

KIERAN SAMUK

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CURRENT POSITION

Postdoc 2016– Duke University
Mentor: Dr. Mohamed Noor
Project: *Adaptive evolution of recombination rate in Drosophila pseudoobscura*

EDUCATION

PhD 2016 University of British Columbia
Advisor: Dr. Dolph Schluter
Thesis: *The genomics of adaptation and speciation in threespine stickleback*

MSc 2011 University of British Columbia
Advisor: Dr. Leticia Avilés
Thesis: *Sociality in cobweb spiders: evolutionary consequences and the role of pre-existing traits*

HBSc 2008 University of Toronto
Honors Advisor: Dr. James Thomson
Thesis: *The ontogeny of social networks and division of labour in bumble bee colonies.*

SCHOLARSHIPS & AWARDS

2018 NSERC Postdoctoral Fellowship – \$90 000
2018 Duke Core Facility Research Award – \$7000
2018 NSF BIO Research Grant: "An experimental test of the role of chromosomal inversions in adaptive evolution" Formal PI: M Noor. Conceived of and authored by K Samuk– \$200 000
2017 Duke Core Facility Research Award – \$6500
2016 SSE Hamilton Symposium Travel Award – \$500
2015 Society for Integrative and Comparative Biology Research Award – \$1000
2014 University of British Columbia Four Year Fellowship – \$20 000
2011 NSERC Canada Graduate Scholarship (3 years) – \$105 000

SCHOLARSHIPS & AWARDS (CONT.)

- 2010 Royal Society Publishing prize for Best Poster at IUSSI – \$500
- 2009 NSERC Alexander Graham Bell Canada Graduate Scholarship – \$84 000
- 2008 NSERC Undergraduate Research Award – \$9 000
- 2008 Dr. James A. and Connie P. Dixon Award – \$500

PUBLICATIONS

In Review & Revision

12. **Samuk, K.**, Manzano-Winkler, B., Ritz, K.R. and Noor, M.F. Adaptive evolution of recombination rate in *Drosophila pseudoobscura*. 2019. In Revision, *Current Biology*. Preprint: <https://doi.org/10.1101/787382>
11. Ostevik, K.L., **Samuk, K.**, and Rieseberg, L.H. 2019. Ancestral reconstruction of sunflower karyotypes reveals dramatic chromosomal evolution. 2019. In Revision, *Genetics*. Preprint: <https://doi.org/10.1101/737155>
10. Miller, S.E., Legan, A.W., Henshaw, M., Ostevik, K.L., **Samuk, K.**, Uy, F.M., Reeve, H.K. and Sheehan, M.J. Evolutionary dynamics of recent selection for enhanced social cognition. 2019. In Revision, *PNAS*. Preprint: <https://doi.org/10.1101/425215>

Published & In Press

9. Owens, G.L., **Samuk, K.** Adaptive introgression during environmental change can weaken reproductive isolation. In Press, *Nature Climate Change*. 2019.
8. Rennison, D.J., Delmore, K.E., **Samuk, K.**, Owens, G.L. and Miller, S.E.. Shared patterns of genome-wide differentiation are more strongly predicted by geography than by ecology. In Press, *The American Naturalist*. 2019.
7. **Samuk, K.***, Xue, J.* and Rennison, D. J. Exposure to predators does not lead to the evolution of larger brains in experimental populations of threespine stickleback. *Evolution*, 72: 916–929. Equal co-authorship with J. Xue. 2018.
6. **Samuk, K.**, Owens, G. L., Delmore, K. E., Miller, S., Rennison, D. J. and Schluter, D. Gene flow and selection interact to promote adaptive divergence in regions of low recombination. *Molecular Ecology*, 26: 4378–4390. 2017.
 - Featured as a "From the Cover" article
 - Recommended on Faculty of 1000 (2017)
5. **Samuk, K.** Perspective: Inversions and the origin of behavioral differences in cod. *Molecular Ecology*, 25(10):2111–2113. 2016.
4. Miller, S.E., **Samuk, K.**, and Rennison, D.J. An experimental test of the effect of predation upon behaviour and trait correlations in the threespine stickleback. *Biological Journal of the Linnean Society*, 119(1): 117–125. 2016.
3. **Samuk, K.**, Iritani, D. and Schluter, D. Reversed brain size sexual dimorphism accompanies loss of parental care in white sticklebacks. *Ecology and Evolution*, 4(16): 3236–3243. 2014.

PUBLICATIONS (CONT.)

2. **Samuk, K.** and Avilés, L. Indiscriminate care of offspring predates the evolution of sociality in alloparenting social spiders. *Behavioral Ecology and Sociobiology*, 67(8): 1275–1284. 2013.
1. **Samuk, K.**, LeDue, E.E., and Avilés, L. Sister clade comparisons reveal reduced maternal care behavior in social cobweb spiders (*Anelosimus* spp.). *Behavioral Ecology*, 23(1): 35–43. 2011.

