

Summary of Career Advancement Program (CAP) Awards

Round I Summary (2004-2005)

Mary Hubbard, Professor/Department Head
Department of Geology
\$18,200

Dr. Hubbard proposes to initiate a research project with collaborators at University Cheikh Anta Diop (UCAD) in Dakar, Senegal in which they will investigate the structural/geologic development of the Mauritanide mountain belt in Senegal through a combination of fieldwork and analysis of satellite imagery. UCAD is the leading university among Francophone countries in Africa. This funding also includes support for a student and GIS training for Dr. Hubbard to be fluent in the use of ArcGIS to interpret the field data and image in digital form.

Proposed mentor for this project is Dr. Myra Gordon, Associate Provost for Diversity and Dual Careers, who has over seven years of experience working with the researchers at UCAD.

Ruth Welti, Professor
Division of Biology
\$20,000

This funding will be instrumental in strengthening the Kansas Lipidomics Research Center (KLRC) which is a group of seven Kansas research scientists, working to promote the development of mass-spectrometry-based lipid profiling methods and to utilize this technology to understand the role of lipids and proteins that interact with lipids in living organisms. Dr. Welti is currently the Director of both KLRC and its Analytical Laboratory. This will support her visit to University of Chicago and Danforth Plant Science Center at St. Louis, MO to give seminars and interact with accomplished plant scientists. In addition, she will plan and co-chair two sessions on mass spectrometry of lipids at the American Oil Chemists Society meeting in Salt Lake City in May 2005. This award also will fund salary for a technician.

Her mentors are Dr. Brian Spooner and Dr. Gary Conrad from K-State, Dr. Sam Wang from University of Missouri-St. Louis, Dr. Todd Williams from University of Kansas, Dr. Wendy Boss from North Carolina State University, and Dr. Rima McLeod from University of Chicago.

Melinda Joann Wilkerson, Associate Professor
Department of Diagnostic Medicine/Pathobiology
\$15,000

Dr. Wilkerson plans to seed money for research on a project that would support her transition from Anatomical Pathology to Clinical Pathology. She has already successfully completed the Board Examination for Veterinary Clinical Pathologist sponsored by the American College of Veterinary Pathologists (September 2003). This project will highlight her laboratory and the use of a novel tool (flow cytometry) to measure multiple serum analytes from a domestic animal (bovine). Successful development and validation of this assay would bring national and international

recognition for designing and implementing a novel diagnostic assay that opens the possibility for other assay development using the multiplex format and flow cytometry technology.

Dr. Steve Stockham and Dr. Bonnie Rush would be mentors in this project. Dr. Stockham has 24 years experience in Clinical Pathology and assay validation. Dr. Rush has extensive experience in large animal internal medicine and implementation of clinical research studies.

Round II Summary (2005-2006)

Lisa Freeman, Professor
Department of Anatomy & Physiology
\$20,000

This award will be used to support ongoing research efforts in Dr. Freeman's laboratory, specifically: to contribute to the salary and benefits of Dr. Yonghai Li, the post-doctoral fellow currently working to define ion channel signaling in ovarian cancer cells; to purchase reagents needed to perform the experiments; to support the travel for Dr. Li and Dr. Freeman to the 2005 meeting of the Society for the Study of Reproduction. This meeting is attended by the National Institute of Health (NIH) program officers and members of the reproductive biology study section; presentation of an abstract by Dr. Freeman at that meeting will enhance her visibility and funding potential.

Dr. Frank Blecha, University Distinguished Professor and 2004 recipient of the Presidential Award for Outstanding Department Head, will serve as a mentor in this project. Dr. Blecha will advise her on recruitment and retention of appropriate support personnel, effective time-management, appropriate delegation and sharing of responsibilities, and other critical issues.

Lisa Harrington, Professor
Department of Geography
\$2,700

This award will support Dr. Harrington in obtaining Geographic Information System (GIS) training. A large number of research grants appropriate to her research interests in Geography now frequently include GIS components. By developing the ability to understand and use the tool currently most critical to much of Geography, she will be better positioned to pursue external funding for her research, which focuses on natural resources, environmental change, and resource management.

