

# Brandon H. Schlomann

Ph.D. Candidate, Department of Physics, University of Oregon

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## Education

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|-----------------|-------|--|
| 2020 (expected) | Ph.D. | Physics, University of Oregon<br>Advisor: Dr. Raghuveer Parthasarathy<br>Research: Biophysics of zebrafish gut microbiota        |
| 2013            | B.A.  | Physics, with Honors, University of Montana<br>Advisor: Dr. Andrew Ware<br>Research: Plasma theory and design of fusion reactors |

## Awards and Fellowships

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|-------------|--|
| 2016 – 2019 | NIH Molecular Biology and Biophysics Training Grant, U. Oregon         |
| 2016        | NSF GRFP Honorable Mention   |
| 2014        | First Year Academic Award, Institute of Theoretical Science, U. Oregon |
| 2009        | Cal-Murphy Scholarship, U. Montana                                     |

## Publications (\* = equal contributors)

1. **Brandon H. Schlomann\*** and Raghuveer Parthasarathy\*  
Timescales of gut microbiome dynamics [review], *Current Opinion in Microbiology*, in revision
2. Travis J. Wiles\*, **Brandon H. Schlomann\***, Elena S. Wall, Raghuveer Parthasarathy, Karen Guillemin  
Swimming motility and chemotaxis control the spatial organization, persistence, and inflammatory activity of a model intestinal pathobiont, *bioRxiv* SOON
3. **Brandon H. Schlomann\***, Travis J. Wiles\*, Elena S. Wall, Karen Guillemin, Raghuveer Parthasarathy  
Sublethal antibiotics collapse gut bacterial populations by enhancing aggregation and expulsion, *PNAS*, in press. (*bioRxiv* (2019) doi: 10.1101/565556)
4. **Brandon H. Schlomann\***, Travis J. Wiles\*, Elena S. Wall, Karen Guillemin, Raghuveer Parthasarathy  
Bacterial cohesion predicts spatial distribution in the zebrafish intestine, *Biophysical Journal* (2018)

5. Travis J. Wiles, Elena S. Wall, **Brandon H. Schlomann**, Edouard A. Hay, Raghuveer Parthasarathy, Karen Guillemin

Modernized tools for streamlined genetic manipulation and comparative study of wild and diverse proteobacterial lineages, *mBio* (2018)

6. **Brandon H. Schlomann**

Stationary moments, diffusion limits, and extinction times for logistic growth with random catastrophes, *Journal of Theoretical Biology* (2018)

7. Travis J Wiles, Matthew Jemielita, Ryan P Baker, **Brandon H Schlomann**, Savannah L Logan, Julia Ganz, Ellie Melancon, Judith S Eisen, Karen Guillemin, Raghuveer Parthasarathy

Host gut motility promotes competitive exclusion within a model intestinal microbiota, *PLoS Biology* (2016)

## Conference Talks

1. *Live imaging of gut bacterial communities in zebrafish: spatial structure, fast dynamics, and antibiotic perturbations*, 2nd International Fish-Microbiota Workshop, Eugene, OR, September 4, 2019
2. *Live imaging of gut bacterial communities in zebrafish: spatial structure, fast dynamics, and antibiotic perturbations*, PacNow Quantitative Biology Meeting, Portland OR, August 22, 2019
3. *Bacterial cohesion predicts spatial distribution in the zebrafish intestine*, American Physical Society March Meeting, Boston, MA, March 5, 2019
4. *Swim/stick tradeoffs for gut bacterial symbionts*, American Physical Society March Meeting, Los Angeles, CA, March 7, 2018
5. *Catastrophe and fast dispersal dynamics of the zebrafish gut microbiota following sublethal antibiotics*, International Fish-Microbiota Workshop, Trondheim, Norway, June 20, 2017
6. *Visualizing the response of a gut bacterial population to antibiotic perturbations*, American Physical Society March Meeting, New Orleans, LA, March 13, 2017
7. *Response dynamics of gut bacterial communities*, META Center Symposium, Eugene, OR, June 16, 2016

## Teaching and Outreach Summary

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|-----------|--|
| 2014–2018 | Summer Academy to Inspire Learning, University of Oregon<br><i>Led small group demonstrations for high school students</i> |
| 2014–2015 | PHYS 204/205/206, University of Oregon<br><i>Taught algebra-based physics lab</i>  |
| 2007–2009 | Physics Study Jam, University of Montana<br><i>Served as peer tutor</i>  |