

Board Meeting
March 10, 2010

APPOINT ASSOCIATES TO THE CENTER FOR ADVANCED STUDY, URBANA

Action: Approve Appointment of Associates to the Center for Advanced Study for the Academic Year 2010-2011

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 Chancellor at Urbana recommends the following list of Associates selected for the 2010-2011 academic year, and offers a brief description of their projects:

Craig Bethke, Professor, Geology, *Bioreactive Transport of Contaminant Chemicals in Flowing Groundwater*

This project will analyze quantitatively the reaction and transport of contaminant chemicals in groundwater flowing through the subsurface. The resulting models, founded on principles of irreversible thermodynamics, microbial kinetics, and population ecology, will form the basis of a scientific monograph that Cambridge University Press has contracted to publish.

Rakesh Mohan Bhatt, Professor, Linguistics, and Spanish, Italian and Portuguese, *Understanding Language Obsolescence: Kashmiri in a Comparative Context*

Within the Indian multilingual context where language shift/loss is an exception, language obsolescence in the Kashmiri speech community is an anomaly that merits special empirical, theoretical, and methodological treatment. The comparative sociolinguistic analyses that will be used in this project relate the micro-discursive

processes of language choice and use at the local level to the macro-discursive processes of subordination, which enables an understanding of the sociolinguistic processes that contribute to language obsolescence among Kashmiris and among other marginalized, minority language populations worldwide.

Sundiata Keita Cha-Jua, Associate Professor, African American Studies and History, *Beyond the Rape: Black Resistance to Lynching, 1867-1930*

The study of lynching suffers from five fundamental problems: (1) a truncated timeframe; (2) an emphasis on the rape of white women; (3) the depersonalization of the lynch victim; (4) a neglect of Black resistance; and (5) the marginalization of Black women in the narrative. This project addresses the gaps in the literature by systematically examining more than 600 primary newspaper accounts of lynchings that occurred between 1867 and 1930, which reveal murder as the central accusation that precipitated lynching, inscribes Black women into the narrative, and demonstrates that African American resistance to lynching was prevalent.

Wendy Lea Haight, Professor, Social Work, *Violent Girls from Rural, Methamphetamine-involved Families*

The proposed project focuses on physically aggressive, school-aged girls from rural, methamphetamine-involved families. It will provide an in-depth understanding of children's experiences, perceptions, and functioning: a necessary foundation for the development of effective interventions to prevent the intergenerational transmission of family violence, substance abuse, and mental health disorders.

Kristin Hoganson, Professor, History, and Gender and Women's Studies, *Prairie Routes: Making a Global Heartland*

This book project remaps the history of globalization by shifting attention from coastal areas, borderlands, and global cities to rural heartlands. Taking Champaign County, Illinois, as its case study, it challenges assumptions about midwestern provincialism, the nature of locality, and the scope of U.S. foreign relations history by tracing some of the many connections between Illinois farmers and the wider world in the very years that the old Northwestern frontier became known as the American heartland.

Moon-Kie Jung, Associate Professor, Sociology, *Constituting the U.S. Empire-State and White Supremacy*

Against the prevalent assumption that the United States is and has been a nation-state, this study proposes to reconceptualize it as an empire-state, a state encompassing hierarchically differentiated spaces and peoples, and a racial state, a state of white supremacy. Through a comprehensive and systematic analysis of constitutional

law of the long nineteenth century, it seeks to make unified sense of, and see connections between, the disparate histories of peoples who have been racially subjected to and have struggled against the U.S. empire-state.

Marius Junge, Professor, Mathematics, *Interaction between Quantum Information Theory and Operator Space Theory*

The intention of this proposal is to develop and intensify new interactions between the theory of operator space, a field in pure mathematics, and theoretical aspects of quantum information theory. For example, based on recent research it is now clear that new mathematical tools can be used to determine properties of channels in quantum information theory.

Susan Koshy, Associate Professor, English, and Asian American Studies, *Late Multiculturalism and Its Discontents*

This study argues that contemporary writers like Phil Roth, Toni Morrison, Richard Powers, Leslie Marmon Silko, Maxine Hong Kingston, Colson Whitehead, Jhumpa Lahiri, Susan Choi, Pamela Lu, and others have been at the forefront of envisioning the complex multicultural realities of the post-civil rights era. Their explorations have been enabled by postmodern experimentation in literary forms, which stems from the “loss of faith in our ability to represent the real” and is manifested in fragmented and hybrid identities, virtual realities, and plots enmeshed in new global networks and technologies.

Robert G. Leigh, Professor, Physics, *String Theory and the Holographic States of Matter*

The methods of string theory may be used to study and solve hard problems in other fields of physics. The proposed research is an application of these methods to important condensed matter systems.

Daniel Liberzon, Associate Professor, Electrical and Computer Engineering, and Coordinated Science Laboratory, *Stability Analysis of Switched Dynamics via Commutators*

This project will develop new stability criteria for dynamical systems that switch between multiple modes of operation, by taking into account commutation relations among the individual flows. In contrast to existing work, the desired relations on the commutators are approximate rather than exact, which makes them robust to perturbations of the system data and thus more useful in practice.

Moshe Matalon, Professor, Mechanical Science and Engineering, *Modeling Multi-Scale Phenomena in Combustion Studies*

Combustion of particle-laden dust clouds has many practical applications in aerospace propulsion where powdered metals are used as a fuel, and is a subject of great concern in various industrial settings where the collection of finely dispersed particles presents an explosion hazard. The objective of the proposed work is to enhance our understanding of the complex physical and chemical interactions that occur in dust combustion by using a methodology that systematically incorporates in the modeling interactions that take place at the small scales, primarily those associated with the different modes of burning of the individual particles.

Gillen D'Arcy Wood, Professor, English, *The Tambora Project*

This project is a historical reconstruction of the devastating two-year global climate deterioration resulting from the eruption of Mt. Tambora in Indonesia in 1815. The goal is to provide a vital case study in the social, economic, and environmental impacts of abrupt climate change; it involves collaboration with atmospheric and computer scientists; and production in a range of media formats designed for both academic and general public audiences.

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.