Mentoring is unnecessary for GIS training, although she will consult with colleagues concerning the most appropriate courses.

Shelli Starrett, Associate Professor
Department of Electrical & Computer Engineering
\$19,500

This award will help Dr. Starrett in starting a new research area in the retention of excellent students with an emphasis on women and minorities in engineering. The largest part of the project will be to recruit a group of Electrical and Computer Engineering students to form a learning community focused on helping students become better

learners and in particular, looking at ways to make women and minority students more comfortable in the department environment. This learning community pilot will provide data, examples, feedback, and experience in this area. In addition, current state of the art in teaching and program development for improving retention with a focus on learning community through the development of literature review will be investigated and a network of contacts related to this new research area will be developed.

Proposed mentors for his project are: Dr. David Soldan, K-State, Dr. Karan Watson, Texas A&M University, and Dr. Suzanne Brainard, University of Washington..

Kimberly A. Williams, Professor
Department of Horticulture, Forestry, and Recreation Resources
\$20,000

This award will help Dr. Williams to transition into the position of Assistant Department Head. In that role, she will lead a process for long-range planning and revision of the Horticulture Graduate Program's courses and curriculum with the goals of increasing enrollment, coordinating with other departments' graduate course offerings, pursuing alternative curricula, and better meeting current students' needs. This funding will support her efforts to gather data and provide leadership for strategic planning to strengthen the research base and graduate programs in the department. In addition, this will help her build inter-disciplinary, applied research teams in Horticulture that can better compete for extra-mural funding. This award also includes support for skilled support staff.

Mentors for this project are: Dr. Tom Warner, Head of the Department of Horticulture, Forestry, and Recreation Resources and Dr. Carol Shanklin, Associate Dean of the Graduate School.

Round III Summary (2006-2007)

Susan Brown
Associate Professor, Division of Biology
Director, KSU Bioinformatics Center
\$19,213

The CAP award will provide Dr. Brown with formal training in comparative genomics by attending the Computational and Comparative Genomics course offered at Cold Spring Harbor Laboratory, November 14-18, 2006. She has identified two mentors: Dr. Ying Xu, Director of the Institute of Bioinformatics at the University of Georgia, Athens and Dr. Michael Zhang, Professor at the Watson School of Biological Sciences, Cold Spring Harbor Laboratory. This funding will allow her to visit them for several days to observe daily operations and gain insight into their research approach, organizational techniques and administrative styles. In addition, she plans to collaborate with the new bioinformatics assistant professor in CIS department at K-State. She will also get one-month summer salary in summer 2007 to develop a new course in Genomics and Bioinformatics.

Karen DeBres, Associate Professor
Department of Geography
\$18,125

This award will support research to investigate the ways that nineteenth century land grant colleges helped to maintain the established social hierarchy for many poorer white men and women and for African-American students. The focus of this study would be upon the geographies of power, privilege, and identities at land grant colleges. The K-State campus will serve as the overall model for Plains land grant colleges in the nineteenth century, and as a point of comparison to other Plains land grant universities. Texas A&M at college Station will represent the 1870s land grant colleges, South Dakota State, located at Brookings, will represent those land grants established in the 1880s and Oklahoma State University at Stillwater will represent the last of the Plains land grant colleges established in the 1890s. This funding will provide support for visits to these three universities to gather archival materials.

Dr. Jeanne Kay Guelke, University of Waterloo is the proposed mentor. She is one of the foremost feminist historical geographer in North America.

Marianne Korten, Associate Professor
Department of Mathematics
\$10,485

Dr. Korten has chosen two mentors who are her seniors in work and research experience: Dr. Charles Moore, Professor, Department of Mathematics at K-State and Dr. Penelope Smith, Department of Mathematics at Lehigh University. She also plans to spend a large part of the funding to support longer research visits of her coworkers from other universities to strengthen her collaborative research. In addition, this award will help her continue the work started by the ADVANCE-IAB Departmental Initiative award, which expires in October 2006 by supporting research visits of collaborators in Fall 2006, Spring 2007, and Summer 2007 breaks. The goal behind these visits is to compete for a Focused Research Grant from NSF in about one or two years. Furthermore, this funding will allow her to participate in workshops at leading centers for mathematical research.

