

Neuroscience Retreat

September 10-11, 2004

Pere Marquette Lodge and Conference Center

Sponsored by:

Sangamon Chapter Society for Neuroscience

Southern Illinois Chapter Society for Neuroscience

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Office of the Dean, Southern Illinois University School of Medicine

Office of the Associate Dean of Research and Faculty Affairs

Department of Neurology

Department of Pharmacology

Department of Psychiatry

Division of Otolaryngology, Department of Surgery

Neuroscience Retreat Program

September 10-11, 2004

September 10 (Friday)

* = Data Blitz

4:00 - 5:30 pm Check-in/ Registration

5:30 - 6:30 pm Dinner

6:30 - 6:35 pm **Greetings**

Amy C. Arai, Ph.D.

President, Sangamon Chapter Society for Neuroscience

6:35-6:45 pm **Opening Remarks**

Edward J. Moticka, Ph.D.

Associate Dean of Research and Faculty Affairs

6:45-7:30 pm **Special Lecture**

Advances of Proteomics in Biological Systems

Peter M. Yau, Ph.D.

Director of Proteomics, Biotechnology Center, University of Illinois
Urbana-Champaign

7:30-7:50 pm **Theme Lecture**

Proteomics: Clinical Application

James J. LaGuardia, M.D.

Department of Neurology, SIU-Springfield

8:00 - 8:55 pm **Neurological Disorders**

Moderator: M. Steven Evans, M.D.

Epileptic Seizure Reduce GABA_A Receptor Function

M. Steven Evans, M.D.

Department of Neurology, SIU-Springfield

Alterations in Seizure Susceptibility during the Aging Process

Peter Patrylo, Ph.D.

Department of Physiology, SIU-Carbondale

The Role of B-cells in Opsoclonus-Myoclonus, a Paraneoplastic Syndrome

Michael Pranzatelli, M.D.

Department of Neurology, SIU-Springfield

Coffee break

9:15 - 9:35 pm **Sleep**

Moderator: Linda A. Toth, Ph.D.

The Genetics of Sleep

Linda A. Toth, Ph.D., D.V.M.

Department of Pharmacology, SIU-Springfield

***Thioether S-methyltransferase (temt) Gene Expression during Influenza Infection in Mice**

Ming Ding, Ph.D.

Toth lab, Department of Pharmacology, SIU-Springfield

9:40-10:00 pm **Blood-Brain Barrier**

Moderator: William A. Banks, M.D.

***Obesity, Leptin Resistance and Blood-Brain Barrier**

William A. Banks, M.D.

Department of Geriatrics, St. Louis University

Developmentally Regulated Mannose-6-Phosphate Receptor mediated Transport of a Lysosomal Enzyme across the Blood-Brain Barrier

Akihiko Urayama, Ph.D.

Banks lab, Department of Geriatrics, St. Louis University

**Human Immunodeficiency Virus Type 1 (HIV-1)
Transport across the in vitro Mouse Brain
Endothelial Cell Monolayer**

Ryota Nakaoke, M.D.

Banks lab, Department of Geriatrics, St. Louis University

September 11 (Saturday)

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7:30-8:30 am Breakfast

8:30 - 9:00 am **Auditory System and Aging**

Moderator: Donald M. Caspary, Ph.D.

Geezer Plasticity: GABA Changes in Auditory Cortex

Donald M. Caspary, Ph.D.

Department of Pharmacology, SIU-Springfield

***Mysteries of Age-related Changes of GABA_A
Receptor Subunits in Rat A1: Protein Trafficking?**

Lynne Ling

Caspary lab, Department of Pharmacology, SIU-Springfield

***Functional Consequences of Age-related Loss of
Cortical Inhibition: Electrophysiology and Behavior**

Jeremy Turner, Ph.D.

Caspary lab, Department of Pharmacology, SIU-Springfield

9:00-9:30 am **Auditory System**

Moderator: Gayle Woodson, M.D.

**Laryngeal Paralysis as a Model for Studying Nerve
Injury**

Gayle Woodson, M.D.

ENT, Department of Surgery, SIU-Springfield

D-Methionine as an Otoprotective Agent

Kathleen Campbell, Ph.D.

ENT, Department of Surgery, SIU-Springfield

9:35-9:55 am **Neurodegeneration**

Moderator: Gregory J. Brewer, Ph.D.

Do Mitochondria Control Brain Aging?

Gregory J. Brewer, Ph.D.

Department of Medical Microbiology and Immunology, SIU-Springfield

***Age-related NAD(P)H Decreases and Redox
Declines during Glutamate Treatment of
Hippocampal Neurons**

Mordhawaj Parihar

Brewer lab, Department of Medical Microbiology and Immunology, SIU-Springfield

Coffee break

10:20-10:35am **AMPA Receptor Function and Synaptic
Transmission**

Moderator: Amy C. Arai, Ph.D.

***Modulation of Excitatory Synaptic Transmission
through RF-amide Peptide Receptors**

Amy C. Arai, Ph.D.

Department of Pharmacology, SIU-Springfield

***Inhibition of AMPA Receptors by Guanine Nucleotides**

Kyle Montgomery
Arai lab, Department of Pharmacology, SIU-Springfield

***C-terminal Truncation Affects Kinetic Properties of AMPA-GluR1 Receptors**

Erika Suzuki, Ph.D.
Arai lab, Department of Pharmacology, SIU-Springfield

10:40-11:05am **TRP channels**

Moderator: Louis Premkumar, Ph.D.

TRP Channels

Louis Premkumar, Ph.D.
Department of Pharmacology, SIU-Springfield

***Activation of TRPV1 by Resiniferotoxin**

Mallikarjuna Pabbidi
Premkumar lab, Department of Pharmacology, SIU-Springfield

***Gabapentin: a TRPV1 Antagonist?**

Manish Raisinghani, Ph.D.
Premkumar lab, Department of Pharmacology, SIU-Springfield

11:10-11:30 am **Adenosine Receptor**

Moderator: Vickram Ramkumar, Ph.D.

Nerve Growth Factor - Adenosine Receptor Interactions

Vickram Ramkumar, Ph.D.
Department of Pharmacology, SIU-Springfield

***Adenosine Receptor Binding and Expression in Striatum of NF-kB P50 Subunit Knockout Mice**

Xiaobin Xie
Toth & Ramkumar lab, Department of Pharmacology, SIU-Springfield

11:35- 11:45 am **Biogenic amines**

Moderator: Ronald A. Browning, Ph.D.

***Vagus Nerve Stimulation and Norepinephrine Release**

Rodney Roosevelt
Browning lab, Department of Physiology, SIU-Carbondale

***Can Genotype Predict Behavior?**

Jodi Huggenvik, Ph.D.
Department of Physiology, SIU-Carbondale

11:50 am -12:20 pm **Genetically Epilepsy Prone Rats**

Moderator: Carl L. Faingold, Ph.D.

Comparative Studies of Audiogenic Seizure Networks

Carl L. Faingold, Ph.D.
Department of Pharmacology, SIU-Springfield

Preliminary Microarray Studies on GEPR Brain and Cells Expressing Anti-sense Transcripts to the Suicide-related DEAF-1

Michael Collard, Ph.D.
Department of Physiology, SIU-Carbondale

Participant List

F= faculty, S= staff, G= graduate student

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