Mentoring at Critical Transitions (MCT) 2015-16 Fellowship Awardees

Faculty Mentor: Assistant Professor Gail Bornhorst
Graduate Student Mentees: Yamile Mennah, Sarah O’Meara and Krista Drechsler
Academic Discipline: Biological and Agricultural Engineering
Title: Enhancing teaching and presentation skills using microteaching principles

Abstract: The ability to deliver teaching lectures and research presentations is a crucial skill necessary in graduate school and in all professional careers. However, the opportunities to receive feedback on lectures and presentations is often scarce. As such, the proposed project aims to use microteaching principles to improve teaching and research presentations for my three graduate mentees. The project will be divided into three modules; each module will be completed during an academic quarter. The three modules will be focused on preparing a teaching lecture for a laboratory course, preparing a short research (conference) presentation, and preparing a research seminar. For each module, microteaching principles will be utilized to plan, deliver, receive feedback, re-plan, re-deliver, and receive final feedback on each presentation. By use of this technique, graduate mentees will have the unique opportunity to receive meaningful feedback from both myself and their peers on different types of research and teaching presentations and be given the opportunity to make modifications and improve their presentations. Participation in this project will be crucial to the success of my graduate mentees both in graduate school and in their future careers.

Faculty Mentor: Associate Professor Annaliese Franz
Graduate Student Mentees: Brittany Armstrong, Kayla Diemoz, Austin Kelly, Julia Jennings and Kelsey Mesa
Academic Discipline: Chemistry
Title: Go Team! Mentoring for Success in Writing, Presenting, and Professional Development

Abstract: This proposal describes a plan to strengthen the current mentoring relationship between Prof. Franz and PhD mentees in her research lab while specifically establishing a framework for each student to create a mentoring team to enhance professional and career development opportunities. Franz will guide each mentee to find at least one additional professional mentor to build a mentoring team. As part of this plan, we will designate part of an existing research meeting to share resources and discuss mentoring and professional development topics, including Individual Development Plans, recent MCT workshops, and articles such as "Making the most of Mentors: a guide for Mentees." In parallel to establishing a mentoring team, this proposal also focuses on mentoring to establish a regular writing practice to enhance writing and publications, and to practice presentation skills to prepare students to present at conferences, specifically including the Spring 2016 National Meeting of the American Chemical Society. The proposal includes plans for evaluating the effectiveness of mentoring from the perspective of the mentee adapted from Berk's "Mentoring Effectiveness Scale." The proposed funding will help support five participating mentees.

Faculty Mentor: Professor Carol Hess
Graduate Student Mentee: Claire Thompson
Academic Discipline: Music
Title: Mentoring for Graduate Students in the Arts
Abstract: At UC Davis, many resources on careers and internships are available to graduate students in the STEM disciplines (Science, Technology, Engineering, Mathematics). When comes to STEAM, however (“A” standing for “Art”), the situation is far more challenging. Students in the arts confront a shrinking pool of jobs and grants, especially since the economic crisis of 2008. Programs in my discipline, musicology, have traditionally directed graduate students toward careers in academia. Nowadays graduate programs must do more, however. We must not only introduce students to the very best strategies for the academic job search but also help them explore other, equally gratifying, career possibilities. Before beginning my academic career I worked in two arts-related fields, gaining valuable experience that subsequently enhanced my mentoring as an academic. Thanks to the Mentoring at Critical Transitions program at UCD, I have devised a mentoring program for graduate students in music at UC Davis that draws on existing structures in the department. The first-year pilot plan described below can eventually be extended to students in other disciplines in the arts.

Faculty Mentor: Associate Professor Kent Leach
Graduate Student Mentee: Debika Mitra
Academic Discipline: Biomedical Engineering and Orthopedic Surgery
Title: Active strategies for student integration into research environments in graduate school

Abstract: Many students matriculate to graduate school with a clear idea of their future research, yet an equal number of students have several areas that excite them. Regardless, the majority of students arrive in need of identifying a major professor to provide the desired mentoring environment and research experience. The Graduate Group structure at UC Davis provides countless opportunities for incoming students, but there is a need to provide mechanisms for students to effectively discover the breadth of potential projects and mentors available at this critical transition time of starting graduate study. We propose a new program to mentor and guide students to 1) learn about areas of research available at UC Davis during their graduate career; and 2) select a laboratory and major professor as soon as possible upon matriculation to set them on a successful path in graduate study. The program builds upon existing infrastructure in the Biomedical Engineering Graduate Group (BMEGG) and will be evaluated in the short- and long-term with quantifiable metrics to discern the success of this approach. We anticipate that participating students will advance their knowledge of the research and expertise at UC Davis, enjoy more productive mentoring experiences in the classroom and laboratory, demonstrate greater retention in their degree, and achieve greater productivity in their research program.

Faculty Mentor: Professor Terrence Nathan
Graduate Student Mentee: Will Turner IV
Academic Discipline: Atmospheric Science
Title: Collaborative Mentoring in STEM Research

Abstract: A collaborative mentoring plan is presented that is based on Hugh Kearns’ MCT seminar, Why Don’t They Write? Mentoring Graduate Students to Productive Writing. Building on techniques presented by Kearns, the plan transcends writing and considers mentoring in the broader context of communication: written, oral and visual. The mentoring plan pivots on three principles: practice, evaluation and challenge. To ensure progress, a schedule is presented that balances the responsibilities associated with the mentoring plan with the academic and research responsibilities of the mentees. Among the outcomes of the mentoring plan will be two “deliverables.” The first will be completion of a
research paper by each team member that will be submitted to a leading journal. The second will be a
document that will be submitted to Graduate Studies with the tentative title: *A Road Map for
Collaborative Mentoring in Stem-Based Research*. The hope is that Graduate Studies will make the
document broadly available so others will be encouraged to build on what we have learned about the
mentor-mentee experience.