

Board Meeting  
January 19, 2012

APPOINT ASSOCIATES TO THE  
CENTER FOR ADVANCED STUDY, URBANA

**Action:** Appoint Associates to the Center for Advanced Study for the Academic Year 2012-13

**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 Vice President, University of Illinois and Chancellor, University of Illinois at Urbana-Champaign recommends the following list of Associates selected for the 2012-13 academic year, and offers a brief description of their projects:

**Teresa Barnes, Professor, History, Gender & Women's Studies, *Apartheid's Professor: A.H. Murray and the Perils of Academic Liberalism in South Africa***

This project examines the relationship between academic freedom and liberalism in South Africa during the apartheid era through the lens of the complex career of Professor Andrew Howson Murray (1905-1997) of the University of Cape Town. Contrary to the generally accepted narrative, this study will demonstrate that apartheid was not simply externally imposed on South African higher education by the state, it was also reproduced from within the ivory tower--leaving troubling legacies for knowledge production in the post-apartheid era.

**Zong-qi Cai, Professor, East Asian Languages & Cultures, Comparative and World Literatures, *Chinese Poetry as Art: A Comprehensive Study through 100 Famous Poems***

This book will provide an account of Chinese poetic art that departs significantly from both Chinese and Western scholarship. If traditional Chinese impressionistic criticism reveals an intuitive grasp of the ineffable aesthetic qualities of a given work, the oeuvre of a poet, or even a given genre or subgenre, *Chinese Poetry as Art* aims to go one step further: to provide an analytical explanation for these aesthetic qualities. It consistently applies modern linguistics to analyze both the synchronic and diachronic interconnectedness of four essential aspects of Chinese poetic art--rhythm, syntax, structure, and vision--in an effort to illuminate the inner dynamics of Chinese poetic evolution.

**Kevin Hamilton, Associate Professor, School of Art & Design, *The Bomb Studio: Science, America, and Hollywood in the Films of the Air Force's Lookout Mountain Laboratory***

This research project examines a historic set of motion pictures produced by a Hollywood-based United States Air Force film studio in the 1950s and 60s that documented and helped legitimate the massive Cold War expansion of the U.S. nuclear weapons program. This project argues that the rhetorical power of these films depended on their unusual synthesis of discourses drawn from American civic nationalism, modernization, and classical Hollywood cinema. This collaborative proposal was submitted jointly with Assistant Professor Ned O'Gorman (Communication.)

**Ilya Kapovich, Professor, Mathematics, *Spectral Rigidity and the Culler-Vogtmann Outer Space***

The project aims to study the property of spectral rigidity for subsets of free groups, thus exploring a new and deeper layer of the phenomenon known as marked length spectrum rigidity. Another goal of the proposal is to investigate geometric and dynamical properties of groups of automorphisms of free groups via their actions on the Culler-Vogtmann outer space and the space of geodesic currents.

**Olgica Milenkovic, Professor, Electrical & Computer Engineering, *A Novel Group Testing Framework for Large-Scale Genotyping***

This study proposes a novel theoretical, algorithmic, and experimental framework for efficient detection of carriers of rare gene alleles via group testing. The approach is based on a novel group testing method the crux of which consists in combining number-theoretic construction techniques with probabilistic modeling and inference.

**Paul Milton Ricker, Professor, Astronomy, NCSA, *The High-Energy Universe of Galaxy Clusters***

Computer simulations of cosmological structure formation will be used to study the cosmic history of diffuse radio and gamma-ray emission from clusters of galaxies. This work will establish theoretical predictions crucial to the interpretation of future sky survey data and potentially establish a new method for probing the dark energy content of the Universe.

**Joyce Tolliver, Professor, Spanish/Italian/Portuguese, Gender & Women's Studies, *Family Troubles: Spain and the Philippines in the Late Modern Empire***

The linguistically and racially heterogeneous Philippine Islands represented a challenge for the integrationist discourse of the nineteenth-century Spanish empire, by which the colonies were referred to as “overseas provinces” and a metaphor of family relations was often employed. This project examines how these “dysfunctional” family relationships were portrayed in the Spanish press and literature, and in the Spanish-language writings of the Philippine anti-colonialists.

**Ranxiao Wang, Professor, Psychology, Beckman Institute, *Mathematical Modeling of Generic Spatial Representation Systems***

Existing theories on spatial representations with different reference frames are generally schematic with poor consistency in generating theoretical predictions that frequently lead to conceptual misinterpretations. This project develops generic quantitative models of spatial representation systems and processes to provide more precise, concrete theoretical explanations on behaviors in navigation, spatial reasoning, and spatial learning.

**Ken Wilund, Professor, Kinesiology & Community Health, Nutritional Sciences, *HMB Supplementation to Counteract Wasting in Chronic Kidney Disease***

Patients with Advanced Chronic Kidney Disease (CKD) suffer from a variety of metabolic disturbances that promote declines in physical function and muscle wasting. The purpose of this proposal is to evaluate the effects of oral HMB supplementation, an amino acid derivative that has been shown to prevent wasting in cancer patients, on muscle mass, and strength in CKD patients.

**Sheng Zhong, Professor, Bioengineering, Institute for Genomic Biology, *Systems Biology of Cell Decision-Making***

This project will develop and combine novel quantitative models, computational tools, and genomic technologies to obtain mechanistic insights into one of the greatest mysteries of life -- how does a single cell -- the fertilized egg -- give rise to a complex, multicellular animal or plant? The information and the predictive models generated from this project will be directly relevant to understanding and preventing birth defects and prenatal deaths in humans.

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.