



## 29<sup>th</sup> Annual ECNN Meeting March 21-23, 2003

Friday March 21

5:30 pm *Cocktails Meigs room - Swope Center*

*Spirits, beer wine, soft drinks and hors d'oeuvres provided. Please set up posters prior to the Grass Foundation Lecture.*

6:30 pm *Dinner*

8:00 pm *Grass Foundation Lecture- Whitman Auditorium*

**Joe Fetcho, SUNY at Stony Brook**

***Optical and genetic approaches towards understanding neuronal circuits in vertebrates.***

The organizing committee is grateful for the patronage of the following organizations:

### **The Grass Foundation**



### **The Center for Advanced Studies in the Space Life Sciences**

**CASSLS**  
CENTER FOR ADVANCED STUDIES IN THE SPACE LIFE SCIENCES

### **Fine Science Tools**



SAVE THE DATE! The 30<sup>th</sup> annual ECNN Meeting will be held April 2-4, 2004

East Coast Nerve Net 2003

- 7:00 am *Breakfast - Swope Center*
- 8:30-10:15 am ***Behavior/ Physiology*** - Whitman auditorium
- 8:30 am ANALYSIS OF AGONISTIC BEHAVIOR IN ZEBRAFISH MUTANTS  
Meral Karakoc and Henning Schneider. William Paterson University
- 8:45 am CHANGES IN NON-AGONISTIC BEHAVIOR DURING DOMINANCE HIERARCHY FORMATION IN CRAYFISH  
Jens Herberholz, Marjorie Sen, Christopher Mims, Xiaodong Zhang, Xiaoping Hu, and Don Edwards. Georgia State University & Emory University
- 9:00 am A SIGNAL DETECTION MODEL OF DISCRIMINATION LEARNING AND CHOICE BEHAVIOR  
Spencer Lynn. University of Arizona
- 9:15 am VARIABILITY IN ELEMENTS OF *APLYSIA* FEEDING BEHAVIOR  
Vladimir Brezina. Mt. Sinai School of Medicine
- 9:30 am ESTABLISHMENT OF PERSISTENT BEHAVIORAL STATES IN THE FEEDING CIRCUITRY OF *APLYSIA*  
Alex Proekt and Klaudiusz R. Weiss. Mount Sinai School of Medicine
- 9:45 am MORPHOLOGICAL AND PHYSIOLOGICAL CHARACTERIZATION OF STRETCH RECEPTORS IN LEECHES  
Ruey-Jane Fan and Otto W. Friesen. Department of Biology, University of Virginia
- 10:00 am MESMERIZING MAGGOTS: ANESTHETICS, EXCITABILITY AND SYNAPTIC TRANSMISSION IN *DROSOPHILA*  
David J. Sandstrom and Howard A. Nash. National Institute of Mental Health, NIH
- 10:15 am *Coffee Break*
- 10:45-12:15 am ***Neuromodulation***
- 10:45 am EFFECTS OF NEUROMODULATORS ON CRAB NEURON SURVIVAL  
Latha Nambiar and Jorge Golowasch. Rutgers, The State University of New Jersey-Newark

