

SABRIYA N. ROSEMOND, PHD
DIRECTOR OF THE LEARNING ASSISTANT (LA) PROGRAM
ASSISTANT PROFESSOR OF PRACTICE IN BIOLOGY
VANDERBILT UNIVERSITY

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EDUCATION

- PhD** University of California, Berkeley 2014
Molecular and Cell Biology
Dissertation: “Investigation of the mechanism of coupling between the two domains of T4 lysozyme: the role of an alpha helix in coupling distant regions of a protein”
Thesis Advisor: Susan Marqusee, MD, PhD
- BS** Hampton University, BS Biology 2008
Biology, Concentration in cell and molecular biology
Graduated Magna Cum Laude

TEACHING EXPERIENCE

- CLEARly Ohio** **Winter Term 2022**
Oberlin College
Co-instructor
- Co-designed and led a course designed to support students to learn how to use Excel and Google Sheets to organize and analyze data using data available about Ohio including
 - Designed activities to support students to collaborate on a research project related to data related to Ohio—including Census, GIS, and public health-related data.
- FYSP 090: According to Science** **Fall 2021**
Oberlin College
Instructor
- Led 13-person discussion-based course that introduced students two science as a community of practice, engaged students in interrogating structures within science and science learning environments that provide or limit access to participation in science, and the relationship between science and society, with specific attention paid to issues of trust and harm

- This course was both a writing and quantitative formal reasoning-focused course that engaged students in reading primary and secondary literature, with in-class activities to support data literacy and informal communication skills.

SMT 3931: LA Seminar

Fall 2020 and Spring 2021

Florida International University

Co-instructor

- Collaboratively co-taught pedagogical seminar that introduces learning assistants (LAs) to evidence-based teaching practices, and aspects of teaching and learning related to cognitive and affective teaching, using active and collaborative teaching methods and tools for 40 students
- Transitioned original in-person seminar materials into materials appropriate for remote teaching to be used by 9 instructors

Bio 202: Microbiology

Fall 2019

Davidson College

Instructor

- Taught microbiology course that focused on the central dogma, metabolism of microbes across all domains of life, infectious diseases, that integrated primary research articles and active learning
- Collaborated with departmental staff and other Davidson College campus partners from the Physical Plant, the Office of Sustainability, and the Davidson Farm to develop two inquiry-based labs related to the microbiome of sports fields and compost

Bio 113: Integrated Concepts I

Spring 2019

Davidson College

Instructor

- Taught a data-centered introductory cell and molecular biology course using the Integrated Concepts in Biology Textbook
- Led discussions on the relationship between the science community and our communities-at-large including eugenics, GMO, and the importance of science communication
- Led students in an inquiry-based lab course
- Designed a science communication assessment to support students to develop flexible communication skills

MCB 15: The Public Understanding of Science

Spring 2016

University of California, Berkeley

Co-Instructor and Co-Designer

- This course is required for students in the Biology Scholars Program and focused on the processes of science and the gap in understanding between the science community and the general public

- Collaborated with graduate students and professor of record on course curriculum and selection of invited speakers
- Used active learning techniques and primary literature to creatively teach topics including diversity in STEM, stakeholders, and what it means to use evidence for decision-making

IDS 96: Studying the Biological Sciences

Fall 2015

University of California, Berkeley

Co-Instructor

- This course is required for students in the Biology Scholars Program and focused on navigating science as an undergraduate, professional development, and barriers that inhibit student success in science.
- Collaborated with instructor of record to cover topics including transferable skills, how to get research experience, and science identity

QB3 Lab Fundamentals Bootcamp

June 2014 and June 2013

University of California, Berkeley

Lead Instructor and Co-Instructor

- Lead instructor
 - Led organizational meetings with seven graduate student and postdoctoral instructors
 - Provided support and assistance for co-instructors
 - Designed and implemented curriculum covering basic molecular biology lab concepts and techniques, lab culture, and etiquette for 16 undergraduates with little to no research experience in collaboration with two postdoctoral researchers
- Co-instructor
 - Collaborated with two graduate students to teach a class of 21 predominately community college students basic molecular biology techniques

