Approved by the Board of Trustees,
March 23, 2011

11

Board Meeting
March 23, 2011

APPOINT FELLOWS TO THE
CENTER FOR ADVANCED STUDY, URBANA

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

Funding: Private Gift Funds from the Beckman Endowment and State Appropriated Funds

Each year the Center for Advanced Study awards appointments as Fellows in the Center, providing one semester of release time for creative work. Fellows 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 asterisk denotes faculty members who have been recommended for appointment as Beckman Fellows in the Center for Advanced Study named for the donor of a gift that permits additional recognition for outstanding younger Fellow candidates who have already made distinctive scholarly contributions.

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

Fatima T. Husain, Assistant Professor, Speech and Hearing Science, *Connectivity of Brain Regions Affected by Hearing Loss and Tinnitus*

Hearing loss is one of the most common conditions affecting older adults and a large percentage of adults with hearing loss develop tinnitus or "ringing in the ears." Findings from this project will increase our knowledge of the brain regions affected by tinnitus and hearing loss and may lead to better evaluation of current therapies and development of novel treatment methods.

Daniel Zvi Korman, Assistant Professor, Philosophy, *Strange Kinds and Familiar Kinds*

A variety of intractable philosophical puzzles—turning on such diverse issues as vagueness, identity, causation, and arbitrariness—have led many philosophers to surprising views about the nature and identity of material objects. The goal of this project is to vindicate our ordinary conception of material objects by supplying alternative solutions to the puzzles, by responding to the arguments that have been marshaled in defense of competing conceptions, and by arguing that the ordinary conception should be preferred to these competing conceptions.

***Andrew David Bazett Leakey, Assistant Professor, Plant Biology,** *Opening the Black Box of Plant Responses to Global Environmental Change with Genomic Tools*

This project aims to resolve the mechanism driving increased sensitivity of soybean to drought under future atmospheric carbon dioxide concentrations. The findings will advance fundamental knowledge of plant-environment interactions at the molecular and physiological scales, while also providing a foundation for efforts to develop new soybean varieties whose performance is optimized for future growth conditions.

***Benjamin Leonard Lev, Assistant Professor, Physics,** *Exploring Exotic Soft Quantum Matter Using Emergent Atom-Light Crystals*

Using lasers to cool atoms to within a millionth of a degree above absolute zero and trapping them within an optical resonator, the researcher will generate, detect, and manipulate exotic soft quantum matter, seeking to produce and explore the elusive supersolid, superstripe, and superglass phases of matter.

Adrienne Shiu-Ming Lo, Assistant Professor, Anthropology, *Neoliberal anxieties: Racialization, citizenship, and the construction of the moral self*

This project is a discourse analytic study about how fears about neoliberalism were projected upon the figure of the Asian American immigrant. Based upon fieldwork in a California suburb, it examines representations of Asian Americans as grasping, hypercompetitive, uncaring individuals in the local media and describes how

teachers and students at community-based schools responded to these positionings through discourses of moral personhood.

Nadya Mason, Assistant Professor, Physics, *Studies of Novel Electronic States in Hybrid Material Systems*

This project involves experimental studies of novel electronic states in hybrid material systems. In particular, this project will search for the first evidence of unusual "Majorana" states in superconductor-semiconductor-ferromagnetic systems, states which may eventually be useful in creating error-free quantum computers.

Eric Pop, Assistant Professor, Electrical and Computer Engineering, *Energy Dissipation in Electronics (atoms to data centers)*

This Center for Advanced Study project will have dual goals: 1) to complete a study of energy consumed by electronics in our daily lives, from personal devices like cell phones to large data centers; and 2) to begin writing a book titled *Energy Dissipation in Electronics (atoms to data centers)* that will be the first of its kind in its treatment of energy use from fundamental aspects to applications.

***Manoj M. Prabhakaran, Assistant Professor, Computer Science,** *Theory and Practice of Secure Multi-party Computation*

Secure Multi-party Computation is a powerful concept in theoretical cryptography that allows mutually distrusting parties to collaborate. This project develops very efficient Secure Multi-party Computation schemes with theoretically sound security guarantees.

Eleonora Stoppino, Assistant Professor, Spanish/Italian/Portuguese, *Ugly Beasts, Talking Monkeys: Animals in Medieval and Renaissance Culture*

Ugly Beasts, Talking Monkeys is a book-length project that explores the unstable boundaries between humans and animals in literary texts of the European Middle Ages and Early Modernity. Contagion and education are the two defining categories that will be used in this analysis: these texts represent animals either as ugly beasts that spread illnesses or as humanlike creatures who can teach lessons on vices and virtues.

***Annie Tremblay, Assistant Professor, French,** *Segmenting Speech into Words: What Eye Movements Can Tell Us about Foreign-Language Learning*

This project uses eye tracking to investigate how adults go from hearing a continuous flow of sounds to recognizing individual words in a foreign language. It

examines how English speakers learn to use different types of linguistic cues in the speech signal to recognize vowel-initial words in French, and it assesses the efficiency of state-of-the-art word-recognition training in which they learn to use these cues systematically.

Yingxiao Wang, Assistant Professor, Bioengineering, *A High-throughput Screening Approach for the Development of FRET biosensor*

This project will develop a high-throughput screening approach for the development of biosensors and advance our understanding of signaling transduction in live cells and provide tools for disease detection.

***Alexander Yong, Assistant Professor, Mathematics,** *The Grassmannian*

This project examines the Grassmannian, a fundamental object appearing in mathematics, science, and engineering. The Center for Advanced Study appointment will result in a monograph on this topic that would advance both research and training at the University of Illinois and elsewhere.

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.