

# Zachary Holmes

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## Education

- 2016–2021 **Duke University**, *PhD*, Molecular Genetics and Microbiology  
Thesis: Leveraging diet to control microbial metabolism in the human gut microbiome  
Mentor: Lawrence David
- 2010–2014 **University of Georgia**, *B.S.*, Ecology & Biology  
*summa cum laude*, Highest Honors

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## Honors & Awards

- 2019 Duke MGM Distinguished Fellows Travel Award
- 2017 DoD National Defense Science and Engineering Graduate Fellowship
- 2017 NSF Graduate Research Fellowship [*declined*]
- 2014 Odum School of Ecology Global Scholars Fund
- 2013 University of Georgia Amazing Student
- 2013 John J. Scarano Memorial Scholarship
- 2013 Brittney Fox Watts Memorial Scholarship
- 2013 Long Island University Summer Research Internship award
- 2012 NSF Research Experience for Undergraduates award
- 2012 University of Georgia Honors International Scholar Program award

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## Publications

- 8 Cholan PM, Han A, Woodie BR, Kurz ARM, Britton WJ, Ye L, **Holmes ZC**, McCann JR, David LA, Rawls JF, Oehlers SH. (2020) Conserved anti-inflammatory effects and sensing of butyrate in zebrafish. *bioRxiv*
- 7 **Holmes ZC**, Silverman JD, Dressman HK, Zhengzheng W, Dallow EP, Armstrong SC, Seed PC, Rawls JF, David LA. (2020) Short-Chain Fatty Acid Production by Gut Microbiota from Children with Obesity Differs According to Prebiotic Choice and Bacterial Community Composition. *mBio*
- 6 Dasch GA, Ramaiah A, **Holmes ZC**, Zambrano ML, Shirey TB. (2019) Use of the Ion Torrent PGM for Determining the Genomic Sequences of *Francisella* and *Coxiella*-Like Endosymbionts and *Rickettsia* Directly from Hard Ticks. In: Skvarla M., Ochoa R., Verle Rodrigues J., Hutcheson H. (eds) *Contemporary Acarology*, Springer, Cham
- 5 Silverman JD, Roche K, **Holmes ZC**, David LA, Mukherjee S. (2019) Bayesian Multinomial Logistic Normal Models through Marginally Latent Matrix-T Processes. *arXiv*
- 4 Wright JT, **Holmes ZC**, Byers JE. (2018) Stronger positive association between an invasive crab and a native intertidal ecosystem engineer with increasing wave exposure. *Marine Environmental Research*

- 3 Byers JE, **Holmes ZC**, Malek JC. (2017) Contrasting complexity of adjacent habitats influences the strength of cascading predatory effects. *Oecologia*
- 2 Byers JE, **Holmes ZC**, Blakeslee AMH. (2016) Consistency of trematode infection prevalence in host populations across large spatial and temporal scales. *Ecology*
- 1 Sheiner L, Fellows JD, Ovciarikova J, Brooks CF, Agrawal S, **Holmes ZC**, Bietz I, Flinner N, Heiny S, Mirus O, Przyborski JM, Striepen B. (2015) Toxoplasma gondii Toc75 functions in import of stromal but not peripheral apicomplast proteins. *Traffic*

## Invited Presentations

2018 East Carolina University Department of Biology, Greenville, NC

## Conference Presentations

2019 Microbiome:Therapeutic Implications - Keystone Symposium, Killarney, Ireland  
 2019 National Defense Science and Engineering Graduate Fellowship Conference, San Diego  
 2015 Entomological Society of America, Minneapolis, MN  
 2015 International Conference on Emerging Infectious Diseases, Atlanta, GA  
 2015 Ecology and Evolution of Infectious Diseases Conference, Athens, GA  
 2015 Southeastern Ecology and Evolution Conference, Athens, GA  
 2014 Society for Integrative and Comparative Biology, Austin, TX  
 2014 Odum School of Ecology Graduate Student Symposium, UGA, Athens, GA  
 2013 42<sup>nd</sup> Annual Benthic Ecology Meeting, Savannah, GA

## Professional Experience

2014–2016 **Centers for Disease Control and Prevention**, *Rickettsial Zoonoses Branch*  
 ORISE RESEARCH FELLOW *Mentor: Dr. Gregory Dasch*

2011–2014 **Center for Tropical and Emerging Global Diseases**, *University of Georgia*  
 RESEARCH ASSISTANT *Mentor: Dr. Boris Striepen*

2011–2014 **Odum School of Ecology**, *University of Georgia*  
 UNDERGRADUATE RESEARCHER *Mentor: Dr. Jeb Byers*

Spring 2014 **Institute for Marine and Antarctic Studies**, *University of Tasmania*  
 VISITING RESEARCHER *Mentor: Dr. Jeffrey Wright*

Summer 2013 **Department of Biology**, *Long Island University*  
 SUMMER RESEARCH INTERN *Mentor: Dr. April Blakeslee*

## Service

2019 Chair: Jim McGinnis Memorial Lecture planning committee, Duke MGM  
 2018 – 2019 Diversity and Inclusion Committee, Duke MGM  
 2018 Co-lead student organizer for graduate student recruitment, Duke MGM  
 2017 – 2018 Jim McGinnis Memorial Lecture planning committee, Duke MGM  
 2017 Primary student host for graduate student recruitment, Duke MGM  
 2013 Treasurer for Georgia Chapter of the Society for Conservation Biology