MCB 102: Survey of Biochemistry

Spring 2011

University of California, Berkeley

Graduate Student Instructor

- Led two weekly discussion sections of 30 students each
- Integrated active learning techniques to support student learning
- Designed and administered biweekly quizzes
- Reviewed key topics in metabolism, molecular biology, and the biochemistry of the central dogma

Bio 1A: Introduction to Biology

Fall 2009

University of California, Berkeley

Graduate Student Instructor

- Led three weekly discussion sections of 30 students each

- Reviewed key concepts of introductory biology including cell biology, biochemistry and human physiology

PROGRAM MANAGEMENT AND DEVELOPMENT

HHMI Inclusive Excellence (IE) Program Leadership Team June 2021-June 2023

Oberlin College

Program Director June 2022- June 2023

- Created and facilitated an interdepartmental working group of STEM faculty focused on DEI. This work led to the development of a pedagogy repository to be launched Fall 2023
- Collaborated with facilitator on syllabus and other supporting materials for final DART
- Managed reporting to HHMI and stakeholders

Leadership team member

- Collaborated with members of faculty and staff on leadership team to move IE efforts forward.
- Led redesign of Departmental Action and Reflection Team (DART) syllabus
- Supported DARTs in their work to create more equitable and inclusive departments
- Led shift in Student Leadership Committee's (SLC) structure towards more student facing initiatives
- Co-organized and led share-outs of progress of IE efforts with campus stakeholders

CLEAR Director

June 2021-June2023

Oberlin College

- Managed a peer-academic support center which included 50+ students supporting 30+ courses each semester. This included recruitment, training, and administrative support
- Managed and mentors STEM Fellow in their work to support (SLC efforts) and CLEAR mentors
- Collaborated with campus partners on DEI, faculty development, and academic support efforts across campus

Assistant Director of the Learning Assistant (LA) Program January 2020-May2021

Florida International University

- Collaborate with LA program team on administration of program primarily focused on aspects of the program related to faculty support and development
- Collaborated with LA program Director and psychology faculty to design and co-facilitate Remote Teaching with LAs workshop for over FIU faculty and staff focused on collaborative active learning in synchronous and asynchronous modalities
- Spearheaded and collaborated on the development of a reflective teaching toolkit for faculty-LA teams that focuses on developing a strong classroom community. Piloted in Fall 2020.

Co-organizer

November 2019

ABRCMS 2019 Trip

Davidson College

- Wrote an internal grant proposal to fund a trip for 10 Davidson students to attend the 2019 ABRCMS meeting
- Managed budget for trip expenses
- Developed and co-reviewed applications from students

QEP/FIRST (HHMI IE3) Advisory Board

May 2019

Davidson College

- Collaborated on the planning of a four-day workshop intended to launch a faculty-learning community (FLC) comprised of six Davidson faculty from a range of disciplines.
 - Collaborated with leadership to design activities and talks for those in the learning community and the broader campus community
 - Provided consultations for two faculty members for their upcoming courses
 - Co-facilitated and participated in discussions with the faculty in the learning community about challenges and opportunities when integrating inclusive pedagogy
- Participated in monthly meetings with FLC to provide support and guidance for their course transformations

Research Coordinator

August 2015 - February 2017

Biology Scholars Program

University of California, Berkeley

- Advised undergraduate students interested in research and research careers
- Managed three year-long biology research programs for 16 undergraduate student researchers
- Facilitated professional development workshops
- Collaborated with program director and staff to implement program-wide efforts

Synberc Diversity Fellow

September 2013 - May 2015

Synthetic Biology Engineering Research Center (Synberc)

University of California, Berkeley

- Collaborated with leadership to develop and implement diversity and initiatives
- Reported the center's diversity and inclusion efforts to the NSF in the annual report and during site visits
- Mentored undergraduates in the Synberc Scholars Program
- Co-organized the inaugural Expanding Potential: A workshop on navigating hurdles faced by women in STEM fields.

