Andrew J. Basinski February, 2020

CONTACT

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EDUCATION

Ph.D., Mathematics University of Utah — August, 2016
Adviser: Fred Adler
Thesis Title: Information-Use Strategies in Ants

B.S., Biology University of Wisconsin-Stevens Point — Spring, 2009
B.S., Mathematics University of Wisconsin-Stevens Point — Spring, 2009

RESEARCH EXPERIENCE

Machine learning, epidemiological models, spatial ecology, ODE and PDE numerical simulation and analysis, stochastic models, agent-based simulation

PUBLICATIONS

- **Basinski AJ**, Fichet-Calvet, EJ, Sjodin, AR, et al. Bridging the gap: Using reservoir ecology and human sero-surveys to estimate Lassa incidence in West Africa. bioRxiv (2020).
- Schreiner CL, Nuismer SL, **Basinski AJ**. When to vaccinate a fluctuating wildlife population: is timing everything? Journal of Applied Ecology. 57.2 (2020).
- Nuismer SL, Remien CH, **Basinski AJ**, et al. Bayesian estimation of Lassa virus epidemiological parameters: implications for spillover prevention using wildlife vaccination. bioRxiv (2019)
- **Basinski AJ**, Nuismer SL, Remien CH. A little goes a long way: Weak vaccine transmission facilitates oral vaccination campaigns against zoonotic pathogens. PLoS neglected tropical diseases 13.3 (2019).
- Smithson MW, **Basinski AJ**, Nuismer SL, Bull JJ. Transmissible vaccines whose dissemination rates vary through time, with applications to wildlife. Vaccine 37.9 (2019).
- Varrelman TJ, **Basinski AJ**, Remien CH, Nuismer SL. Transmissible vaccines in heterogeneous populations: Implications for vaccine design. One Health 7 (2019).
- Nuismer SL, May RH, **Basinski AJ**, Remien CH. Controlling epidemics with transmissible vaccines. PloS One 13.5 (2018).
- **Basinski AJ**, Varrelman TJ, Smithson MW, et al. Evaluating the promise of recombinant transmissible vaccines. Vaccine (2017).

Publications In Progress

- Layman NL, Tuschhoff B, **Basinski AJ**, et al. Suppressing evolution of genetically engineered systems through repeated introduction. Submitted to Evolutionary Applications.

Conferences

MIDAS Meeting, Washington DC, US *Talk:* The benefits and challenges of using transmissible vaccines in zoonotic vaccination campaigns	April, 2018
Society for Mathematical Biology, SLC, UT, US *Poster:* Evaluating the Promise of Recombinant Transmissible Vaccines	July, 2017
Science Day, SLC, UT, US *Talk:* Can Ants Do Calculus?	Nov., 2013/2014
Society for Mathematical Biology, Tempe, AZ, US *Talk:* The effects of colony structure on resource collection ability	June, 2014
Univ. Utah Biology Retreat, SLC, UT, US *Poster:* The Consequences of Owning Multiple Homes: Polydomy in Ants	Oct., 2013

Scientific Computing

R, Mathematica, Python, C++, LaTeX, Linux systems, Matlab, Github

Teaching Experience

Math In Medicine (Math 4600)	Spring, 2015
Calculus III (Math 2210)	Fall, 2014
Glendale Middle School Advanced Science	Fall, 2011 - Spr., 2012
Calculus I (Math 1210)	Fall, 2010
Business Calculus (Math 1210)	Spr., 2011, Spr., 2010 Fall, 2009

Teaching Assistant Experience

Calculus II (Math 1320)	Spring, 2016
PDE's for Engineers (Math 3140)	Fall, 2015
Math in Medicine (Math 4600)	Spr., 2013, Spr., 2014
Math Models In Biol (Biol 5910)	Fall, 2013
Math Biology I (Math 5110)	Fall, 2012

Student Reasearch

Courtney Schreiner (wildlife vaccination)	2018-

Awards, Honors, Fellowships	**Graduate Teaching Fellowship**, Mathematics	Fall, 2009 - Spr., 2011
		Fall, 2014 - 2016
	RTG Teaching Fellowship in Math. Biology	Fall, 2012 - Spr., 2014
	SCIF Grant	Summer, 2012
	WEST Fellowship	Fall, 2011 - Spr., 2012

Academic Service	**Journal Reviews** for Oecologia, PLOS ONE, Journal of Theoretical Biology. F1000 member.	2013 - 2016
	Designed and ran Society of Math Biology booth at **USA Science and Engineering Festival** in Washington D.C.	April, 2014

References

- Scott Nuismer (snuismer@uidaho.edu)
  Office phone: (208) 885-4096
  Biology, University of Idaho
- Chris Remien (cremien@uidaho.edu)
  Office phone: (208) 885-5901
  Mathematics, University of Idaho
- Jim Bull (jbull@uidaho.edu)
  Office phone: (801) 585-6202
  Biology, University of Idaho
- Paul Gessler (jbull@uidaho.edu)
  Office phone: (208) 885-2595
  Natural Resources (GIS), University of Idaho
- Fred Adler (adler@math.utah.edu)
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  Biology and Mathematics, University of Utah