**Jennifer R. Walker, PhD**

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**Education**

**Ph.D., Microbiology,** December 2002, University of Georgia, Athens, Georgia

Dissertation: *Improving the Stability of Bioactive Peptides Using Protein-based Motifs;* under mentorship of Dr. Elliot Altman

**B.S., Biology**, *cum laude***,** July 1996, University of Georgia, Athens, Georgia

**Teaching Experience**

**Senior Lecturer**, January 2020-present, University of Georgia, Microbiology Department, Department head: Dr. Aaron Mitchell

**Lecturer**, January 2016-2019, University of Georgia, Microbiology Department, Department head: Dr. Timothy Hoover

Course load: four sections per semester per academic year; 19-150 students per section

*Prokaryotic Biology* MIBO 4090/6090

* Majors required course co-taught with Dr. Tim Hoover to provide deeper insights into key components of prokaryotic physiology and genetic regulation
* Implemented iterative writing with final term paper, one-on-one feedback sessions on writing
* Created assignments for peer-reviewed paper analysis and oral presentations throughout semester

*Introduction to Microbiology* MIBO 3500 and MIBO 3500E

* Majors course redesigned to analyze case scenarios/peer-reviewed papers and encourage collaborative learning through regularly scheduled group activities with support of Microbiology Peer Assistants
* Invited guest speakers from industry, academia and government to present current research
* Created online lectures, learning objectives, exams, assessments, and group activities for up to 150 face to face and online students
* Correspond regularly with students via email, phone, and online video chat to personalize course
* Coordinate with up to four teaching assistants in creating and grading exams and assessments; coach teaching assistants to create online lectures and assessments

*Introduction to Microbiology with Health Perspective* MIBO 2500, MIBO 2500E, and MIBO 2500L

* Non-majors course designed with integrated medical case studies or peer-reviewed papers along with weekly small group activities supported by Microbiology Peer Assistants
* Provide assistance for coordinating graduate lab assistants in teaching weekly labs and handling student issues
* Collaborated with graduate students to create online instructional and lab technique videos to provide additional learning resources
* Created new inquiry-based lab experiments and curriculum for MIBO 2500L course
* Collaborated with Office of Biosafety to create online lab safety training for undergraduates taking microbiology labs

**Teaching Experience**

**Lecturer, continued**

*Departmental Teaching Workshop,* GRSC 7770

* + Present and discuss current pedagogical trends in higher education for graduate students preparing to be Teaching Assistants; up to 20 students per semester
  + Provide practice for active learning strategies, assessment and grading, study strategies, classroom management and peer observation in undergraduate courses

**Instructor,** part-time, Spring 2003- Fall 2015,University of Georgia, Microbiology Department and Gwinnett Campus

* Taught major (MIBO 3500, MIBO 3510L, GENE 3200) and non-major MIBO courses (MIBO 2500 and MIBO 2500L) and labs (BIOL); total 16 courses, ranged 15-240 students per course
* Managed 20+ teaching assistants for lab classes over this time period

**Current Departmental Activities**

**Undergraduate Program Coordinator**, Department of Microbiology, 2019-present

* Provide effective and timely communication with students regarding events and opportunities
* Bring new initiatives to the major such as internships, peer tutors, and peer learning assistants
* Connect undergraduates to faculty and graduate students to gain new insight into the microbiology field through research opportunities for credit
* Develop teaching effectiveness assessment tools and peer observation protocols for faculty
* Promote microbiology major through visual displays, departmental website, information sessions, and videos
* Coordinate biannual graduation ceremonies for Spring/Summer and Fall graduates

**Academic Program Coordinator,** Department of Microbiology, 2019-present

* Collect and report graduate and undergraduate program learning outcomes assessment results to college

**Coordinator,** Undergraduate Affairs Committee, Department of Microbiology, 2016-present

* Directed the revision of undergraduate program’s Student Learning Outcomes in 2021 to emphasize communication, writing, and data analysis skills
* Directed the development of departmental framework of learning goals for majors and non-majors introductory microbiology courses aligned with American Society of Microbiology guidelines
* Assisting in creating concept surveys to help faculty gauge students’ foundational knowledge before and after taking microbiology courses

**Creator and current mentor** Microbiology Peer Assistants program, Department of Microbiology, 2017-

present

* Created and currently assisting the recruitment and training of undergraduate peer assistants for microbiology introductory courses; overseeing 6-9 peer assistants in four sections of courses
* Weekly and monthly meetings with peer assistants to prepare for in-class activities and best pedagogical practices in the classroom

**Contributions to University and Departmental Teaching and Mentoring**

**Recruit and maintain** microbiology undergraduate students for Division of Academic Enhancement peer tutoring program

**Mentor and assist** undergraduates in professional school applications with letters of recommendation

**Co-advisor** with Dr. Tim Hoover for UGA American Society of Microbiology undergraduate chapter

**Contributions to University and Departmental Teaching and Mentoring, continued**

**Mentor** graduate students on teaching certificate projects: Michael Mills (2021), Andrew Wiggins (2020), Julie Grainy and Amanda Howard (2019), Caitlin Reeves (2018) and Joe Worth (2019)

**Assistance and feedback** each semester for graduate students’ guest lecturing or teaching as instructor of record, MIBO 2500 and MIBO 3500

**Guest speaker**, Future Faculty Fellows program annually sponsored by Center for Teaching and Learning, UGA

**Member**,search committee for tenure-track, non-tenure track, and staff positions within the Microbiology Department and Center for Teaching and Learning

**Affiliations**

**Member** Instruction Faculty Advisory Board for Vice-President of Instruction, UGA, 2023-2024 – faculty panel that provides guidance on a wide array of instructional activities and programs

**Member,** University of Georgia Teaching Academy, inducted 2023- Honorary and service-oriented collective of faculty that celebrate and promote teaching excellence; established at the University of Georgia as part of the Teaching Academy Campus Program initiated by the Carnegie Foundation for the Advancement of Teaching and the American Association for Higher Education.

