

Board Meeting
March 23, 2011

APPOINT ASSOCIATES TO THE CENTER FOR ADVANCED STUDY, URBANA

Action: Appoint Associates to the Center for Advanced Study for the Academic Year 2011-12

Funding: State Appropriated Funds

Each year the Center for Advanced Study awards appointments as Associates in the Center, providing one semester of release time for creative work. Associates are selected in an annual competition from the faculty of all departments and colleges to carry out self-initiated programs of scholarly research or professional activity.

The Interim Vice President/Chancellor at Urbana recommends the following list of Associates selected for the 2011-12 academic year, and offers a brief description of their projects:

Dolores Albarracin, Professor, Psychology, *Action and Inaction Goals and Change in Socially Relevant Attitudes*

Implicit in many informal and formal principles of psychological change is the understudied assumption that change requires either an active approach or an inactive approach. This work will provide some answers to this question in the domain of attitudes toward social issues and protection from HIV.

Harry Dankowicz, Professor, Mechanical Science and Engineering, *On the Tendency of Complex Systems to Evolve Toward Collapse*

This project focuses on complex adaptive systems manifested as social networks that evolve through cooperation, competition, and conflict among a large number of participants. The goals are to characterize the conditions that promote

evolution toward collapse; to diagnose existing networks in terms of their systemic risk; and to propose regulatory frameworks for the design of robust complex systems that can be implemented to promote sustainable, and mutually beneficial cooperation in critical areas of human and national security.

David Hyman, Professor, Law and Medicine, *Medical Malpractice Claiming in Illinois, 1980 - 2008*

Professor Hyman will analyze claiming patterns in medical malpractice litigation in Illinois during the period 1980 through 2008. Analysis will focus on whether the dramatic spikes in malpractice premiums that hit Illinois were the result of changes in claiming behavior (e.g., number of claims and dollars per claim); whether some physicians or specialties are particularly claim-prone; whether the tort system in several important Illinois counties (Cook, Madison, and St. Clair) is “out of control”; and the gender and social justice implications of tort reform.

Praveen Kumar, Professor, Civil and Environmental Engineering, *Water Cycle: Predicting the Consequences of Change*

The project will develop a theoretical foundation, inference system, and simulation tool for identifying, modeling, and predicting how perturbations propagate through the hierarchy of feedback loops (hypercycles) embedded within the network of interaction of ecologic and hydrologic processes. This study will use data from a variety of observational systems to develop fundamental knowledge about how the hydrosphere and biosphere interact and how this network of interaction may be changing due to anthropogenic impacts and climate change.

John Randolph, Professor, History, *The Singing Coachmen and the Society of the Road in the Early Russian Empire*

This project analyzes the making of Imperial Russian culture (1650-1815) on the basis of a history of the post-horse relay system that held the Empire together. It is based on extensive archival research in Russia.

Bruce Reznick, Professor, Mathematics, *Sums of powers of polynomials*

This proposal will lead to many representations of polynomials as a sum of powers of other polynomials. These representations are useful in many different areas of pure and applied mathematics and can be unusually beautiful to those attuned to mathematical aesthetics.

Kenneth S. Suslick, Professor, Chemistry, *Smell-Seeing: An Optoelectronic Nose*

Professor Suslick has invented a very simple, but extremely powerful, new technology for detection and identification of odors and volatile organic compounds (VOCs); simple in concept, our optoelectronic nose is essentially a multidimensional, digital extension of litmus paper. During the proposed Center for Advanced Study Associate appointment, he intends to pursue biomedical applications of this technology through collaborations at the Stanford University Medical Center Clinical Microbiology Laboratory and at the Respiratory Institute of the Cleveland Clinic.

The Board action recommended in this item complies in all material respects with applicable State and federal laws, University of Illinois *Statutes, The General Rules Concerning University Organization and Procedure*, and Board of Trustees policies and directives.

The President of the University concurs.