

## KERRI L. COON

Assistant Professor  
University of Wisconsin-Madison  
Department of Bacteriology  
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### EDUCATION

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- 2017      Ph.D. in Entomology, Department of Entomology, University of Georgia  
Dissertation: *Gut microbial diversity and function in mosquitoes*  
Advisor: Dr. Michael R. Strand
- 2011      B.S. in Biology (Double Major in Biostatistics), Department of Biology, University of Virginia  
Graduated *with Highest Distinction*  
Honors Thesis: *Pathogen dispersal patterns across the range limit of a disease*  
Advisor: Dr. Janis Antonovics

### APPOINTMENTS & EXPERIENCE

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- 2020-present    Assistant Professor, Department of Bacteriology, University of Wisconsin-Madison
- 2019-2020      Assistant Professor, Department of Entomology, University of Wisconsin-Madison
- 2017-2019      Postdoctoral Research Fellow, Department of Integrative Biology, University of Texas at Austin

### AFFILIATIONS

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- 2020-present    Genetics Ph.D. Program, University of Wisconsin-Madison
- 2020-present    Microbes in Health and Disease Training Program, University of Wisconsin-Madison
- 2020-present    Wisconsin Ecology, University of Wisconsin-Madison
- 2020-present    Microbiome Hub, University of Wisconsin-Madison
- 2019-present    Biotechnology Training Program, University of Wisconsin-Madison
- 2019-present    Parasitology and Vector Biology Training Program, University of Wisconsin-Madison
- 2019-present    Microbiology Doctoral Training Program, University of Wisconsin-Madison
- 2019-present    Entomology Graduate Program, University of Wisconsin-Madison

### FELLOWSHIPS

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- 2018-2019      USDA AFRI ELI Postdoctoral Fellowship
- 2016-2017      NIH T32 Training Fellowship, University of Georgia, Department of Genetics
- 2015-2016      ARCS Foundation Fellowship
- 2014-2015      University of Georgia Graduate Research Fellowship
- 2011-2014      NSF Graduate Research Fellowship

### HONORS & AWARDS

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- 2016      Outstanding Ph.D. Student of the Year Award, University of Georgia, Department of Entomology
- 2015      ARCS Global Impact Award

- 2014 President's Prize for Best Student Oral Presentation (1<sup>st</sup>-place), Entomological Society of America Annual Meeting
- 2014 E. Broadus Browne Award for Outstanding Graduate Student Research & Communication, University of Georgia, College of Agricultural & Environmental Sciences
- 2013 President's Prize for Best Student Oral Presentation (2<sup>nd</sup>-place), Entomological Society of America Annual Meeting
- 2011 University of Georgia Excellence in Graduate Recruitment Award
- 2010 University of Virginia Harrison Undergraduate Research Award

## PUBLICATIONS

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### Peer-reviewed:

- Coon, K.L.**, Valzania, L., Brown, M.R., Strand, M.R. 2020. Predaceous *Toxorhynchites* mosquitoes require a living gut microbiota to develop. *Proc. R. Soc. B.* 287(1919):20192705. \*Selected for cover
- Raymann, K., **Coon, K.L.**, Shaffer, Z., \* Salisbury, S., \* Moran, N.A. 2018. Pathogenicity of *Serratia marcescens* strains in honey bees. *mBio* 9(5):e01649-18.
- \*Undergraduate mentees.
- Valzania, L., Martinson, V.E., Harrison, R., Boyd, B., **Coon, K.L.**, Brown, M.R., Strand, M.R. 2018. Both living bacteria and eukaryotes in the mosquito gut promote growth of larvae. *PLoS Negl. Trop. Dis.* 12(7):e0006638.
- Valzania, L., **Coon, K.L.**, Vogel, K.J., Brown, M.R., Strand, M.R. 2018. Hypoxia-induced transcription factor signaling is essential for larval growth of the mosquito *Aedes aegypti*. *Proc. Natl. Acad. Sci. USA.* 115(3):457-65.
- Coon, K.L.**, Valzania, L., McKinney, D.A., Vogel, K.J., Brown, M.R., Strand, M.R. 2017. Bacteria-mediated hypoxia functions as a signal for mosquito development. *Proc. Natl. Acad. Sci. USA.* 114(27):E5362-9.
- Vogel, K.J., Valzania, L., **Coon, K.L.**, Brown, M.R., Strand, M.R. 2017. Transcriptome sequencing reveals large-scale changes in axenic *Aedes aegypti* larvae. *PLoS Negl. Trop. Dis.* 11(1):e0005273.
- Coon, K.L.**, Brown, M.R., Strand, M.R. 2016. Mosquitoes host communities of bacteria that are essential for development but vary greatly between local habitats. *Mol. Ecol.* 25(22):5806-26.
- Coon, K.L.**, Brown, M.R., Strand, M.R. 2016. Gut bacteria differentially affect egg production in the anautogenous mosquito *Aedes aegypti* and facultatively autogenous mosquito *Aedes atropalpus* (Diptera: Culicidae). *Parasit. Vectors* 9(1):375.
- Coon, K.L.**, Vogel, K.J., Brown, M.R., Strand, M.R. 2014. Mosquitoes rely on their gut microbiota for development. *Mol. Ecol.* 23(11):2727-39.

