

Molecular lab: DNA or RNA extraction, library preparation

Scientific Illustration: data visualization, vector illustration, watercolor and pencil drawing poster and infographics

OUTREACH & SERVICES

2021 & 2022	Berkeley Bird Festival, avian illustration volunteer, Berkeley, California
2022	Graduate Preview Program, Evolution & Ecology, UC Davis.
2021	Breaking Language Barriers in Biodiversity Science, guest mentor, UC Berkeley
2019	Girls in Science Technology Engineering and Math (STEM), mentor, Templeton Secondary School, Vancouver
2019	Nature Illustration Club Coordinator, UBC
2015-19	Biodiversity Birding Group Coordinator, UBC
2018	Dining Society Treasurer, Green College, UBC
2017-18	Sustainability Committee, Chair, Green College, UBC
2015-16	Art Committee, Chair, Green College, UBC

Public lectures

- How Do New Bird Species Arise? **June 16th, 2022**. Golden Gate Audubon Society Speaker Series.
- Speciation in the Pacific West Warblers. **May 17th, 2022**. Popping the Science Bubble Series. Berkeley Public Library.
- On the Speciation of Species: the Fantastic Process Underlying Biodiversity, **Mar. 26th, 2018**, Green College, UBC.
- The Hermit Expedition: Stories about the Habitat, Flora, Fauna and People in Northwest America, **Sep. 26th, 2016**, Green College, UBC.
- The Scales of Existence: A Journey from Population to Molecules (Collaborated with Isobel Mouat, Microbiology and Immunology; Kelsey Huus, Microbiology and Immunology; J. Andrew Alexander, Biochemistry and Molecular Biology), **Nov. 16th 2015**, UBC.
- Sassy Tastes or Sexy Traits: Stories about Coevolution of Female Preference and Male Traits. Darwin's 203rd Birthday, **May 11th 2012**, Texas Memorial Museum.