Linnea Sandell Academic CV

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Research interests

Testing theory with experimental data. Fitness effects of mutations. Life history. Evolutionary rescue. Sexual reproduction (meiosis, recombination).

Education

University of British Columbia, Vancouver, Canada
PhD. in Zoology, Sep 2015 - present
- Supervised by Dr. Sarah P. Otto

University of Groningen, Groningen, the Netherlands
MSc. in Ecology and Evolution, Sep 2013 - Aug 2015
- Thesis title: Attempt at dating selective signatures in tetraploid Arabidopsis arenosa
- Supervised by Dr. Kirsten Bomblies, Dr. John Wakely, Dr. Franjo Weissing

University of Montpellier II, Montpellier, France
MSc. in Evolutionary Biology, Sep 2013 - Aug 2015
- Thesis title: The Evolution of sex in adaptive landscape models
- Supervised by Dr. Denis Roze

University of Uppsala, Uppsala, Sweden
BSc. in Biology, Sep 2010 - Aug 2013
- Independent work: Genetic methods to map the anatomically modern human migration (in Swedish)

Other research experience

University of British Columbia, Vancouver, Canada, and
University of Montpellier, Montpellier, France,
Doctoral research assistant, May 2019 - present
- Modelling the effect of environmental change on the phenotypic optimum in a single cohort with a stage structured life cycle.
- Supervised by Dr. Ophélie Ronce

University of Montpellier, Montpellier, France
Independent project, April 2014 - June 2014
- Adaptation to Climate Change in a Stage-structured Population
- Supervised by Dr. Ophélie Ronce

Uppsala University, Uppsala, Sweden
Undergraduate research internship, June 2013
DNA-extraction and handling of greenhouses
Supervised by Dr. Karl Holm, in the Lascoux lab

Papers

O. Cotto, **L. Sandell**, LM. Chevin, O. Ronce. 2019. Maladaptive Shifts in Life History in a Changing Environment. The American Naturalist 194 (2)

E. Vanhoenacker, **L. Sandell**, D. Roze. 2018. Stabilizing selection, mutational bias, and the evolution of sex. Evolution 72 (9), 1740-1758

N. P. Sharp, **L. Sandell**, C. G. James, S. P. Otto 2018. The genome-wide rate and spectrum of spontaneous mutations differ between haploid and diploid yeast. Proceedings of the National Academy of Sciences

L. Sandell, S. P. Otto 2016. Probing the Depths of Biological Diversity During the Second Century of GENETICS. GENETICS vol. 204 no. 2 pp. 395-400

Papers in preparation

L. Sandell, N. P. Sharp. Evaluating predicted functional effects of mutations to actual growth rates of mutation accumulation lines.

L. Sandell, N. P. Sharp, S. P. Otto. A suite of traits responds to an increase in the frequency of sexual reproduction in S. cerevisiae

Academic honours and awards

- Travel grant holder, awarded by The American Genetics Association Symposium (USD 300), 2019
- Graduate Student Travel Award, awarded by UBC's Faculty of Graduate and Postdoctoral Studies (CAD 493.33), 2019
- St John's College George Shen Fellowship (CAD 600), 2017
- St John's College Charles C C & Sophia Wong Memorial Fellowship (CAD 3,400), 2017
- Four Year Fellowship, awarded by UBC's Faculty of Graduate and Postdoctoral Studies (expected CAD 72,800), 2016 – 2020
- Four Year Fellowship Tuition award, awarded by UBC's Faculty of Graduate and Postdoctoral Studies (tuition costs), 2016 – 2020
- International Tuition Award, awarded by UBC's Faculty of Science (tuition costs), 2015 – 2020
- PhD Tuition Award, awarded by UBC's Faculty of Science (tuition costs), 2015 – 2020
- Erasmus Mundus Scholarship, awarded by the European Union (EUR 20 000), 2013 – 2015
- Travel grant holder, Vienna Biocentre PhD Symposium, 2014
- Adolf Lindgrens stiftelse (SEK 25 000), 2014
- Per Erikssons stiftelse (SEK 24 000), 2013
- Per Erikssons stiftelse (SEK 24 000), 2012
- Adolf Lindgrens stiftelse (SEK 22 000), 2012