### Book Chapters & Reviews:

- Cansado-Utrilla, C., Zhao, S., \* McCall, P., **Coon, K.L.**, Hughes, G.L. Accepted. The microbiome and mosquito vectorial capacity: Rich potential for discovery and translation. *Microbiome*. Preprint available online: doi:10.20944/preprints202012.0554.v1.
- \*Graduate mentee.
- Coon, K.L.**, Strand, M.R. 2021. Gut microbiome assembly and function in mosquitoes, in Drake, J.M., Bonsall, M.B., Strand, M.R. (eds.) *Population Biology of Vector-Borne Diseases*. Oxford University Press, pp. 227-43.
- Vogel, K.J., **Coon, K.L.** 2020. Functions and mechanisms of symbionts of insect disease vectors, in Oliver, K.M., Russell, J.A. (eds.) *Advances in Insect Physiology, Volume 58: Mechanisms Underlying Microbial Symbiosis*. Academic Press, pp. 233-75.

*Manuscripts in Review:*

Tawidian, P., **Coon, K.L.**, Jumpponen, A., Cohnstaedt, L.W., Michel, K. In review. Host-environment interplay shapes fungal diversity in mosquitoes.

*Manuscripts in Preparation:*

**Coon, K.L.**, Hegde, S., Hughes, G.L. In prep. Inter-species microbiome transplantation recapitulates microbial acquisition and persistence in mosquitoes.

**AWARDED GRANTS**

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UW WARF. Microbiome Challenge: Harnessing the microbiome to control disease-transmitting mosquitoes (Role: PI; Lyric Bartholomay is Co-PI). 2021. \$9,500.

NSF IOS/DEB, 2019368. BBSRC-NSF/BIO: Bacterial and host genetic factors contributing to microbiome acquisition and homeostasis in mosquitoes (Role: PI, Grant Hughes and Eva Heinz are Co-PIs). 2020-2025. \$2,149,668 (\$1,034,982 to Coon).

UW Dairy Innovation Hub. Short-Term, High-Impact Proposal: Competency of flies (Diptera: Muscidae) to transmit pathogenic bacteria to dairy cows (Role: PI). 2020-2022. \$100,000.

UW Global Health Institute: Visiting Scholar Award. Influence of indigenous bacteria on reproduction in the dengue vector *Aedes aegypti* (Role: PI). 2020. \$7,800.

USDA AFRI, 2018-67012-29991.† Innate immune mechanisms mediating colonization by beneficial gut bacteria in honey bees (Role: PI). 2019-2022. \$95,683.

†This award is a conversion of the remainder of my AFRI ELI Postdoctoral Fellowship. The award transfer was approved with permission to use the remaining funds to pursue related questions in mosquitoes.

NIH NIAID, 1R21AI138074-01. Exploiting gnotobiotic systems to examine microbiota acquisition in mosquitoes and for microbiome transplantations (Role: Co-I, Grant Hughes is PI). 2018-2020. \$440,319 (\$36,600 to Coon).

