“Applications of Signal Processing, Communications and Control Theory to Cognition, Affect, and Behavior”

24th ANNUAL CDSP RESEARCH WORKSHOP
Friday, April 5th, 2013
Curry Student Center Ballroom
TECHNICAL PROGRAM
ARRIVAL, REGISTRATION & CONTINENTAL BREAKFAST  8:30 AM -- 9:00 AM

WELCOMING REMARKS  9:00 AM - 9:10 AM
Miriam Leeser, CDSP Director
Sara Wadia-Fascetti, Associate Dean, Research and Graduate Programs

MORNING ORAL PRESENTATIONS  9:10 AM – 10:40 AM

9:10 AM – 9:40 AM
Lisa Feldman Barrett, PhD is Distinguished Professor of Psychology and Director of the Interdisciplinary Affective Science Laboratory (IASLab) at Northeastern University, with research appointments at Harvard Medical School and Massachusetts General Hospital


9:40 AM – 10:10 AM
Ennio Mingolla, Professor and Chair Speech-Language Pathology and Audiology, Professor of Psychology

“Visual Flow Field Computation for Steering and Route Selection in Primates”

10:10 AM – 10:40 AM
Dr. Matthew S. Goodwin, Assistant Professor at Northeastern University with joint appointments in the Bouvé College of Health Sciences and College of Computer & Information Science

“Innovative Technologies for the Study of Autism Spectrum Disorders: Research and Applications”

Coffee Break (20 minutes)

KEYNOTE
11:00 AM – 12:00 AM
Dr. Bruce Rosen

“Making Sense of the Connectome: New Tools and Approaches”

Biography
Dr. Rosen is Professor of Radiology at Harvard Medical School and Professor of Health Sciences and Technology at the Harvard Medical School-Massachusetts Institute of Technology Division of Health Sciences and Technology. He is Director of the Athinoula A. Martinos Center for Biomedical Imaging at Massachusetts General Hospital, MIT, and the Harvard Medical School. He received his PhD in
medical physics from MIT and his MD from the Hahnemann Medical College in Philadelphia, and is board certified in radiology.

Dr. Rosen’s research over the past thirty years has focused on the development and application of physiological and functional NMR techniques. His recent work has focused on the fusion of fMRI data with information from other modalities, including very high temporal resolution signals using magnetoencephalography (MEG) and non-invasive optical imaging. By using fMRI tools to evaluate the linkage between neuronal and physiological (metabolic and hemodynamic) events during periods of increased neuronal activity, his studies are allowing researchers to better interpret fMRI signal changes and develop new ways to probe brain function; for instance, through "event related" fMRI studies.

Dr. Rosen leads the activities of several large interdisciplinary and inter-institutional research and training programs that focus on the development of novel biomedical imaging technologies and their application to diverse programs of basic and clinical research. These programs include the NIH/NCRR Regional Resource Center, the Center for Functional Neuroimaging Technologies (CFNT), the Biomedical Informatics Research Network (BIRN), and others.

A Gold Medal winner and Fellow of the International Society of Magnetic Resonance in Medicine, Dr. Rosen is author or coauthor of more than 250 peer-reviewed articles, book chapters, and reviews. He has mentored dozens of graduate students and research fellows through the years.

**POSTER SESSION/LUNCH  12:00 PM - 1:45 PM**

**AFTERNOON ORAL PRESENTATIONS 1:45 PM - 2:55 PM**

1:45 PM – 2:10 PM  
Murat Akcakaya, Postdoctoral Research Associate in Cognitive Systems Laboratory at Northeastern University, ECE Department

“RSVP Keyboard: an EEG Based Typing Interface”  
(Authors: Umut Orhan, Murat Akcakaya, Matt Higger, Marzieh Haghighi, Mohammad Moghadamfallahi, Deniz Erdogmus)

2:10 PM – 2:30 PM  
Sarah Brown, PhD student in the Electrical Engineering Department at Northeastern University, and a member of the Biomedical Signal Processing, Imaging, Reasoning, and Learning Group at NU

“Dynamic Bayesian Networks for Emotion Modeling”

2:30 PM -2:55 PM  
Bahman Nasseroleslami, Postdoctoral Research Associate, Northeastern University, Department of Biology

“Strategies in Rhythmic Object Manipulation: Predictability or Chaos”  
(Authors: Bahman Nasseroleslami, Christopher J. Hasson, Dagmar Sternad)

2:55 PM – 3:30 PM  
CLOSING REMARKS, AWARDS, COFFEE, OPEN DISCUSSION