

# SILU WANG

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## ACADEMIC POSITIONS

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**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

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**PhD Zoology**, May 27<sup>th</sup> 2020. University of British Columbia (UBC)

**MA Ecology, Evolution & Behavior**; Computer Science (minor), 2014.  
University of Texas, Austin (UT Austin)

**BS Behavior, Genetics & Neurobiology**; Applied Statistics (minor), *high distinction*, 2011.  
University of Toronto (U of T)

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

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### 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

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**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

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- 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

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- 2022** Inferring Evolutionary Processes with Ancestral Recombination Graph, SMC (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)

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- 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

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|------------------|--|----------|
| <b>2019</b>      | Ruth Patrick Student Poster Award, American Society of Naturalists | \$1,000  |
| <b>2019</b>      | Zoology Travel Award, Department of Zoology, UBC                   | \$500    |
| <b>2019</b>      | Best Talk Award, Eco-Evo Retreat, Brackendale, BC                  |          |
| <b>2018-2019</b> | Zoology Graduate Fellowship, UBC                                   | \$16,000 |
| <b>2018</b>      | Gibson's citation, Green College, UBC                              |          |

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| 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

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### *Teach assistance*

|            |  |                        |
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| • 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*

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| 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

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**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

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| 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 16<sup>th</sup>, 2022**. Golden Gate Audubon Society Speaker Series.
- Speciation in the Pacific West Warblers. **May 17<sup>th</sup>, 2022**. Popping the Science Bubble Series. Berkeley Public Library.
- On the Speciation of Species: the Fantastic Process Underlying Biodiversity, **Mar. 26<sup>th</sup>, 2018**, Green College, UBC.
- The Hermit Expedition: Stories about the Habitat, Flora, Fauna and People in Northwest America, **Sep. 26<sup>th</sup>, 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. 16<sup>th</sup> 2015**, UBC.
- Sassy Tastes or Sexy Traits: Stories about Coevolution of Female Preference and Male Traits. Darwin's 203rd Birthday, **May 11<sup>th</sup> 2012**, Texas Memorial Museum.