Research Isn’t Just for Laboratories

Often times, we think of “research” as taking place in highly equipped laboratories beneath the lens of a microscope. When we think of the National Science Foundation, or NSF, as it is known by familiar friends, we also think of laboratory sciences as the research funding base. Both limited scopes could not be further from the truth!

NSF’s goals--discovery, learning, research infrastructure and stewardship--provide an integrated strategy to advance the frontiers of knowledge, cultivate a world-class, broadly inclusive science and engineering workforce and expand the scientific literacy of all citizens, build the nation's research capability through investments in advanced instrumentation and facilities, and support excellence in science and engineering research and education through a capable and responsive organization.

Areas of NSF research include:
- Biology
- Computer Science
- Education
- Human Resources
- Engineering
- Geosciences
- Mathematics
- Physical Sciences
- Social Sciences
- Behavioral Sciences
- Economic Sciences

I recently had the opportunity to attend the Council on Undergraduate Research Dialogues 2011 Conference in Washington, DC with Tish Last, King’s Director of Corporate, Foundation and Government Grants. Between the two of us, we were able to cover twice the breakout sessions and learn about opportunities for funding research in predominantly undergraduate institutions (PUI) like King’s College.

King's has already taken advantage of some of these opportunities including NSF’s Major Research Instrumentation Program in collaboration with The Commonwealth Medical College. There are many more opportunities!

In most cases, PUIs are reviewed separately from larger institutions and funding is set aside to make sure that a fair amount of PUI applications are funded. In the NSF Major Research Instrumentation program, for instance, a major piece of equipment is considered at a minimum of $50,000 rather than at a larger institution with a base of $100,000.

The NSF Research at Undergraduate Institutions Program (RUI) can provide continued funding for research that has a broad impact on undergraduate students - hands on education, potential for student publication, collaboration with other PUI institutions and more. This impact is so important that the NSF allows for an extra five pages in the application to describe the impact details.

Continued...
Research (cont’d)

Programs are also available to fund Summer Science Programs where undergraduates work full time helping with your research project.

Special supplements to NSF funded projects encourage even more PUI involvement:
- Research Opportunity Award (ROA) allows PUI faculty to participate in NSF-supported projects at larger schools.
- Research Experiences for Undergraduates (REU) supports undergraduate student researchers.
- Research Apprenticeship for High School Students supports HS student training in research (perhaps during a summer science program).
- Research Experiences for Teachers builds long term collaborative relationships between K-12 science teachers and the NSF research community.
- International Travel Supplements supports international travel for early career faculty.

One of the most often recommended tips from all conference panelists was to encourage you to volunteer as an NSF Reviewer! First, you will get to see how winning proposals are written and secondly, you will gain valuable experience to bolster your own applications.

What are you waiting for?
Give me a call so we can discuss the current opportunities for research in your area of interest.

Recent Grant Activity at King’s College

Anne Massey, Ph.D. has submitted an application to the National Endowment for the Humanities Summer Seminar Program. “Peru’s Cultural Kaleidoscope: Perspectives through History and Literature,” proposes to connect local, regional, and global issues as seen through Peru’s history. Sixteen participating K-12 educators will examine a combination of literary works, film, and news articles that represent a sampling of Peru’s internal diversity as well as the variety of perspectives through which such diversity has been described. In-country travel will provide a context for these readings, offer a sense of the country’s range of cultural and geographical differences, encourage evaluation of the validity of various perceptions, and create opportunities for participants to add their own perspectives to the array of images offered by others.
Funding request - $114,652.

Ann Yezerski, Ph.D. and Barbara Fenner, Ph.D. have submitted an application to the National Science Foundation’s Major Research Instrumentation Program to acquire a Nikon Confocal Microscope System to advance King’s Faculty biological research and shared research opportunities with The Commonwealth Medical College (TCMC). The proposed equipment will play an integral role in fostering the integration of research and undergraduate and graduate student education. The confocal microscope will be used to train students in this critical microscopy technique as well as expand opportunities for student research. An initial collaborative research project between King’s College and The Commonwealth Medical College to study the mechanisms of podosome and invadopodia formation and function will provide insight and potential therapeutic targets for cancer treatment. The majority of data collection supporting this research project will require the capabilities of the proposed confocal microscope. Daniel Flynn, Ph.D. and Jess Cunnick, Ph.D. of TCMC are co-PIs on the project. Funding request - $539,087.

Websites Offer Helpful Resources for Faculty

The websites for both the National Endowment for the Humanities (www.neh.gov) and the National Science Foundation (www.nsf.gov) are constantly changing. Both offer great resources to help you either participate in one of their programs or use information obtained from others’ funded programs in your research and teaching. Check them out by clicking on the captured screen shots above.

For more information, contact: Karen Baker, Director, Academic Grants
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