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- 11:00 am METAMODULATION?! SEROTONIN, OCTOPAMINE, AND CHH: INTERACTIONS AT THE LEVEL OF IDENTIFIED NEURONS IN THE LOBSTER  
Alo C. Basu and Edward A. Kravitz. Harvard Medical School
- 11:15 am A DEPOLARIZING AFTERPOTENTIAL IS ASSOCIATED WITH FUNCTIONAL THERMOTOLERANCE OF ACTION POTENTIALS FOLLOWING HEAT SHOCK IN A VISUAL INTERNEURON IN LOCUSTS  
Tom Money, Mike Anstey and Mel Robertson. Queen's University
- 11:30 am CONCERTED GABAERGIC ACTIONS OF APLYSIA FEEDING INTERNEURONS IN MOTOR PROGRAM SPECIFICATION  
Jian Jing, Ferdinand S. Vilim, Jin-Sheng Wu, Ji-Ho Park, and Klaudiusz R. Weiss. Mt Sinai School of Medicine
- 11:45 am DOPAMINE AND GABA CONTRANSMISSION AT AN *APLYSIA* SYNAPSE: NEUROTRANSMITTER ACTIONS AND INTERACTIONS.  
Manuel Daz-Ros and Mark W. Miller. University of Puerto Rico, Institute of Neurobiology
- 12:00 pm MULTIPLE TARGETS OF SEROTONIN IN THE CRAYFISH LATERAL GIANT CIRCUIT  
Brian L Antonsen, Steven Versteeg and Donald H Edwards. Georgia State University
- 12:15 am *Lunch- Swope Center*
- 1:55-3:50 pm ***The STG*** - Whitman auditorium
- 1:55 pm PRESENCE AND ACTIONS OF PEVOPYROKININ PEPTIDES IN THE STOMATOGASTRIC GANGLION OF THE CRAB *CANCER BOREALIS*  
Shari Hertzberg and Michael P. Nusbaum. University of Pennsylvania
- 2:20 pm FOCAL REGULATION OF A MODULATORY NEURON BY A SENSORY INPUT  
Mark Beenhakker and Michael Nusbaum. University of Pennsylvania
- 2:35 pm MODULATION OF MOTOR PATTERNS BY CIRCULATING HORMONES  
Matthew Kirby and Michael Nusbaum. University of Pennsylvania
- 2:50 pm THE STRENGTH AND TIMING OF FEEDBACK ARE DYNAMICALLY CHANGED FOR RHYTHM STABILIZATION  
Akira Mamiya and Farzan Nadim. Rutgers-Newark

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- 3:05 pm           UBER-CLAWS: AUTOMATIC PHASE ANALYSIS OF THE STG PYLORIC RHYTHM  
Rama Natarajan and Farzan Nadim. Rutgers University
- 3:20 pm           COMPETITIVE INTERACTION OF DOPAMINE-MEDIATED PERIPHERAL SPIKE  
INITIATION WITH CENTRAL ACTIVITY IN A SINGLE MOTOR NEURON  
Dirk Bucher and Eve Marder. Brandeis University
- 3:35 pm           STUDYING HODGKIN-HUXLEY TYPE NEURONS WITH A DATABASE OF  
COMPUTATIONAL MODELS  
Astrid A. Prinz, Cyrus Billimoria, and Eve Marder. Brandeis University
- 3:50-4:15 pm     *Coffee break*
- 4:15-5:30 pm     ***Development/Molecular neurobiology***
- 4:15 pm           DOES SOCIAL STATUS INFLUENCE THE RATE OF NEUROGENESIS IN JUVENILE  
LOBSTERS?  
Ellie Mazzarella and Barb Beltz. Wellesley College
- 4:30 pm           NACHR SUBUNITS IN *MANDUCA SEXTA*: GOING FROM NEURONAL CULTURES TO  
INTACT ANIMALS  
Anke Vermehren and Barry Trimmer. Tufts University
- 4:45 pm           MOLECULAR IDENTIFICATION OF BURSICON, THE INSECT CUTICLE  
SCLEROTIZING HORMONE  
Lisa Dewey and H.-Willi Honegger. Vanderbilt University
- 5:00 pm           FIGHTING FRUIT FLIES: USING THE GAL4-UAS METHOD TO EXPLORE THE ROLE  
OF DOPAMINE NEURONS  
Ann Y. Lee and Edward A. Kravitz. Harvard Medical School
- 5:15 pm           PATTERNS OF GENE EXPRESSION AND SOCIAL EXPERIENCE  
Janell S. Stadler, Geoff K. Ganter and Edward A. Kravitz. Harvard Medical  
School
- 6:00-7:00 pm     *Cocktails and hors d'oeuvres. Meigs Room - Swope Center*
- 7:00-8:00 pm     *Dinner*
- 8:00-11:00 pm    *Posters and party - Swope Center*

**POSTERS**

ENVIRONMENTAL STRESS MODULATES THE ENCODING PROPERTIES OF A MOTION DETECTING INTERNEURON IN *LOCUSTA MIGRATORIA*

Michael L. Anstey, Tomas G. Money, R.M. Robertson. Queen's University, Kingston, ON

IONIC CURRENTS AND CYTOPLASMIC STREAMING IN *AMOEBIA PROTEUS*.