Teaching

Skills

- Instructional Skills Workshop, UBC Centre for Teaching, Learning and Technology, 2016
- Alla Lika Alla Olika (All Different All Equal) Certified education in norm critical pedagogy, value based leadership, and interactive exercises. 2009

Teacher assistantships

University of British Columbia, Vancouver, Canada, 2015 - 2019

- BIOL 337 Introductory Genetics Laboratory (two terms). Assisted during lab sessions, graded lab reports, weekly quizzes, lab skills, and oral presentations.
- BIOL 301 Biomathematics. Taught computer lab component in Mathematica, graded weekly homeworks and finals
- BIOL 336 Fundamentals of Evolutionary Biology. Held weekly tutorials with paper discussions. Graded papers, weekly homeworks, and finals.
- BIOL 234 Fundamentals of Genetics (two terms). Ran weekly tutorials with practical genetics questions. Graded weekly homeworks, and finals.

Other teaching and outreach experience

- Beaty Biodiversity museum, Invited guest presentation to the EDCP 354 (302) class, 2016
- University of British Columbia, St John's College, Resident Fellow Speaker Series: Biodiversity, Bioliteracy, and Ecojustice — A Roundtable Discussion 2016
- Let's Talk Science, University of British Columbia, Volunteer, 2015
- Beaty Biodiversity Museum in Vancouver, Museum Educator (volunteer) 2015-2018

Selected presentations

- Vancouver Yeast Meeting, presentation, *Sex, drugs, and mating efficiency in* S. cerevisiae, 2019
- The American Genetics Association Symposium (Sex and Asex: The Genetics of Complex Life Cycles): *Sex, drugs, and mating competition: effects of frequent outcrossing in* Saccharomyces cerevisiae, 2019
- Eco Evo retreat, Data blitz, *From function to fitness: comparing predicted functional effects to growth rates of mutation accumulation lines*, 2018
- University of British Columbia, 3 Minute Thesis competition (semi-finalist): *Role of Sociality in the Evolution of Recombination*, 2016
- University of British Columbia, St John's College, Resident Fellow Speaker Series: *Why sex?* 2016
- Ludwig Maximilian University of Munich, Erasmus Mundus Summer school, presentation. *Meiotic evolution in autotetraploids, A case study of Arabidopsis arenosa*, 2015

Selected posters

- Evolution meeting, Portland, poster, *Estimating growth rate from OD data in budding yeast*, 2017
- Ecology and Evolution retreat, Squamish, poster. *Social structure and selection for recombination* 2015

Languages

Natural English (advanced), Swedish (fluent), French (intermediate), Portuguese (intermediate)
Programming R (advanced), Mathematica (intermediate), C++ (beginner)

Service

- Let's assume discussion group, 2019. Coordinator.
- St John's College Dining Society, President 2017-2018
- St John's College Social Committee, Vice president 2016-2017
- St John's College Dining Society, Vice president 2016-2017
- St John's College Film Committee, Co-chair 2017
- Otto lab meetings, coordinator, 2016
- Biodiversity Research Seminar, Coffee organizer, 2016
- Biodiversity Lunchtime Internal Seminar Series, Coordinator, 2016
- Biology Education Centre in Uppsala, Blogger (http://memebloggen.wordpress.com) 2013-2015
- Dutch Royal Zoological Conference Individual Differences, Volunteer, 2013
- Student newspaper Bladet at Uppsala, Columnist, 2012-2013

References

Dr. Sarah P. Otto
PhD supervisor
Department of Zoology
University of British Columbia
Email otto@zoology.ubc.ca

Dr. Nathaniel Sharp
Senior collaborator
Department of Evolutionary Genetics
University of Wisconsin-Maddison
Email nathaniel.sharp@wisc.edu