Everything you need to know about going to graduate school Workshop

- A workshop to provide predominately marginalized undergraduates with information about preparation for and experiences in graduate school in STEM
 - Panelist and Co-organizer: University of California, Berkeley, April 2015
 - Panelist: Agnes Scott College February 2014
 - Panelist: Prairie View A&M University, November 2012
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RESEARCH EXPERIENCE

Visiting Assistant Professor of Biology and Consortium for Faculty Diversity

Postdoctoral Fellow

July 2018-January 2020

Davidson College

Mentor: A. Malcolm Campbell, PhD

- Investigating an active learning, data-centered introductory biology course and inquiry-based lab on students affective learning, conceptions of science and learning, and intentions to persist in STEM and STEM-related careers.

Postdoctoral Fellow

August 2015 - July 2018

University of California, Berkeley

Mentor: Angelica Stacy, PhD

- Developed and implemented three iterations of a holistic redesign of a gateway chemistry course to support students traditionally excluded from STEM.
- Collaborated on a three-person design team with chemistry education graduate student and chemistry professor
- Collected survey and interview data to understand the role the course played in supporting students' relationship with science.
 - Preliminary findings from a comparative study suggest that students in the redesigned course had a greater sense of belonging and self-efficacy than students in the traditionally designed sections of the course, and that many came to see themselves as “good” at chemistry.

Postdoctoral Fellow

August 2014 – August 2015

University of California, Berkeley

Mentor: Susan Marqusee, MD PhD

- Utilized biochemical and biophysical methods to optimize recombinant expression of an enzyme in an engineered metabolic pathway designed to synthesize glucaric acid, a compound can be used for a variety of industrial and health-related applications.

Graduate Student Researcher

August 2008 - August 2014

University of California, Berkeley

Mentor: Susan Marqusee, MD PhD

- Investigated cooperative protein folding, thermodynamic coupling of distant regions of a protein, using the model protein T4 Lysozyme and a number of biochemical and biophysical techniques
 - Data suggest a model where some proteins have an intrinsically unstable helical sequence can play a critical role in coupling disparate regions of a protein.

Undergraduate Researcher

June 2007 - August 2007

University of California, Berkeley
NSF Research Experience for Undergraduates
Mentor: Iswar Hariharan, PhD

- Investigated pathways that cause cell competition- a phenomenon thought to play a role in cancer biology by using a mosaic assay and immunohistochemistry

Lab Assistant

September 2006 - June 2008

Hampton University
Mentor: Eric Wooden

- Monitored water quality and biodiversity in the Hampton River.
- Built and maintained seines at various sites along the river.

Undergraduate Researcher

June 2006 - August 2006

Davidson College
Mentor: A. Malcolm Campbell

- Collaborated with a team of undergraduates in biology and math to solve "The Burnt Pancake" math problem using bacterial machinery.
- Presented findings at the third annual iGEM competition at MIT

PUBLICATIONS

- **Rosemond, S. N.***, Palmer, E. S. *, Wong, K. C. Y., Murthy, V., & Stacy, A. M. (2020). Designing to Disrupt Traditional Conceptions of Scientific Competence. *Journal of College Science Teaching*, 50(1), 11–20.
- **Rosemond, S. N.**, Hamadani, K. M., Cate, J. H.D., & Marqusee, S. (2018). Modulating long-range energetics via helix stabilization: A case study using T4 lysozyme. *Protein Science* doi: 10.1002/pro.3521.
- Haynes, K.A., Broderick, M.L., Brown, A.D., Butner, T.L., Dickson, J.O., Harden, L., Heard, L.H., Jessen, E.L., Malloy, K.J., Ogden, B.J., **Rosemond, S.**, Simpson, S., Zwack, E., Campbell, A.M., Eckdahl, T.T., Heyer, L.J., & Poet, J.L. (2008). Engineering Bacteria to Solve the Burnt Pancake Problem. *Journal of Biological Engineering* Vol. 2(8):1-12
- Haynes, K.A., Broderick, M.L., Brown, A.D., Butner, T.L., Harden, L., Heard, L.H., Jessen, E.L., Malloy, K.J., Ogden, B.J., **Rosemond, S.**, Simpson, S., Zwack, E., Campbell, A.M., Eckdahl, T.T., Heyer, L.J., & Poet, J.L. (2007). Computing With Living Hardware. *IET Synth. Biol.*, 1-2, pp.44-47

