

Board Meeting
March 9, 2006

APPOINT ASSOCIATES TO THE CENTER FOR ADVANCED STUDY, URBANA

Action: Approve Appointments of Associates in the Center for Advanced Study for the Academic Year 2006-07

Funding: Private Gift Funds from the Beckman Endowment and 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 2006-07 academic year, and offers a brief description of their projects:

Narendra Ahuja, Professor, Electrical and Computer Engineering, *Integration of spatial and frequency representations for periodic motions*

This proposal aims at analyzing videos of object exhibiting periodic motions, by integrating the traditionally disparate approaches from computer vision and signal processing.

Antonia Darder, Professor, Educational Policy Studies, *Forging a Puerto Rican feminism: The power and poetics of embodied history*

The research will lead to the completion of a book manuscript that incorporates the scholarly use of personal historical narrative, archival research, and a variety of literatures in the humanities and social sciences to critically engage the manner in which working class Puerto Rican women are influenced, directed, and altered by the historical, cultural, political, and economic conditions, and institutional policies and practices that shape their life decisions and personal notions of feminism.

Laura Greene, Professor, Physics, *Particle conversion in unconventional superconductors*

Andreev reflection, a particle-hole conversion process that occurs at the interface of a normal metal and a superconductor, is well understood for conventional superconductors. Our data has shown this process cannot be explained by existing theories in the case of heavy fermion superconductors, which are unconventional.

Paul Kwiat, Professor, Physics, *State-of-the-art detectors for quantum information processing*

Single-photon detectors with efficiencies approaching 100 percent open new vistas in quantum information processing. Working with several detector technologies, the eventual goal is to realize the world's most efficient optical detector.

Ralph Mathisen, Professor, History, *Citizenship and identity in the late Roman and early Medieval worlds*

This project will discuss how, during the later Roman Empire, the Roman government developed an inclusive citizenship policy that allowed foreigners to enjoy Roman citizenship rights simply by settling within Roman territory. In today's multi-ethnic, multi-cultural world, it may be that the Roman model for dealing with issues of ethnicity, identity, and religion in the context of political citizenship still has much to teach us.

Harriet Murav, Professor, Slavic Languages and Literature, and Program in Comparative Literature, *Music from a speeding train: Russian-Jewish and Soviet Yiddish literature*

This study explores Russian-Jewish and Soviet-Yiddish literature of the twentieth century by framing the analysis of such key authors as David Bergelson, Isaac Babel, Perets Markish, Fridrikh Gorenshteyn, and Asar Eppel' against the backdrop of ongoing catastrophe and deferred redemption.

Robert Ousterhout, Professor, School of Architecture, *From center to border: Repositioning architectural history in the Evros/Meriç River valley*

Through a study of its architecture, the project reconstructs the Byzantine history of the Evros/Meriç River valley that now separates Greece and Turkey. As the valley was transformed in the last centuries from a vital artery to a neglected frontier, modern national histories have reshaped our perspective of regional history.

David Roediger, Professor, History and African-American Studies and Research Program, *Race making nation: A U.S. history*

This brief synthetic history narrates the role of white supremacy in the peopling of what would become the United States, and in the creation and recreations of the nation. It seeks to explain the persistence of race amidst democracy, emancipation, mass production, the consumer society, and other "colorblind" processes.

Daniel Schneider, Associate Professor, Urban & Regional Planning and Illinois Natural History Survey, *Treating sewage: Coupling history and ecology in the study of an industrial ecos*

This interdisciplinary project examines the history and ecology of sewage treatment plants to better understand the process of ecosystem management in particular, and the role of science, labor, and law in technological change in general.

Daniel Simons, Associate Professor, Psychology, *A book on the consequences of perceptual and cognitive illusions*

The goal of this sabbatical will be to write a general audience book on the consequences of failures of perception, cognition, attention, and awareness. Specifically, the book will focus on how mistaken beliefs about perception and cognition can lead to dire consequences and will attempt to remedy these consequences by underscoring the strengths and weaknesses of the mind.

Xiaodong Song, Associate Professor, Geology, *Seismic imaging of the Earth's inner core*

Recent seismic studies have revealed remarkable features of the Earth's inner core that have implications for the generation of the Earth's magnetic field and the evolution and dynamics of the Earth. This project seeks to acquire new critical data, and to develop methods for imaging the anisotropy and rotation of the inner core.

Sever Tipei, Professor, School of Music, *Composition for chamber ensemble and computer-generated sounds*

A work produced with DISSCO, original software which integrates computer-assisted composition and sound synthesis into a seamless process. It contrasts improvised fragments and rigorously structured sections in a work, which renews itself with each performance.

Douglas West, Professor, Mathematics, *Research and scholarship in combinatorial mathematics*

The focus of this project is to produce an advanced textbook in Combinatorial Mathematics useful for graduate students and researchers. This area of mathematics is applicable in diverse areas such as computer science, operations research, computational biology, and the social sciences.

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.