Mary Rezac, Department Head/Professor
Department of Chemical Engineering
\$20,000

This award will provide funding for Dr. Rezac to attend Council for Chemical Research, five-day annual meeting in Spring 2007 and American Institute of Chemical Engineers, including Department Heads' training, a six-day event held at Fall National Meeting, San Francisco, November 2006. These formal, professional trainings are related to the responsibilities of departmental leaders. She has chosen Dr. Brian Spooner, Director, K-State Division of Biology as her mentor to learn additional skills as to how to effectively balance leadership of a department and a research group. In addition, this funding will support a graduate research assistant for eight months to acquire preliminary data critical in attracting external research support.

Candice Shoemaker, Associate Professor
Department of Horticulture, Forestry, and Recreation Resources
\$19,525

The CAP award will help Dr. Shoemaker to achieve her goal of promotion to full professor. As a member of the Board of Directors for the AHTA, she wants to assume a leadership role in developing a research platform for the organization and establishing internship site criteria and intern supervisor training modules. This funding will also support her in completing the symposium proceedings as a volume of Acta Horticulture and generating the preliminary data necessary for future grant proposal. Furthermore, she intends to prepare a learning guide for instruction on the fundamentals of horticulture science for publication; a Masters in Horticultural Therapy distance education curriculum; and a graduate course to be offered via distance education.

Proposed mentors are: Dr. Allen Featherstone, Professor and Masters of Agribusiness Program Director at K-State Department of Agricultural Economics to guide her planning the distance education curriculum and Dr. David Dzweltowski, Professor and Director, K-State Community Health Institute to advise her on preparing grant proposals.

Xiuzhi Sun, Professor
Department of Grain Science & Industry
\$20,000

This funding will help Dr. Sun to support a graduate student and to partially support a technician for generating significant preliminary data for future proposal submission and high quality journal publications. She has identified Dr. Kenneth Klabunde, University Distinguished Professor, K-State Department of Chemistry to be her mentor. Both of them are currently working on establishing a NSF Center for “Biobased Polymers By Design”. In addition, Dr. Klabunde will guide Dr. Sun to achieve her goals to be an outstanding scientist in her research and to be nominated as Outstanding Graduate Faculty (Commerce Bank award) in 2007, and K-State Distinguished Professor in 2009 for excellence of research and education in biobased polymers.

Mary Beth Kirkham, Professor
Department of Agronomy
Kimberly Williams, Associate Professor
Department of Horticulture, Forestry, and Recreation Resources
\$11,217

The CAP award will help Dr. Kirkham and Dr. Williams to support an advanced undergraduate or graduate student and purchase lab supplies to generate preliminary data as the basis for joint grant proposals to fund their research with oedema, a physiological disorder of crops related to environmental conditions. They intend to submit a proposal to the Agricultural Plants and Environmental Adaptation Program of the USDA’s National Research Initiative (NRI) Competitive Grants Program. The mentor for this joint project is Dr. Gary Pierzynski, Interim Head of the K-State Department of Agronomy.

Carol Wyatt, Associate Professor
Department of Diagnostic Medicine/Pathbiology
\$14,890

The CAP award will initiate development of a facility designed to produce monoclonal antibodies for researchers on campus and at universities within the region. Part of the funding will be used to buy textbook and software on entrepreneurial approaches and to fund a short course offered through the Impact Planning Group which addresses business and marketing strategy development, planning and application. Dr. Gary Anderson, Director and Professor, K-State Veterinary Diagnosis Laboratory, will provide mentorship on creating and leading the proposed center.

The other mentor in this project is Dr. Robert Aitken, Institute of Biomedical and Life Sciences in University of Glasgow, Scotland. This award will fund Dr. Wyatt's five-week visit to Dr. Aitken's laboratory to learn to screen a phage display library that would be useful in her ongoing research program.