

## University of Illinois at Urbana-Champaign Initiative on Aging 2003 Summer Conference



The Aging Initiative Annual conference will be held on June 17 and 18 in the Beckman Institute. The schedule is as follows:

### June 17th

**7:00-8:00 pm:** Keynote Address (Beckman Auditorium) Fred Turek, Northwestern University, "Worried about aging? Don't lose sleep over it"

**8:00- 9:30 pm:** Student posters, wine and cheese reception (Beckman room 1005)

### June 18th

**8:00 - 8:45 am:** Registration (no cost), coffee and continental breakfast

**8:45 am:** Welcome and awarding of 2003 Doolen Scholarships

#### ***Morning session Theme - Neuroscience (Chair: Donna Korol)***

**9:00-9:50 am:** Gary Gibson, Cornell University Medical School, "Oxidative stress and changes in metabolism in age-related neurodegenerative diseases"

**9:50-10:40 am:** Diana Woodruff-Pak, Albert Einstein Healthcare Network, Temple University, "Animal models and pharmacological improvement of cognitive functions in aging"

**10:40-11:10 am:** Break with beverages

**11:10-12:00 pm:** Marylou Voytko, Wake Forest University School of Medicine, "Estrogen modulates cognition and neurobiology in monkey models of menopause"

**12:00-1:00 pm:** Lunch buffet with access to student poster session

#### ***Afternoon session Theme - Nutrition (Chair: John Erdman)***

**1:00-1:50 pm:** Joanne Curran-Celentano, University of New Hampshire, "Diet and prevention of age-related degeneration of macular pigment and other eye disorders"

**1:50-2:40 pm:** Stephen Hursting, Natl. Cancer Institute, "Energy balance, aging and cancer prevention"

**2:40-3:10 pm:** Break with beverages and snacks

**3:10-4:00 pm:** Jeff Woods, UIUC, "Can exercise improve immune function in the aged?"



The UIUC Aging Initiative is sponsored by the Office of the Chancellor's Cross-Campus Initiatives and the following Colleges:

Agricultural, Consumer and Environmental Sciences  
Applied Life Studies  
Engineering

Liberal Arts and Sciences  
Medicine  
Veterinary Medicine

# Speaker Profiles and Call for Student Posters

**Fred W. Turek, the Charles E. and Emma H. Morrison Professor of Biology and founder and director of the Center for Sleep and Circadian Biology at Northwestern University:** Much of his recent research is focused on examining the interaction and integration of the sleep-wake and circadian clock systems at the genetic, molecular and system levels, and in elucidating the molecular and neural mechanisms that underlie sleep and rhythmicity. Built into his research program is the use of a number of different animal models for a variety of human conditions that have adverse effects on human health, safety, productivity and performance. These models are being used to elucidate the physiological and genetic bases that underlie sleep and rhythm abnormalities that are associated with such human conditions as depression, aging, stress, obesity, jet lag and shift work, as well as to develop a better understanding of how sleep and circadian rhythmicity influence other psychological and behavioral systems.



**Gary Gibson, Professor of Neuroscience at Cornell University Medical School:** The primary aim of our research is to discover how altered signal transduction and oxidative processes lead to neurodegeneration and altered mental function. We examine directly aging Alzheimer's disease, hypoxia, aging and a nutritional model that leads to chronic interruption of oxidative metabolism and to selective neurodegeneration (e.g., thiamine deficiency). Whether changes in signal transduction systems are the primary cause of the disease(s) and/or how they link the primary deficit or impaired oxygenation to altered gene expression, neurotransmitter release and abnormal brain function is being tested.

**Diana Woodruff-Pak, Professor of Psychology and Adjunct Professor of Diagnostic Imaging at Albert Einstein Healthcare Network, Temple University:** The major focus of my laboratory is on the neurobiology of learning and memory. How normal aging affects learning and memory is a central feature of many of our investigations. We also test neurological patients with lesions in the cerebellum, hippocampus, or basal ganglia as well as patients with neurodegenerative diseases. Eyeblink conditioning differentiates patients with Alzheimer's disease from their age-matched counterparts, and our recent data suggest that eyeblink conditioning may have utility in the early diagnosis of Alzheimer's disease.



**Marylou Voytko, Associate Professor, Neurobiology & Anatomy at Wake Forest University School of Medicine:** Dr. Voytko's major research focus is to understand the neural basis of cognitive dysfunction in primate models of aging and women's health. Her behavioral studies involve cognitive assessments of learning, memory and attention function. Her neurobiological studies are focused on the cholinergic and dopaminergic systems in both *in vivo* and *in vitro* preparations. Currently, functional imaging studies using positron emission tomography are being performed to determine the effects of estrogen on the function of the cholinergic system in primates, and immunocytochemical and stereological techniques are being used to determine the effects of estrogen at the microscopic level in primates.

**Joanne Curran-Celentano, Associate Professor of Nutritional Sciences at University of New Hampshire:** Our research is focused on role of dietary carotenoids, a class of fat-soluble phytonutrients, in health promotion and/or disease prevention. Currently we are investigating the relationship of diet and macular pigment density. Age-related macular degeneration (AMD) is the major cause of visual impairment in aging. Epidemiological data suggests that diets rich in plant foods, in particular those high in lutein containing vegetables, are associated with a decreased risk of AMD. We are testing the hypothesis that diets rich in fruit and vegetables may decrease the risk of AMD by increasing the density of the macular pigment.



**Stephen D. Hursting, Ph.D., M.P.H., Director, Nutrition and Molecular Carcinogenesis Section at the National Cancer Institute:** Dr. Hursting's research combines molecular biologic approaches with transgenic animal model studies to identify and characterize nutritional and chemopreventive strategies that offset genetic susceptibility to cancer. The current focus of his group is on the role of the insulin-like growth factor-1 pathway in the obesity and cancer relationship. Dr. Hursting is also on the steering committee for the NCI's Mouse Models for Prevention Working Group and the Epidemiology, Carcinogenesis and Prevention Faculty, and he is the recipient of the 2002 Bio-Serv Award for meritorious research in nutrition from the American Society for Nutritional Sciences.

**Jeff Woods, Associate Professor of Kinesiology and Nutritional Science at the University of Illinois at Urbana-Champaign:** Research interests include exercise physiology, the role of exercise in the modulation of immune function in the young and old, and neuroendocrine mechanisms underlying exercise and stress-induced immunomodulation. The goals of our research are to determine the effects of different doses of exercise on immune function, determine how exercise affects immune function, and explore the use of exercise in improving immune function or preventing declines in immune function in old age.



## Call for Student Posters for the Summer Conference:

Undergraduate and graduate students are encouraged to submit research posters summarizing recent age-related projects carried out on the UIUC campus.

Our goal is to have at least one poster from each active laboratory on campus. Please encourage your students to submit. This is a great opportunity for students to "test drive" posters they plan to present at forthcoming national and international meetings. Specific details regarding size of poster boards etc. will be forthcoming from the committee.

For more information about the UIUC Aging Initiative contact:

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