Sigma Xi, Grants-in-Aid of Research. 2015. \$500.

University of Georgia, Innovative and Interdisciplinary Research Grant. 2014. \$1,000.

**INVITED TALKS**

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2023	Gordon Research Conference on Animal-Microbe Symbiosis, Lucca (Barga), Italy
2020	Dairy Innovation Hub Virtual Dairy Summit
2020	Entomological Society of America Virtual Annual Meeting
2020	Biology Department Seminar, University of North Carolina at Greensboro
2020	Virtual Vector Biology 2020 Seminar Series (Organized by Ryan Smith and Kathryn Reif at Iowa and Kansas State Universities)
2020	Berlin Parasitology Seminar Series, Max Planck Institute for Infection Biology, Berlin, Germany
2020	Genetics Department Seminar, University of Wisconsin-Madison
2019	Entomology Department Seminar, University of Illinois at Urbana-Champaign
2019	Medical Microbiology & Immunology Department Seminar, University of Wisconsin-Madison
2019	33 <sup>rd</sup> Annual Kenneth B. Raper Symposium, Madison, WI
2019	Arthropod Genomics Symposium, Manhattan, KS
2018	Entomological Society of America Annual Meeting, Vancouver, BC, Canada
2016	XXV International Congress of Entomology, Orlando, FL
2015	Georgia Mosquito Control Association Annual Meeting, Athens, GA

- 2015 Keystone Symposium on The Arthropod Vector: The Controller of Transmission, Taos, NM  
 2014 Georgia Mosquito Control Association Annual Meeting, Athens, GA

### CONTRIBUTED PAPERS

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- 2017 Entomological Society of America Annual Meeting, Denver, CO  
 2015 Entomological Society of America Annual Meeting, Minneapolis, MN  
 2015 Gordon Research Conference: Animal-Microbe Symbioses, Waterville Valley, NH  
 2014 Entomological Society of America Annual Meeting, Portland, OR  
 2014 Molecular Parasitology and Vector Biology Symposium, Athens, GA  
 2013 Entomological Society of America Annual Meeting, Austin, TX  
 2013 Molecular Parasitology and Vector Biology Symposium, Athens, GA  
 2012 Entomological Society of America Annual Meeting, Knoxville, TN

### TEACHING

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#### *Courses Taught:*

- Physiology of Insects (ENTOM 321, 3 cr.), University of Wisconsin-Madison. Spring 2020, 2021.  
 Tools for Effective Science Communication (ENTOM 875, 2 cr.), University of Wisconsin-Madison. Fall 2020.  
 Symbiosis and Ecological Relationships in Nature (FYOS 1001, 1 cr.), University of Georgia. Fall 2013.

#### *Guest Lectures:*

- Microbial Symbiosis (MICROBIO 710), University of Wisconsin-Madison. Spring 2021.  
 Topics in Biotechnology (MICROBIO 545), University of Wisconsin-Madison. Spring 2021.  
 Freshman Seminar in Genetics (GENE 155), University of Wisconsin-Madison. Fall 2020.  
 Plant-Insect Interactions (ENTOM 473), University of Wisconsin-Madison. Spring 2020.  
 The Microbiome of Plants, Animals, and Humans (MICROBIO 335), University of Wisconsin-Madison. Spring 2020, 2021.

#### *Training:*

- Participant, Discussion Project Virtual Pilot Series, Wisconsin Center for Education Research. Spring 2021.  
 Participant, Discussion Project Virtual, Wisconsin Center for Education Research. Fall 2020.

### STUDENT MENTORING

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#### *Postdoctoral Mentees:*

- Miguel Medina Muñoz. 2021-present.

#### *Graduate Students Advised:*

- Holly Nichols (UW Microbiology, Ph.D.). 2020-present.  
 Sebastián Díaz Zuleta (Visiting Scholar from the Universidad de Antioquia). 2020-present.  
 Andrew Sommer (UW Microbiology, Ph.D.). 2019-present.  
 Awarded Honorable Mention for NSF Graduate Research Fellowship application on 03/23/2021.