MANUSCRIPTS IN PROGRESS

- Thurtle-Schmidt, D., **Rosemond, S. N.**, El Bejjani, R., Sarafova, S., Campbell, A. M. (2019) Introductory Biology Laboratory Course Uses Iteration and Relevancy to Scale Authentic Research Experiences for All Students.

INCLUSIVE PEDAGOGY WORKSHOPS

- **Rosemond, S.N.** (May 2019) Beyond the Numbers: Course (re)design centering student voice. FIRST/QEP Faculty Learning Community Workshop. Davidson College.
- **Rosemond, S.N.** (November 2018) On the Road to New Meanings and Possibilities. FIRST STEM Social Hour. Davidson College.
- Palmer, E.S.*, **Rosemond, S.N.***, Stacy, A*. (February 2018) A Practice-Based Approach to Designing Equitable Undergraduate Science Courses. UC Berkeley Academic Innovation Studio Workshop.
- Palmer, E.S.*, **Rosemond, S.N.***, Stacy, A. (January 2018) A Practice-Based Approach to Designing Equitable Undergraduate Science Courses. UC STEM Faculty Learning Community Webinar.

POSTERS

- Campbell, A.M.*, **Rosemond, S. N.**, El Bejjani, R. Sarafova, S., Thurtle-Schmidt, D.M. (2019) Introductory Biology Laboratory Course Uses Iteration and Relevancy to Scale Authentic Research Experiences for All Students. American Society for Cell Biology Annual Meeting.
- **Rosemond, S.N.***, Palmer, E.S.*, Stacy, A. (2017). The Classroom as an Intervention: Designing Courses to Disrupt Traditional Views of Competence. Association of American Colleges and Universities 2017 Transforming STEM Higher Education "Discovery, Innovation, and the Value of Evidence"
- **Rosemond, S.N.***, Hamadani, K. M., Cate, J. H.D., & Marqusee, S. (2014). Context-Dependent Folding: Sequence-Encoded Strategies for Stabilizing a Protein Subdomain in Isolation. Biophysical Society Annual Meeting.
- **Rosemond, S.N.***, Hamadani, K. M., Cate, J. H.D., & Marqusee, S. (2013). Local Contacts vs Energetics: Exploring the Misleading nature of Modular Folding. Protein Folding Consortium.
- **Rosemond, S.N.***, Hamadani, K. M., Cate, J. H.D., & Marqusee, S. (2012). Why There's a Helix at the End of the Tunnel: Exploring the Role of Structure in the Ribosome's Exit Tunnel. Protein Folding Consortium.
- **Rosemond, S.N.***, Hamadani, K. M., Cate, J. H.D., & Marqusee, S. (2011). Stabilization of the N-terminal Subdomain of T4 Lysozyme by α -helical Propagation. Protein Folding Consortium.
- Zwack, E., Simpson, S., Harden, L., **Rosemond, S.**, Haynes, K.A., Heyer, L.J., Campbell, A.M. (2006) E. HOP: A Bacterial Computer to Solve the Pancake Problem. iGEM Jamboree.

HONORS AND AWARDS

Consortium for Faculty Diversity in Liberal Arts Colleges
Postdoctoral Fellowship
2018

TRAININGS

IDEAL Center Equity Institute

August 2022

Science Museum of Minnesota

- A week-long virtual workshop that introduces faculty and staff to equitable discussions structures and systems of opposition and shape our country and science learning environments.

SCIENCE EDUCATION PARTNERSHIP AND ASSESSMENT LAB (SEPAL) WINTER TEACHING INSTITUTE

January 2019

San Francisco State University

Leader: Kimberly Tanner, PhD

- A week-long workshop to learn core elements of scientific teaching including assessments, active learning, classroom evidence collection, and diversity and equity