Neuroengineering: From Cells to Systems
IGERT retreat January 5-6, 2017
South Shore Harbour Resort (Lalique Conference Rm), 2500 S Shore Blvd, League City, Texas 77573

AGENDA

January 5, 2017

3:00 – 3:15 pm  Welcome and Introduction, Robert Raphael, PhD, IGERT Program Director
3:15 – 4:15 pm  Marcie O’Malley, PhD, Professor, Mechanical Engineering, Rice University
What I did on my Sabbatical
4:15 – 6:30 pm  Jennifer Bell, BSc Eng, MBA, Senior Engineering & Management Professional
Leadership in Science & Engineering
6:30 – 7:30 pm  Dinner
7:30 – 8:00 pm  Robert Raphael, PhD, Associate Professor, Bioengineering, Rice University
Discussion: Building Neuroengineering Presence in Social Media

January 6, 2017

9:30 – 10:00 am  Continental Breakfast

THEME 1: CELLULAR AND MOLECULAR NEUROENGINEERING
10:00 – 10:15 am  Dan Sazer, Bioengineering, Rice University
Low-cost Stereolithography for 3D Printing of Multi-Material Sensory Organ Mimics
10:15 – 10:30 am  Krishna Badhiwala, Bioengineering, Rice University
Scalable Microdevices for Neuroscience with Small Organisms
10:30 – 10:45 am  Hamin Jeon, Bioengineering, Rice University
Minimally Invasive High Resolution Imaging of Auditory Neurons Inside a Living Cochlea
10:45 – 11:00 am  BREAKOUT SESSION 1

THEME 2: NEURAL CIRCUITS
11:00 – 11:15 am  Joshua Chu, Electrical & Computer Engineering, Rice University
Probing Mechanisms of Working Memory and Decision Making Through Manipulation of Hippocampal Circuits
11:15 – 11:30 am  Sudha Yellapantula, Electrical & Computer Engineering, Rice University
Analyzing Language Connectivity Networks during Articulation from Human ECoG data using Mutual Information in Frequency
11:30 – 11:45 am  Elizabeth Halfen, Neuroscience, Baylor College of Medicine
Population receptive field estimation of visual eccentricity representations in human superior colliculus
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<tr>
<th>Time</th>
<th>Speaker</th>
<th>Topic</th>
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<tr>
<td>11:45 – 12:00 pm</td>
<td>Minh Tan Nguyen, Electrical &amp; Computer Engineering, Rice University</td>
<td>Understanding the brain mechanisms underlying perception</td>
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<td>12:00 – 1:15 pm</td>
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<td>LUNCH and Discussion of Neural Circuit Research</td>
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**THEME 3: TRANSLATIONAL NEUROENGINEERING**

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<th>Time</th>
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<tr>
<td>1:20 – 1:40 pm</td>
<td>Amanda Wickens, Applied Physics, Rice University</td>
<td>Magnetoelectric Nanomaterials for Neural Modulation</td>
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<td>1:40 – 2:00 pm</td>
<td>Eric Lewis, Electrical &amp; Computer Engineering, Rice University</td>
<td>Deep Brain Stimulation (DBS) therapy and the reduction of symptoms associated with Parkinson’s Disease (PD)</td>
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<td>2:00 – 2:20 pm</td>
<td>Matthew Evan Pezent, Mechanical Engineering, Rice University</td>
<td>Design and Control of a Robotic Exoskeletal Device for Hand-Wrist Rehabilitation</td>
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<td>2:20 – 2:40 pm</td>
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<td>BREAKOUT SESSION 2: Opportunities for Cross-Disciplinary Collaboration</td>
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<td>2:40 – 3:00 pm</td>
<td>Closing, Dr. Robert Raphael</td>
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