

PROGRAM

EAST COAST NERVE NET - SEVENTEENTH ANNUAL MEETING

MBL, APRIL 5-6-7, 1991

Friday, April 5

- 5:30 P.M. Cocktails and Dinner - Swope Center
- 8:00 Plenary Session - Whitman Auditorium

DENDRITIC CONTROL OF HEBBIAN COMPUTATION

Dr. Brenda Claiborne, Div Life Sci, Univ. Texas
Dr. Thomas Brown, Psychology Dept, Yale Univ.

Saturday, April 6

- 8:45 A.M. Chemical Signals Modulating Social Behavior of the
Lobster, Homarus americanus
Jelle Atema, Laurie Christman, Diane Cowan, et al.
Boston University Marine Program
- 9:00 Quantitative Study of Agonistic Behavior and
Dominance in Juvenile American Lobsters
(Homarus americanus)
Robert Huber and Edward Kravitz, Harvard Medical School
- 9:15 Immunocytochemical Evidence for the Existence of
Several CCK-Like Peptides in the Stomatogastric
Nervous System
Andrew Christie, Brandeis University
- 9:30 Evidence for the Involvement of Second Messengers
in the Modulation of Glutamate Responses in
Aplysia Neurons
Paul Katz, Brandeis University
- 9:45 Growth and Differentiation of the Deutocerebrum of Homarus
Maureen Ruchhoeft, Simone Helluy, Barb Beltz
Wellesley College
- 10:00 BREAK
- 10:30 Brain Size and Deutocerebral Structure in Crustaceans:
Allometric Considerations
Simone Helluy and Barb Beltz, Wellesley College

- 10:45 Temporal Regulation of Gene Expression in the Insect
Olfactory System by the Steroid Hormone
20-Hydroxy Ecdysone
Richard Vogt, Yale Univ School of Medicine
- 11:00 Properties of Identified Lobster Stomatogastric
Neurons in Primary Cell Culture
Gina Turrigiano, Brandeis Univ.
- 11:15 Crab Stomatogastric Neurons in Primary Cell Culture
Andrew Sharp, Brandeis Univ.
- 11:30 Abdominal Postural Responses Initiated by Muscle
Receptor Organs in Lobster Depends Upon
Centrally-Generated Motor Program
Suzanne Sukhdeo, Rutgers University
- 11:45 Latheo, a New Drosophila Learning Mutant
Susan Boynton, Brandeis Univ.
- 12:00 LUNCH
- 2:00 P.M. Mechanosensory Cells Modulate Motor Patterns Generated by
Small Networks at Multiple Serotonergic Receptors
Bing Zhang, Cornell Univ.
- 2:15 Structure of the Metathoracic Wing-Hinge Chordotonal
Organ in Actias luna (Lepidoptera: Saturniidae):
An Evolutionary Prototype of the Noctuid Moth
Ear
Jayne Yack, Univ. Toronto
- 2:30 Auditory Processing in a Primitive Insect: Does
Cyphoderris monstrosa Listen to its Own Song?
Andrew Mason, Univ. Toronto
- 2:45 Axonal Projections of Campaniform Sensilla in Flies
and Crickets Suggests That There are Two
Classes of Sensilla
David Merritt, Univ. Mass-Amherst
- 3:00 Functional Connections of Campaniform Sensilla on
Transplanted Cricket Cerci
Kathy Killian, Univ. Mass-Amherst
- 3:15 BREAK

MRO -
influenced F3
2 bone
during extrinsic
F5 will
respond to MRO

- 3:30 The DUM Neuron Lineage in the Grasshopper
Karen Thompson, Emory University
- 3:45 Growth Cone Choices of Drosophila Embryonic
Motorneurons in Response to Mismatched
Targets
Akira Chiba and Haig Keshishian, Yale Univ.
- 4:15 Developmental Control of Synaptic Plasticity at
Identified Synapses in the Cricket CNS
Graeme Davis, Univ. Mass-Amherst
- 4:30 Localizing Descending Inputs to the Crab
Stomatogastric Ganglion
Melissa Coleman, Univ. Alabama-Birmingham
- 4:45 Interactions Between Modulatory Inputs and Neural
Networks in the Crab Stomatogastric Ganglion
Mike Nusbaum, Univ. Alabama-Birmingham