In Preparation

Samuk, K., Visty, H. and Schluter, D. The white stickleback: speciation with gene flow in the absence of strong ecological differentiation. 2019.

Samuk, K. and Korunes, K. pixy: Software for estimation of nucleotide diversity and divergence in the presence of invariant sites. 2019.

SOFTWARE

- 2019 **syntR**: Reproducible identification of chromosomal rearrangements.
<https://ksamuk.github.io/syntR/>
- 2019 **pixy**: Unbiased estimation of nucleotide diversity in the face of missing data.
<https://github.com/ksamuk/pixy>

PRESENTATIONS & CONTRIBUTIONS

- 2019 The evolution and consequences of recombination rate variation
 Invited Seminar · *University of Virginia EEBIO Seminar*
- 2019 Adaptive evolution of recombination rate in *Drosophila pseudoobscura*
 Talk · *Evolution 2019*
- 2018 Adaptive evolution of recombination rate in *Drosophila pseudoobscura*
 Talk · *South Eastern Population Ecology and Evolutionary Genetics 2018*
- 2018 The role of gene flow in shaping evolutionary processes
 Invited Seminar · *East Carolina University RIP Seminar Series*
- 2017 The evolution and consequences of recombination rate variation
 Invited Seminar · *University of North Carolina BioPop Seminar Series*
- 2017 Incipient speciation without trophic specialization in the white stickleback
 Talk · *Evolution*
- 2017 Natural selection and diversification in the threespine stickleback
 Invited Seminar · *Duke University PopBio Seminar Series*
- 2016 Clustering of adaptive alleles is favored by gene flow in a globally distributed species
 Talk · *Evolution*
- 2015 Selection with gene flow favours reduced recombination in adaptive genomic regions in global stickleback populations
 Talk · *SSE Hamilton Symposium, Evolution*

PRESENTATIONS & CONTRIBUTIONS (CONT.)

- 2013 Genomic signatures of reproductive isolation in the white stickleback.
Poster · *European Society for Evolution Biology*
- 2010 The origin and consequences of cooperative breeding in social cobweb spiders.
Talk · *EcoEvo Retreat*
- 2010 The origin of alloparental care in social cobweb spiders.
Poster · *International Union for the Study of Social Insects*
- 2009 The Evolution of Alloparental Care in Social Comb-Footed Spiders.
Talk · *EcoEvo Retreat*
- 2008 Bumble Bee Social Networks Correlate with Division of Labour.
Poster · *Canadian Society for Evolution and Ecology*

TEACHING

- 2019 Certified Software Carpentry Instructor
- 2014 Head TA – Data Wrangling, Exploration, and Analysis with R
- 2014 TA – Evolutionary Ecology
- 2011 TA – Fundamentals of Evolutionary Biology
- 2010 TA – Introduction to Entomology
- 2010 TA – Animal Behaviour
- 2009 TA – Animal Behaviour
- 2008 TA – Introduction to Saltwater Ecosystems

MENTORSHIP

- 2017 Freddie Xu – Supervised undergrad activities in Noor Lab
- 2016 Jan Xue – Supervised undergrad research project (see co-authored publication)
- 2015 Hannah Visty – Supervised undergrad research project (see co-authored publication)
- 2013 Jacob Best – Supervised undergrad activities in Schluter Lab
- 2012 Michelle Ning – Supervised undergrad activities in Schluter Lab
- 2010 Emily LeDue – Supervised undergrad research project (see co-authored publication)
- 2009 Gyan Harwood – Supervised undergrad summer research in Avilés Lab

DIVERSITY & INCLUSION TRAINING

- 2019 Reducing bias in Evaluation Methods Workshop
Duke University - Dr. Cisco Ramos
- 2019 Creating Cultural Competency Workshop
Duke University - Duke International House
- 2019 Pursuing Respect, Inclusion, Diversity & Equity (PRIDE) Training
Duke University - Duke CSGD
- 2018 Mitigating implicit bias in biology and beyond
Duke University - Dr. Patricia Devine

PROFESSIONAL SERVICE & OUTREACH

- Reviewing* Biological Journal of the Linnean Society, Ecology and Evolution, Evolution, Genetics, Molecular Ecology, Molecular Biology and Evolution, PLoS Genetics, Proceedings of the Royal Society B., PNAS
- 2016 Invited speaker at Elder U (senior-citizen science outreach) at Capilano University
- 2016 Volunteer Instructor & Guru for UBC's "R Club"
- 2015 Facilitator & organizer for the UBC Biodiversity Seminar series
- 2013 Student Mentor for UBC Zoology Graduate Mentorship Program
- 2011 Volunteer for the UBC/SFU/UVic EcoEvo Retreat
- 2011 Student organizer for UBC Biodiversity Internal Seminar Series

Last updated 15-Nov-2019