How to succeed in science: open discussions with successful, established biomedical scientists

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Abstract

This is an exciting time for biomedical research with new innovations and discoveries that promise significant benefits to our society. Unfortunately, given the downward trend in funding for research in the United States, pursuing an independent career as a biomedical scientist has never been more difficult. The present proposal aims to begin a dialogue between distinguished senior scientists in the field of biomedical engineering from peer institutions and undergraduate and graduate students and early career faculty from the University of Miami. The dialogue will focus on how students (especially women and minorities) and early career scientists can achieve success in today’s difficult funding climate. The support from SEEDS “You Choose” will be utilized to invite established women and minority scientists to the University of Miami for seminars and discussion sessions.

Activity goals

Students contemplating pursuing the long journey of an academic career in the biomedical sciences or early career faculty who have already embarked on one require mentoring and support. Distinguished scientists, with significant experience in mentoring students and young scientists, especially women and minorities, can provide unvarnished advice on how to succeed. Scientists with successful careers will be invited to the University of Miami for a presentation describing their research. In addition, roundtable discussions between the invited speaker and our students and faculty will look at strategies to help the young scientists develop new skills, how to approach the funding situation, ways to handle difficult situations and steps to take for successful independent careers. These discussions will highlight advice on the best approaches to start scientific careers on the right foot. In this project, we will also attempt to encourage an honest discussion of why so few women and minority scientists successfully pursue leadership positions in the realm of academia. The discussions with scientists who have maintained successful, well-funded research careers, while chairing academic departments or leading professional societies, will provide guidance and encouragement to individuals in pursuit of a career at higher levels of academia.

We have identified several individuals who we feel could provide meaningful advice on all these topics for our students and faculty. Two suggested candidates are:

Lori A. Setton, Ph.D is the William Bevan Professor of Biomedical Engineering at Duke University. Her research focuses on biomechanics and mechanobiology of cartilaginous tissues, with more than 130 published peer-reviewed journal articles. She is the recipient of the Presidential Early Career Awards for
Scientists and Engineers (PECASE) (1997) from the National Science Foundation, the Van C. Mow Medal from the American Society of Mechanical Engineers (2007), and the Dean's Award for Excellence in Mentoring from Duke Graduate School (2004).

*Dora Angelaki, Ph.D.* is the professor and Wilhelmina Robertson Chair in Neuroscience at Baylor College of Medicine. Her research focuses on systems neurosciences with goals to better understand multisensory integration that is needed for self-motion perception, spatial orientation and the control of movement and she has published more than 175 peer-reviewed journal articles. She is an elected member of the National Academy of Sciences and American Academy of Arts and Sciences and is currently serving on five NIH RO1s as the principal investigator leading a team of more than 20 graduate students, postdoctoral fellows and scientists.

**Personal goals**

As young scientists, we have realized first-hand that it is difficult to maintain an active biomedical research program, while mentoring graduate and undergraduate students and dedicating significant time to teaching. We hope to learn the proper work-life balance and strategies to maintain successful research in the difficult funding climate. Additionally we hope to develop and nurture links with leading researchers and institutions in the biomedical sciences. We strongly believe that these seminars and discussion sessions will provide the best environment for us to foster these relationships and gain insight into the important skills needed to be successful researchers and educators.

**Budget and justification**

We request a budget of $3000 to invite two leading scientists to the University of Miami. Each invited speaker will be reimbursed for the airfare (up to $500), one night stay (up to $200), honoraria ($300). In addition, we request $250 for lunch with each invitee (during roundtable discussion) and $250 for refreshments per seminar.