COCKTAILS AND DINNER

Sunday, April 7

- 9:00 A.M. Stimulus Intensity Filters in Chemoreception:
The Transfer Function
George Gomez, Rainer Voigt, Jelle Atema, MBL
- 9:15 Coding Reliability of Hydroxy-L-Proline Sensitive
Chemoreceptor Cells of the Lobster's Lateral
Antennule
Carl Merrill, Rainer Voigt, Jelle Atema, MBL
- 9:30 Single Channel Recordings From Isolated Cultured
Crustacean Mechanosensory Neurons
Lillian Golas, McGill Univ.
- 9:45 Modeling Spike Propagation on Plateauing Axons
Thomas Kepler, Brandeis Univ.
- 10:00 Peripheral Spike Initiation in the Axon of a Motor
Neurone
Jim Weimann, Brandeis Univ.
- 10:15 **BREAK**

- 10:45 Precedence Effect in Negative Phonotaxis of the
 Cricket
 Robert Wytttenbach, Cornell Univ.
- 11:00 Processing of Temporal Information in an Electric
 Fish (Baby Whales: A Bony Invertebrate)
 Satoshi Amagai and Carl Hopkins, Cornell Univ.
- 11:15 Optomotor and Audiomotor Steering by Flying Locusts
 Daniel Robert, Cornell Univ.
- 11:30 Neuroethology of Sound Production in Tiger Moths:
 Rhythmicity and Central Control
 James Fullard, Univ. Toronto
- 11:45 Neural Basis of Visual Selectivity in Foraging
 Dragonflies
 Robert Olberg (Union College) and
 Andrea Worthington (Siena College)

Guests

Sponsored by The Grass Foundation, The Marine Biological Laboratory, and the Neuroscience and Behavior Program at the University of Massachusetts at Amherst.

Saturday Evening

POSTERS - Swope Center

Spontaneous and Evoked Discharge of Regenerated Giant Reticulospinal Neurons in the Lamprey, Petromyzon marinus.

Sarah Jordan and Joseph Ayers, Northeastern Univ.

Simultaneous Electromyographic Recordings from Feeding and Stomatogastric Musculature in the Lobster, Homarus americanus.

Karen Lee and Joseph Ayers, Northeastern Univ.

An Antibody to the Drosophila period protein labels neural antigens in Manduca sexta.

J. McGrew, C. Snook, S. Branda, A. Danielson, K. Siwicki, Swarthmore College

Seasonal Differences in the Physiology and Morphology of Crayfish Motor Terminals
Yangu Zhao, SUNY-Albany

Chemosensory Sensilla are not Necessary for Woolly Bear Caterpillars to Feed Normally on a Normal Food

Elizabeth Bowdan, UMass-Amherst

Mapping of Synaptic Input Within Locust Flight Motoneurons

Henning Schneider, Harvard Medical School

Octopamine and Serotonin Modulate Limulus Claw TTO Proprioceptors

Valerie Pasztor (McGill Univ.) and Gordon Wyse (UMass-Amherst)

Modeling the Electronic Structure of a Cricket Interneuron

Andrew Hill, UMass-Amherst

Transmitter Release From Crayfish Motor Terminals is Influenced by the Electrical Activity of Cell Body

Sungwon Hong, SUNY-Albany

Biotin Staining in Identified Neurons in the Lobster Central Nervous System

PoKay Ma, Henning Schneider, Edward Kravitz, Harvard Medical School

Distribution of Serotonin Immunoreactive Cells in the Central Nervous System of Macrobrachium rosenbergii

Frances Hernandez Rodriguez, Univ. Puerto Rico

Thermal and Chemical Inputs to Retzius Cells Modulating Feeding in the Medicinal Leech Hirudo

James Groome, Utah State Univ.

Bombesin Immunoreactivity in the Medicinal Leech

Catriona McDonald and Margaret O'Neill, Smith College

POSTERS (continued)

Multiple Sites for the Effects of RPCH on Lobster Cardiac Sac Rhythm
John Hetling and Patsy Dickinson, Bowdoin College

Dual Muscarinic and Nicotinic Action on a Motor Program in Drosophila
Michael Gorczyca and Vivian Budnik, UMass-Amherst

Neuronal Activity in the Aplysia Abdominal Ganglion When an Evoked Gill
Contraction Interacts with Spontaneous Gill Contraction
Jian-Young Wu, Yale University School of Medicine

Aggression and Sexual Arousal are Intimately Connected Behavioral Systems
in the Cricket
Shelley Adamo, Cornell University

Reflex Components of Grooming Behavior in Drosophila: A Search for Mutants
Conrad Macrokanis, UMass-Amherst