- Aldo Arellano<sup>§</sup> (UW Microbiology, Ph.D.). 2019-present.

<sup>§</sup>Supported by UW Biotechnology Training Program and SciMed Graduate Research Scholars Program, 2019-present.

Awarded NSF Graduate Research Fellowship on 03/23/2021.

Serena Zhao<sup>‡</sup> (UW Entomology, Ph.D.). 2019-present.

<sup>‡</sup>Supported by NSF Graduate Research Fellowship, 2019-2020.

NIH T32 Trainee, Parasitology & Vector Biology Training Program, 2020-present.  
Advanced to candidacy on 11/17/2020.

#### *Committees Served:*

Anna Gregory (UW Medical Microbiology and & Immunology, Ph.D.). 2021-present.

Michael Friedman (UW Forestry, Ph.D.). 2020-present.

Joseph Sardina (UW Genetics, Ph.D.). 2020-present.

Shannon Piper (UW Plant Pathology, Ph.D.). 2019-present.

#### *Undergraduate Students Advised:*

Tomi Akin-Olabiyi, UW-Madison NSF REU 'Biological Interactions' Program. 2021.

Jake DeWitte, UW-Madison, 2021-present.

Michael LeClaire, UW-Madison, 2021-present.

Daisy Chew, UW-Madison, 2021-present.

Journey Prack, UW-Madison, 2021-present.

Molly Sneller, UW-Madison. 2020-present.

Lalita Arzumanyan, UW-Madison BIOL 152 research project mentee. 2020.

Stephen Salisbury, UT-Austin Undergraduate Research Fellow. 2017-2019.

Michelle Miranda, UGA NSF REU 'Population Biology of Infectious Diseases' Program. 2016.

Kip Lacy, UGA CURO Scholar/Honors Thesis. 2015.

Sofia Bertoloni Meli, UGA NSF REU 'Population Biology of Infectious Diseases' Program. 2015.

Jacob Gafranek, UGA NSF REU 'Population Biology of Infectious Diseases' Program. 2014.

Victoria Knight, UGA NSF REU 'Population Biology of Infectious Diseases' Program. 2013.

#### *Training:*

Participant, Entering Mentoring Facilitator Training, University of Wisconsin-Madison. Spring 2021.

Participant, WISCIENCE Research Mentor Training, University of Wisconsin-Madison. Fall 2020.

### **PROFESSIONAL SERVICE**

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Grant Reviews: NSF IOS (2020), NASA Exobiology (2019)

Reviewer for *Mol. Ecol.*, *PLoS Negl. Trop. Dis.*, *Parasit. Vectors*, *ISME J.*, *Microbiome*, *FEMS Microbiol. Ecol.*, *mSphere*, *Sci. Rep.*, *PLoS One*, *Insect Mol. Biol.*, *J. Vector Ecol.*, *Acta Trop.*, *J. Appl. Ecol.*, *Insects*, *Pathogens*, *J. Exp. Biol.*, *Front. Zool.*, *Front. Microbiol.*, *Proc. Roy. Soc. B.*

Student Representative, Physiology, Biochemistry & Toxicology Section, Entomological Society of America. 2012-2014.

### **UW-MADISON SERVICE & OUTREACH**

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Bacteriology Department Representative, Faculty Senate. 2021-present.

Invertebrate Research Review Committee. 2019-present.

UW Science Expeditions (Campus Open House). 2021.

Reviewer for Dairy Innovation Hub Short-Term High-Impact Proposals. 2021.

Wednesday Nite @ the Lab. 2021.

Wisconsin Science Festival. 2020.

Darwin Day “Tree of Life” Exploration Station. 2020.

Reviewer for SciMed GRS Program. 2020, 2021.

Entomology Research Committee. 2019, 2020.

Reviewer for FY21 Hatch and McIntire-Stennis Proposals. 2019.

Entomology Search Committee for Professor in Epidemiology/Vector Ecology. 2019.

Women in Science Faculty Dinner. 2019, 2020.

Reviewer for UW2020: WARF Discovery Initiative (Round 5 Proposals). 2019.