8.30 a.m. Coffee, light snacks.

9.00 a.m.: *Welcomes*. Thomas Murray, Vice-President of Research for Health Sciences, Creighton University; Richard Hallworth, Symposium organizer.

9.05 a.m.: **TIRF Imaging of Retinal Synapses.** David Zenisek, Department of Cellular and Molecular Physiology, Yale University.

9.45 a.m.: **Intravital Imaging of Microbial Infections** Dorian McGavern, Viral Immunology and Intravital Imaging Unit, National Institute of Neurological Diseases and Stroke.

10.25 a.m.: Coffee break, view the exhibits.

10.40 a.m.: **Multi-photon Imaging of Synapse Formation.** Anna Dunaevsky, Munroe-Meyer Institute, University of Nebraska Medical Center.

11.20 a.m.: **Swept-Field Imaging of Calcium Dynamics in Hair Cells** Anthony Ricci, Department of Otolaryngology (Head and Neck Surgery), Stanford University School of Medicine.

12.00 noon: *Lunch break, view the exhibits.*

12.15.: **High Content Screening: Applications, Methodologies, and the Tools Required for Data Acquisition, Analysis and Storage.** Kevin L. Quick, Ph.D, Application Scientist, PerkinElmer Inc.

12.45.: **Can Your Cells Do This? New Basics, Bells and Whistles for Imaging Research from Molecular Probes.** Daniel Beacham, Senior Staff Scientist, Research & Development, Life Technologies/Molecular Probes.

1.30 p.m.: **Imaging Beyond the Diffraction Limit.** Stephen Ross, Bioscience Department, Nikon Instruments.

2.10 p.m.: **Identification of Intracellular NADH Pools by Two-Photon Fluorescence Lifetime Imaging.** Michael G. Nichols, Department of Physics, Creighton University.

2.50 p.m.: **Single Molecule Studies of an Unusual Motor Protein.** Richard Hallworth, Department of Biomedical Sciences, Creighton University School of Medicine.

3.30 p.m.: *Questions, final words.*
Modern Imaging in Biology and Medicine  
Friday, April 8th, 2011  
Harper Center, Creighton University, Omaha, Nebraska

David Zenisek, Ph.D. TIRF Imaging of Retinal Synapses. Dr. Zenisek is an Associate Professor in Department of Cellular and Molecular Physiology, Yale University. Dr. Zenisek’s laboratory studies the mechanisms of pre-synaptic function in retinal bipolar cells. The work relies extensively on the laboratory’s expertise in TIRF imaging and related methods.

Dorian McGavern, Ph.D. Intravital Imaging of Microbial Infections. Dr. McGavern is Head of the Viral Immunology and Intravital Imaging Unit at the National Institute of Neurological Diseases and Stroke of the National Institutes of Health. The laboratory is focused on states of acute and persistent viral infection of the central nervous system (CNS). Dr. McGavern is the recipient of the prestigious Ray Thomas Edwards Foundation Award and the Burroughs Wellcome Fund Pathogenesis of Infectious Disease Award.

Anthony Ricci, Ph.D. Swept-Field Imaging of Calcium Dynamics in Hair Cells. Dr. Ricci is a Professor in the Department of Otolaryngology (Head and Neck Surgery) in the Stanford University School of Medicine, Stanford, CA. Dr. Ricci’s research interest is the physiology of transduction in vertebrate hair cells.

Steven T. Ross, Ph.D. Superresolution Imaging. Dr. Ross is Senior Scientist in the Bioscience Department at Nikon, Inc. He frequently lectures on advanced imaging topics at campuses and research institutes across the country.

Anna Dunaevsky, Ph.D. Multi-photon Imaging of Synapses in the Developing Nervous System. Dr. Dunaevsky is an Associate Professor in the Developmental Neuroscience section of the Munroe-Meyer Institute at the University of Nebraska Medical Center, Omaha, Nebraska. The primary goal of her laboratory is to elucidate the cellular and molecular mechanisms that underlie the formation, maintenance and modification of synapses in the central nervous system. She uses multi-photon confocal microscopy extensively in this work.

Michael G. Nichols, Ph.D. Identification of Intracellular NADH Pools by Two-Photon Fluorescence Lifetime Imaging. Dr. Nichols is an Associate Professor in the Department of Physics at Creighton University, Omaha, Nebraska. His laboratory studies the application of laser and physical optics to problems in biology and medicine. Of particular interest to Dr. Nichols is multi-photon and fluorescence lifetime studies of cellular metabolism.

Richard Hallworth, Ph.D. Molecular Studies of the Motor Protein Prestin. Dr. Hallworth is a Professor in the Department of Biomedical Sciences at Creighton University School of Medicine, Omaha, Nebraska. His laboratory studies the function of hair cells in the auditory and vestibular systems. The recent work to be discussed here concerns the use of fluorescence methods to study the structure and function of a unique membrane-based motor protein.
Modern Imaging in Biology and Medicine
Friday, April 8th, 2011
Harper Center, Creighton University, Omaha, Nebraska

Directions to the Harper Center, 602 N. 20th Street, Omaha

From I-80
1. Take exit 452 to I-480/Hwy 75 North toward Eppley Airfield/Downtown (get into right lanes)
2. Take exit 2A, Dodge/Harney Streets
3. Turn right onto Douglas (one-way, eastbound)
4. Turn left onto 24th Street, keep right
5. Turn right onto Burt Street (north of campus)
6. Turn right onto 20th Street (about 0.1 mile)
7. Turn right into Parking Lot (south side of Harper Center)

Parking
Free public parking will be available in the lots marked in yellow. Modestly priced parking is also available nearby in the Cass Street City parking lot.

Refreshments and Food
Morning coffee will be available on-site. The Harper Center has a range of inexpensive coffee and food service options, including Billy Blues Alumni Grill, the Bird Feeder Convenience Store, both on the first floor, and the Brew Jay Coffee Shop on the second (entrance) floor.

Register now at:
http://ois2011.creighton.edu
Registration is free.