Andrius Jonas Dagilis

CONTACT INFORMATION

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RESEARCH INTERESTS

Mathematical Modeling of Speciation and Chromosomal Evolution,
Methods of Inference from Genomic Datasets and Gene Interaction Networks

EDUCATION

University of Texas at Austin

PhD in Ecology, Evolution and Behavior, August 2019
Supervising Professor: Mark Kirkpatrick

Trinity University

B.S. in Biology with Honors, May 2013

LANGUAGES

Fluent	Lithuanian, English
Conversational	French, Russian

PUBLICATIONS

K. Livingstone, P. Olofsson, G. Cochran, A. Dagilis., K. MacPherson, K. Seitz. *A Stochastic Model for the Development of Bateson-Dobzhansky-Muller Incompatibilities that Incorporates Protein Interaction Networks*, Mathematical Biosciences, 238(1) 2012: 49-53.

A. Dagilis, M. Kirkpatrick *Prezygotic Isolation, Mating Preferences, and the Evolution of Chromosomal Inversions*, Evolution, 70(7) 2016:1465-72.

E. Kuzmin, B. VanderSluis, [...], A. Dagilis, [...], C. Boone *Systematic Analysis of Complex Trigenic Interactions*, Science, 360(6386) 2018.

J. M. Sardell, C. Cheng, A. Dagilis, A. Ishikawa, J. Kitano, C.L. Peichel, M. Kirkpatrick *Sex Differences in Recombination in Sticklebacks*, G3, 2018:g3-200166.

A. Dagilis, M. Kirkptarick, D. Bolnick *Epistasis and the evolution of hybrid fitness*, PLoS Genetics, 15(5) 2019:e1008125.

A. Dagilis D. Matute *Incompatibility between emerging species*, Science, 368 (6492),710-711 2020.

SELECT CONFERENCE TALKS

A. Dagilis. *Prezygotic Isolation, Mating Preferences and the Evolution of Chromosomal Inversions*, Evolution 2016, Austin, USA (June 2016).

A. Dagilis, D. Bolnick. *The Spectrum of Epistasis and Hybrid Fitness*, SMBE 2017, Austin, USA (July 2017)

A. Dagilis, M. Kirkpatrick, D. Bolnick *An Empirically Grounded Model of Speciation*, Joint Congress on Evolutionary Biology, Montpellier, France. (August 2018).

Honors and Awards

2009–2012	International Student Scholarship ($35,000 per year)
2012	Mach Fellowship ($3,000)
2012	Jacob Uhrich Scholarship, Biology Department ($1,500)
2013	Integrative Biology Recruitment Fellowship ($33,550)
2016	Integrative Biology TA Award ($700)
2018	SSE Hamilton Award Nominee

Membership In Professional Societies

Society for the Study of Evolution
European Society for Evolutionary Biology
Society for Molecular Biology and Evolution
American Society of Naturalists

Past Research Experience

2011 **Research Assistant Under NIH Grant**
Supervisor Dr. Peter Olofsson
I developed a branching process model of ciliates with multiple, stochastically determined mating types, with the goal of answering questions about the evolution of sex.

2012 **Honors Thesis Research Project**
Supervisor Dr. Kevin Livingstone
My senior year I extended my work on a speciation model to account for complex incompatibilities that involve more than two loci. I based an honor's thesis on this work and successfully defended it in front of a faculty committee.

2013 **Graduate Thesis Research**
Supervisor Dr. Mark Kirkpatrick
My research at UT focused on how genetic interactions affect broader evolutionary patterns. I developed a model of how interactions between assortative mating loci and fitness loci can favor the evolution of chromosomal inversions, models of speciation that capture the full distribution of epistatic effects, and analyses of how genetic interactions impact gene location on chromosomes. During this time I have also developed my bioinformatics toolkit while working on the evolution of sex chromosomes in sticklebacks. This work consisted both of development of new statistics to localize sexually antagonistic selection on sex chromosomes, as well as standard population genetics analyses on next-gen sequence data.

Outreach

Science Under The Stars

I have been active in helping organize the "Science Under The Stars" public lecture series. Speakers at the talks present lectures on topics relating to their research to the broader Austin public of all ages. The talks also provide an opportunity for the public to explore Brackenridge Field Laboratories and boasts attendance of more than 100 audience members some months.

Integrative Biology Research Symposium

For the past few years I have been helping organize the Integrative Biology Research Symposium, an avenue for graduate students to present research ideas or preliminary results to an audience of their peers.