Susan R. Barry and Erica D. Corson. Mount Holyoke College

ELECTROPHYSIOLOGICAL EVIDENCE OF A VASOTONERGIC PATHWAY IN A URODELE AMPHIBIAN, *TARICHA GRANULOSA*

Gabe Civiello, Patsy Dickinson, Richmond Thompson. Bowdoin College

20-HYDROXYECDYSONE AND ITS EFFECT ON LOBSTER OLFACTORY RECEPTOR NEURONS

Stuart Cromarty and Gabriele Kass-Simon. Assumption College

MODULATION OF THE *CALLINECTES* HEART BY CRUSTACEAN CARDIOACTIVE PEPTIDE (CCAP): PERIPHERAL MODULATION OF A CENTRAL PATTERN GENERATOR CIRCUIT.

TJ Fort, V. Brezina, M. W. Miller, Institute of Neurobiology, University of Puerto Rico

5-HT CELL MODULATION OF THE LEG STRETCH REFLEX CIRCUIT IN CRAYFISH

Fadi A. Issa, Daniel Cattaert and Donald H. Edwards, Georgia State University

THERMOTOLERANCE IN *DROSOPHILA* LARVAE.

Markus K. Klose, David Chu and Mel Robertson, Queen's University

NEUROPEPTIDE FCAP MODULATES EXCITABILITY AND SYNAPTIC TRANSMISSION OF FEEDING CPG INTERNEURONS IN *APLYSIA*.

Hae-Young Koh and Klaudiusz R. Weiss, Mount Sinai School of Medicine

NITRATION OF OCTOPAMINE

Herm Lehman, Leah Byrne, Ian Rosenstein, Robin Kinnel. Hamilton College

NITRIC OXIDE-INDUCED BEHAVIOR IN *MANDUCA SEXTA* LARVAE

Glenda Molina, R.M. Zayas, A. Siddiqui, B.A. Trimmer, Tufts University

STUDY OF PAXILLINE'S EFFECT ON IONIC CURRENTS OF *CANCER BOREALIS* LP AND PD NEURONS

Lola Mukhamedieva and Jorge Golowasch. Rutgers University

DIFFERENTIAL CONTROL OF NEMATOCYST DISCHARGE BY MECHANICAL AND CHEMICAL STIMULI IN '*HYDRA VULGARIS (ATTENUATA)*'

A. A. Scappaticci Jr. and G. Kass-Simon, University of Rhode Island

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CLONING AND EXPRESSION OF A ZEBRAFISH SEROTONIN RECEPTOR  
Henning Schneider, Mietra Harandi, Luke Fritzky. William Paterson University

THE ROLE OF HYDROSTATIC PRESSURE IN INSECT SOFT-BODIED MOVEMENTS  
Anne Takesian and Barry A. Trimmer. Tufts University

MODELLING THE LATERAL GIANT CIRCUIT IN CRAYFISH USING ANATOMICAL AND PHYSIOLOGICAL DATA  
Steven Versteeg, Brian L Antonsen, Jens Herberholz, Jason Agran, Donald H Edwards  
Georgia State University

IDENTIFICATION OF AN *APLYSIA* PROTEIN WITH HIGH HOMOLOGY TO THE MAMMALIAN VESICULAR GLUTAMATE TRANSPORTER.  
Ferdinand S. Vilim, J. Jing, V. Alexeeva, P.J. Church, K.R. Weiss, Mount Sinai School of Medicine

