# Andrew J. Basinski February, 2020


CONTACT

Andrew Basinski
232 N Lilly st
Moscow, ID 83843

Phone: 715-252-7270
Email: abasinski@uidaho.edu
Website: `https://54481andrew.github.io/`


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

- 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.
- **Basinski AJ**, Nuismer SL. Bridging the gap: Using reservoir ecology and human sero-surveys to estimate Lassa incidence in West Africa. In progress.

## Conferences

| | |
|---|---|
| **MIDAS Meeting**, Washington DC, US<br>*Talk:* The benefits and challenges of using transmissible vaccines in zoonotic vaccination campaigns | April, 2018 |
| **Society for Mathematical Biology**, SLC, UT, US<br>*Poster:* Evaluating the Promise of Recombinant Transmissible Vaccines | July, 2017 |
| **Science Day**, SLC, UT, US<br>*Talk:* Can Ants Do Calculus? | Nov., 2013/2014 |
| **Society for Mathematical Biology**, Tempe, AZ, US<br>*Talk:* The effects of colony structure on resource collection ability | June, 2014 |
| **Univ. Utah Biology Retreat**, SLC, UT, US<br>*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<br>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)
  Office phone (math): (801) 581-6848
  Office phone (biology): (801) 585-6202
  Biology and Mathematics, University of Utah