



***NSF IGERT on Video Bioinformatics
Second Fall Retreat 2011
UCLA Conference Center, Lake Arrowhead, CA
Technical Program***

FRIDAY, OCTOBER 28, 2011

- 05:00pm CHECK IN
- 05:30pm – 06:30pm OPENING RECEPTION [Pineview Room]
- 06:30pm – 08:00pm DINNER
- 08:00pm – 08:30pm WELCOME AND INTRODUCTION
Bir Bhanu
- 08:30pm – 09:30pm KEYNOTE SPEECH
Dr. Jeffrey Alger, UCLA
Dynamic Magnetic Resonance Imaging of Stroke and Traumatic Brain Injury
- 09:30pm – 09:40pm BREAK –Coffee & Tea
- 09:40pm – 10:00pm CHALLENGES
- 10:00pm SOCIAL [Lakeview Room]

SATURDAY, OCTOBER 29, 2011

- 08:00am – 09:00am: BREAKFAST

Session on Medical Imaging and Analysis

- 09:00am – 09:20am **Andre Obenaus**
Computational Analysis of Traumatic Brain Injury: Unmet Needs
- 09:20am – 09:40am **Bir Bhanu**
Symmetry for Detecting Brain Anomalies
- 09:40am – 09:55am Virginia Donovan, IGERT Fellow
Are Microglia Activated Following a Mild Closed Head Injury?
- 09:55am – 10:10am Anthony Bianchi, IGERT Fellow
Low Contrast Mild Traumatic Brain Injury Detection Through Visual and Contextual Fusion

- 10:10am – 10:25am Ben Sanders, IGERT Fellow
Super-resolution for Medical Imaging Systems
- 10:25am – 10:40am BREAK – Coffee & Tea
- 10:40am – 10:55am Devin McBride, IGERT Fellow
Detection and Treatment of Cerebral Edema
- 10:55am – 11:10am Michael Oliveira, IGERT Fellow
Extracting Structural Features of Rat Sciatic Nerve Using Multi-Functional Spectral-Domain Optical Coherence Tomography
- 11:10am – 11:25am Alina Beas, IGERT Fellow
Super Resolution for MRI

Session on Imaging and Protein Dynamics

- 11:25am – 11:45am **Jiayu Liao**
Quantitative FRET Analysis for Protein Interaction Affinity K_d and Protease K_{cat}/K_m Determinations
- 11:45am – 12:05pm **Dimitrios Morikis**
Viral Protein Dynamics and Sequence Variability in HIV Infection

12:05pm – 01:00pm LUNCH

Session on Imaging and Analysis of Stem Cells

- 01:15pm – 01:35pm **Prue Talbot**
Preventing Disease with Human Embryonic Stem Cells
- 01:35pm – 01:50pm Jo-Hao Weng, IGERT Fellow
The Mechanism and Function of Dynamic Blebbing in Human Embryonic Stem Cells
- 01:50pm – 02:05pm Ben Guan, IGERT Fellow
Non-Dynamic Blebbing Single Unattached Human Embryonic Stem Cell Detection in the Complex Cell Clusters
- 02:05pm – 02:20pm Jillian Larsen, IGERT Fellow
Using Fluorescent Hydrogel Scaffolds for Stem Cell Culture
- 02:20pm – 02:35pm Douglas Hill, IGERT Fellow
Improving Accessibility of Microfluidics through Interdisciplinary Component-based Design
- 02:35pm – 02:55pm **David Carter**
New Pathway for Customized High Content Imaging
- 02:55pm – 03:10pm BREAK – Coffee & Tea

Session on Imaging and Analysis in Plant Cell Biology

- 03:10pm – 03:30pm **Shou-Wei Ding**
A C. Elegans Model for Viral Immunity Studies
- 03:30pm – 03:45pm Stephanie Coffman, IGERT Fellow
*Identification and Characterization of Innate Immunity Genes in *Caenorhabditis elegans**
- 03:45pm – 04:00pm Nolan Ung, IGERT Fellow
Quantifying Endomembrane Dynamics Using Video Bioinformatics

- 04:00pm – 04:15pm Nan Luo
The Signaling Networks for Pollen Tube Tip Growth
- 04:15pm – 04:30pm Asong Tambo, IGERT Fellow
Quantifying Pollen Tube Morphogenesis
- 04:30pm – 04:45pm Geoffrey Harlow, IGERT Fellow
Pollen Tubes: a System of Rapid Polar Unicellular Growth
- 04:45pm – 05:00pm Linan Feng
Concept Learning and Image Retrieval
- 05:00pm – 05:15pm Ilva Cabrera, IGERT Fellow
Putting the Brakes on G Protein Signaling Influences Growth and Development in Neurospora
- 05:30pm – 06:30pm PRE-DINNER SOCIAL [Lakeview Room]
- 06:30pm – 08:00pm DINNER
- 08:00pm – 09:00pm FACULTY MEETING [Pineview Room]
STUDENT MEETING [Skyview Room]
- 09:00pm SOCIAL [Lakeview Room]

SUNDAY, OCTOBER 30, 2011

- 08:00am – 09:00am BREAKFAST

Session on Biologically Inspired Computation & Behavior

- 09:00am – 09:20am **Aaron Seitz**
The Role of Reward in Perceptual Learning of Unconscious Stimuli
- 09:20am – 09:35am Albert Cruz, IGERT Fellow
A Psychologically-Inspired Match-Score Fusion Model for Video-Based Facial Expression Recognition
- 09:35am – 09:50am Erica Freeman, IGERT Fellow
Quantitative Feeding Behavioral Analysis in Drosophila
- 09:50am – 10:30am Faculty & Student Discussions
- 10:30am – 10:40am BREAK – Coffee & Tea
- 10:40am – 11:10am Results of the Poster Competition & Feedback
- 11:10am – 11:35pm Action Items
- 11:35am-12:00pm IGERT Evaluation
Lisa Kohne
- Meeting Adjourned**
- 12:00pm CHECK-OUT
- 12:00pm – 01:00pm LUNCH