IDENTIFICATION AND CHARACTERIZATION OF A GABAERGIC CEREBRAL-BUCCAL INTERNEURON (CBI-11) IN *APLYSIA*.  
Jin-Sheng Wu, J. Jing, I. Kupfermann and K.R. Weiss, Columbia University

**PRESENTING AUTHORS: TALKS AND POSTERS**

<b>Grad students</b>	<b>Postdocs</b>	<b>Faculty</b>	<b>Undergrads</b>
Alo C. Basu	Brian L Antonsen	Susan R. Barry	Michael L. Anstey
Mark Beenhakker	Dirk Bucher	Vladimir Brezina	Gabe Civiello
Manuel Daz-Ros	Lisa Dewey	Stuart Cromarty	Ellie Mazzarella
Shari Hertzberg	Ruey-Jane Fan	Jian Jing	Glenda Molina
Fadi A. Issa	T.J. Fort	Herm Lehman	Anne Takesian
Matthew Kirby	Jens Herberholz	Henning Schneider	
Markus K. Klose	Hae-Young Koh	Ferdinand S. Vilim	
Spencer Lynn	Astrid A. Prinz		<b>Res Assoc/Techs</b>
Akira Mamiya	Jin-Sheng Wu		Ann Y. Lee
Tom Money			Janell S. Stadler
Lola Mukhamedieva			
Latha Nambiar			<b>Other</b>
Rama Natarajan			Meral Karakoc
Alex Proekt			David J. Sandstrom
A. A. Scappaticci Jr			
Anke Vermehren			
Steven Versteeg			

Sunday March 23  
7:30am *Breakfast- Swope Center.* REMINDER: Checkout time at Swope is 10:00am!

**SUNDAY SYMPOSIUM**

***Development and Function of Insect Motor Systems***

Sponsored by CASSLS

Organizer: Ralph DiCaprio

- 9:00 am THE CENTER FOR ADVANCED STUDIES IN THE SPACE LIFE SCIENCES (CASSLS).  
Diana E. Jennings, Ph.D., Staff Scientist and Director, CASSLS at the Marine  
Biological Laboratory
- 9:10 am MECHANISMS OF MOTONEURON REMODELING DURING *MANDUCA*  
METAMORPHOSIS.  
Carsten Duch, Institute of Neurobiology, Free University of Berlin, Germany
- 9:50 am SOFT-BODIED CLIMBERS: HYDRAULICS, KINEMATICS AND NEURAL CONTROL OF  
CATERPILLAR LOCOMOTION.  
Jonathan Issberner and Barry Trimmer, Tufts University Biology Department
- 10:10 am ***Coffee break***
- 10:40 am THE COMPLEXITY OF SOMETHING ORDINARY: NEUROBIOLOGY OF LOCOMOTION.  
Ansgar Bueschges, Zoological Institute, University of Cologne, Germany.
- 11:30 am *Conclusion of ECNN Meeting 2003*
- 12:00 pm *Lunch- Swope Center*

**Center for Advanced Studies in the Space Life Sciences**

In 1995, the NASA Life Sciences Division and the Marine Biological Laboratory established a cooperative agreement with the formation of the Center for Advanced Studies in the Space Life Sciences (CASSLS at MBL). Our primary goals are to increase awareness of NASA's interests in the life sciences within the basic science community and expand NASA's interactions with talented biologists. Through symposia, workshops and seminars, CASSLS advises NASA and the biological science community on a wide variety of topics. Through fellowships, CASSLS supports summer research for investigators in areas pertinent to the aims of NASA Life Sciences.

Since the Center began its operations in July 1995, more than 550 people have attended CASSLS workshops. Typically these workshops last for two to four days and feature an international array of scientists and NASA/International space agency staff. In many cases, workshop chairs have a long time association with the MBL. Workshop schedules incorporate many opportunities for interaction and discussion. A major outcome for workshops is the publication of proceedings in a peer-reviewed journal. Moreover, our meetings introduce outstanding biologists to research questions and prominent scientists involved in gravitational biology and the NASA Life Sciences Program.

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