**COFFEE WITH THE PROS: NSF CAREER**

**March 9, 2018**

**AGENDA:**

**9:30-9:40AM** Introduction (Proposed Enhancement)

**9:40-10:20AM** Panel Discussion

Each panelist should take 5-10 minutes to discuss their experiences with NSF CAREER. Proposal Enhancement will moderate as needed.

Questions to consider:

•        Your project itself—how broad was the scope of research? What did you propose for educational activities? (these are two questions OPE gets frequently from new applicants)

•        Your experience with the application process (e.g. what kind of feedback did you get on strongest/weakest elements of your proposed work? If you resubmitted successfully, what did you change?)

•        Any experiences as a reviewer for CAREERs

**10:20-10:50AM** Audience Q&A

**Panelist biographies:**

**Jill Anderson** is Assistant Professor in the Department of Genetics. Her research in evolutionary genetics investigates constraints on adaptation in the context of global change using a species of mustard (Boechera stricta) native to the U.S. Rocky Mountains. Her CAREER award allows her to investigate whether plants will be able to survive on a warming planet using this mustard as a model. Her lab also investigates seed dispersal by frugivorous fish in tropical South America, which relates to the ecological and evolutionary consequences of overexploitation of fruit-eating fish.

**Amy Ellis** is Associate Professor in the Department of Mathematics and Science Education in the College of Education. She studies adolescent student reasoning, particularly as it relates to algebra, generalization and proof, as well as teachers’ pedagogical practices aimed at fostering meaningful student engagement. Her research investigates how reasoning with quantities supports students’ understanding of big ideas in algebra. Her CAREER award explored the hypothesis that a curricular focus on quantitative reasoning in middle grades mathematics can enhance development of student skill and understanding about mathematical proof.

**Paula Lemons** is Associate Professor in the Department of Biochemistry and Molecular Biology. She conducts research that aims to improve science education across the nation while helping students at UGA develop independence, teamwork and problem solving skills. She serves as director of UGA’s Scientists Engaged in Education Research Center (SEER), which aims to promote education research in science, technology, engineering and math (STEM). Her CAREER project focuses on understanding problem-solving skills among biology undergraduates

**Deepak Mishra** is Associate Professor in the Geography Department. He is also affiliated with the Center for Integrative Conservation Research. His research centers around remote sensing applications, and encompasses the natural resources, geography, ecology, and environmental sciences. He is particularly interested in monitoring coastal processes and environments under a changing climate. He has been PI on a variety of NSF grants including the RAPID and EAGER funding mechanisms. He was the senior panel member in November 2015 for the GSS (Geography and Spatial Sciences) program (both Traditional and *CAREER* proposals) atNSF.

**Andrea Sweigart** is an Associate Professor in the Department of Genetics.  Her research investigates the genetic basis of speciation in the Mimulus guttatus species complex, a group of closely related, ecologically diverse wildflowers that exhibit tremendous variation in reproductive isolation between populations and species. She received a CAREER award to pursue this research. She also won the *Presidential Early Career Award for Scientists and Engineers* (*PECASE*), which is the highest honor bestowed by the United States government on outstanding scientists and engineers in the early stages of their research careers.

**DISCUSSION**

**Panelists’ Presentations**

**Paula Lemons:**

* ‘Tooled up’ on grants in 2013—took OIBR grant writing 6-month course
* Feedback from about 10 people over the 3 months of writing proposal
* CAREER gave opportunity to extend work in a new direction
* 5 objectives, 3 of them devoted to research and 2 to education

**Andrea Sweigart:**

* Talked to prominent education expert on campus to develop educational component—not even collaborator on proposal but informed education portion
* At UGA we have great science education experts on campus—recommends teaming up to develop education component
* Four main objectives in research section—had a long history and preliminary data on project
* Also need long-term vision because it’s 5 years of funding
* 11-page research proposal—thinks research component is primary reason it was funded
* Applied early as faculty—3 years at UGA, thought she hadn’t done enough but was funded on first try