**Member,** Affiliate Faculty, Scientists Engaged in Educational Research (SEER), UGA – UGA faculty who lead educational research aimed at improving student learning across STEM disciplines by developing collaborations among faculty, postdocs, graduate students, undergrads, and administrators

**Member,** American Society for Microbiologyand Southeastern Branch

**Presentations**

Lilly Teaching Conference, June 2022, **co-presenter** with Julie Grainy, *Incorporating Student Voice into Curriculum and Course Redesign*

American Society for Microbiology Conference on Undergraduate Education, June 2021, **co-presenter** with Rachel Ivester, *Examining student perception and engagement in non-Microbiology labs*

Association of College and University Biology Educators annual meeting, October 2019**, presenter**, *A Concept Framework for Improving Curriculum Design and Student Metacognition*

Innovations in Teaching Conference, Athens, GA, October 2018, **co-presenter** with Amanda Howard, *A Concept Framework for Improving Metacognition*

University System of Georgia’s Teaching and Learning Conference, Athens, GA, March 2018, **co-presenter** with Julie Grainy, *Crafting Concept Inventories to Assess Student Misconceptions and Prior Knowledge*

Innovation in Teaching Conference, Athens, GA, October, 2017, **speaker**, *How I Got Into SoTL (and why I stayed)*

American Society for Microbiology Conference on Undergraduate Education, Washington D. C.,July 2016, **presenter**, *Best Small Class Teaching Practices*

**Awards and Fellowships**

Aspire Fellows Program member, 2021-2022 – creation of signature project, “Enrichment of the Microbiology B.S. Program” with support from the Office of Senior Vice President for Academic Affairs and Provost

Teaching Academy Fellows Program member, 2018-2019 – funded by the Office of the President for mentoring and instructional support of early career faculty

Sandy Beaver Teaching Award, 2018 – Franklin College of Arts and Sciences, UGA

**Awards and Fellowships, continued**

Online Learning Fellows, 2016-2017 - awarded for major revision of online introductory microbiology course, MIBO 3500E

Travel grant recipient for American Society for Microbiology Conference on Undergraduate Education, Washington D. C., July 2016

**Community Service**

**Outreach** to North Oconee High school’s honors biology class, Mr. Colby Drake; guest lecture on water quality in Oconee County, March 2020

**Outreach** at Malcom Bridge Elementary public school fifth grade – coordinated and directed with six undergraduate students to conduct interactive microbiology sessions, Bogart, Georgia, October 2019

**Service** to Malcom Bridge Middle School’s FFA to provide science mentoring for AgriScience Fair projects, Bogart, Georgia, Spring 2018

**Service** to FFA’s National Convention’s AgriScience Fair as judge, Indiana, October 2017, June 2022

**Outreach** at Malcom Bridge Elementary public school second grade – coordinated and directed with six graduate students to conduct interactive microbiology sessions, Bogart, Georgia, September 2016

## **Research Experience**

## **Post-doctoral Research,** Zolaris Biosciences, LLC, Athens, Georgia 2003-2004

* Research focus: fusion protein purification, peptide half-life assays and antimicrobial peptide screens
* Developed student projects and trained undergraduates in laboratory skills

**Graduate Research Assistant,** Microbiology Department, University of Georgia, 1998- 2002

* Developed and executed variety of projects including: Uptake of inhibitory peptides by MRSA and uptake of peptides by Gram negative organisms by use of biotin
* Developed and assisted undergraduate student projects

**Research Technician III**, July 1996-March 1998

**Publications, Patent, and Editorship**

**Co-author**, Anderson’s *Microbiology: A Human Perspective,* McGrawHill, 11th edition, to be released 2024, revised and edited four of twenty nine chapters

**Contributing editor**, Norman-McKay, L., 2018. *Microbiology: Basic and Clinical Principles*, first edition, San Francisco, Pearson; ISBN 13: 978-0-13-479620-8; contributed five of twenty two chapters

E. Altman and **J. R. Walker**, 2009. Biotin facilitated transport in Gram-negative bacteria. US patent number 7,601,511

**J. R. Walker** and E. Altman, 2004. Biotinylation Facilitates the Uptake of Large Peptides by *Escherichia coli* and Other Gram-Negative Bacteria, App. Environ. Micro. 71:1850-1855

**J. R. Walker**, R. Altman, J. W. Warren, and E. Altman, 2003. Novel protein protective motifs, J.

Pept. Res. 62:214-226

**J. R. Walker**, J. R. Roth, and E. Altman, 2001.An *in vivo* study of novel bioactive peptides which can inhibit the growth of *Escherichia coli*. Amer. Pep. J. 58:380-388.

**Publications, Patent, and Editorship, continued**

R. R. Gokarn., J. D. Evans, **J. R. Walker**, S. A. Martin, M. A. Eiteman, and E. Altman, 2001.

The physiological effects and metabolic alterations caused by the expression of *Rhizobium etli*

pyruvate carboxylase in *Escherichia coli*. App. Micro. Biotech. 56:188-195.

J. W. Warren, **J. R. Walker**, and E. Altman, 2000. Construction and characterization of a highly

regulable expression vector, pLAC11 and its multipurpose derivatives, pLac 22 and pLac 33.

Plasmid 44:138-151.