**Jill Anderson:**

* Served on 5 NSF panels
* Successful on 3rd try despite mixed messages from pre-proposal process (no longer exists)
* Had been doing educational component for several years—co-teaching high school class in summer
* Some indication that you’ve done the education component you’re planning on doing—like to see you’ve already contributed in that arena
* Reviews proposals in DEB
* Ideally, have Research Aim 1 going with Educational Aim 1—nicely integrated
* Still, her research and education were not this tightly integrated
* Program officer is ready for you to call her/him
* Craft email response to them when you get reviews, let it sit for short period of time, then pursue follow-up
* Can also talk to PO in advance
* Don’t get defensive about points of disagreement; “don’t piss off your program officers”
* Best scenario is where education come back to inform research—that’s what they say, but as reviewer Jill thinks that bar is too high

**Deepak Mishra:**

* Served on CAREER panels
* Primary reviewer is most important—can tank proposal
* Increasingly competitive—pressure to publish extensively before tenure track
* Every little thing matters—including institutional support, getting letters from department—will they give you enough time to do the work

**Amy Ellis:**

* Conceptual advice:
	+ Definitely apply for CAREER
	+ Most prestigious award but also easiest to get—only competing with other Assistant Professors vs. competing with most senior people in their field
	+ Develop research design and teaching/outreach ideas that motivate you—need to be excited about what you’re proposing
	+ Good ideas are common—where they fall apart is the methods—panelists will pick apart methods—make sure you have ‘bulletproof’ methods
	+ Get them excited in beginning or you will lose them
	+ Innovative across the board—should be emphasizing how they are all innovative in some way
	+ Do your panel’s job for them—make it easy for them to see what you’re doing
	+ List out Intellectual Merit and Broader Impacts
* Practical advice:
	+ Make sure you write proposal for someone not exactly in your subfield but a little out of your field
	+ Can have reviewers who don’t understand field-specific, arcane language
	+ Make sure an internal reviewer is outside your field
	+ Get it done early so you have a lot of time to edit and get reviews
	+ Look at other winning proposals
	+ Wrote up 1-2 page summary of idea, sent it to PO and scheduled phone meeting
	+ Part of PO job is to get as many genuinely competitive proposals as possible
	+ Submit your name to be on a review panel—you can be on an NSF panel before you have a grant—sitting in on review panel will be big learning experience
	+ If possible, travel to NSF to be there in person; you can get extra time with PO that you can learn from

Paula Lemons

* Agree with advice to talk to PO but access varies—POs did not give her phone call based on abstract—did get enough information to decide whether to submit
* Don’t be entirely surprised if POs are not super responsive

Andrea Sweigart

* May be variation among the panels for different subfields—different sized range of expertise
* Important to get successful ones within your own discipline

**Audience Q&A**

**Q: Do extenuating factors affect you getting the grant? E.g. too many people at a school having CAREERs**

A:

* No—general panel conclusion
* More relevant are scope questions; does person have resources to carry this out?
* Rule for reviewers is to evaluate the proposal as written
* Reviewer rarely looking at budget
* Different funding rates by directorate

**Q: Is there a magic budget number?**

A:

* Use a number similar to other funded CAREER awards in your discipline
* Use budget similar to colleagues in your department
* Usually budget is cut by NSF, but Paula’s increased
* In BIO—ask for slightly more than a million
* Once you get CAREER, other funding opportunities open up such as CAREER life balance award

**Q: How do I determine which division to submit to?**

A:

* Ask program officers—they can give you valuable feedback on this topic

**Q: Regarding preliminary data, can I submit data on previous research with a different system that has broadly applicable results?**

A:

* Cite previous work, but focus on the system you’re using for this grant in the preliminary data section
* Preliminary data should feed directly into the research you’re proposing

**Q: Should my PhD work be included in preliminary data in the CAREER proposal?**

A:

* Andrea—preliminary data was entirely from PhD published work in my CAREER proposal