



NCAR Election

NCAR will be holding an election in April to select two new members and a new Chair for the Steering Committee. If you are interested in running for a seat on the steering committee or would like to nominate someone, please send your name(s) to Jeanne Seagard (jseagard@mcw.edu) or any of the other committee members listed at the end of this newsletter by February 1. A slate of candidates will be presented at the reception/business meeting on April 13, 2003 during the EB meeting, and a ballot will be sent out shortly after the meeting.

Abstract Deadline Is Nov. 13

The deadline for submission of abstracts for the 2003 EB Meeting is November 13. In addition to the regular topic categories listed for poster sessions under NCAR (Page 78 of EB Call for Abstracts and Preliminary Program), you can also submit your abstract to one of the NCAR sponsored Featured Topics. The topic numbers and titles are as follows:

FEATURED TOPICS

- 1150-APS - The Regulation of Sympathetic Nerve Activity in Chronic Heart Failure
- 1151-APS - Oxidant Mechanisms in Neural Control of Cardiovascular Function
- 1151-APS - Identifying Genes and Targets in Cardiovascular Autonomic Pathophysiology States

POSTERS

- 1153-APS - Neural control of cardiovascular function
- 1154-APS - Central autonomic regulation
- 1155-APS - Neural mechanisms in hypertension

There are numerous awards that are available for graduate students, postdoctoral fellows, and junior faculty/academic members. Many of these are abstract driven and are due at or near the time of abstract submission. These include the APS Caroline tum Suden and Procter and Gamble Awards and the NCAR Brody and Young Investigator Awards. A complete listing of these awards is on **Page 4** of the **EB Call for Abstracts and Preliminary Program** and on the APS website at <http://www.the-aps.org/awards.htm>. The awards have changed this year and the section awards will also provide complementary registration in addition to the monetary travel award. In addition, there are society awards that are not abstract driven and these can also be found at the same website. Please check the qualifications for these awards and take advantage of these opportunities.

Lila P. LaGrange Wins Procter and Gamble Award

The 2002 Procter and Gamble Professional Opportunity Award was received by Lila P. LaGrange, Ph.D., University of Texas Health Science Center at San Antonio. Dr. LaGrange presented a paper entitled "Acutely administered Losartan effectively restores the attenuated renal sympathoinhibitory response to volume expansion in rats chronically treated with angiotensin II (All)". Dr. LaGrange is a graduate student in the laboratory of Dr. Vernon Bishop.

Angela J. Grippo Receives the Michael J. Brody Award

Angela J. Grippo, Department of Psychology, University of Iowa was the recipient of the 2002 Michael J. Brody Young Investigator Award. Ms. Grippo is working with Dr. Kim Johnson. Her presentation was entitled "Cardiovascular alterations and elevated cardiac sympathetic tone in the chronic mild stress rodent model of depression."

The Michael J. Brody award recognizes a promising young scientist who has made a significant research contribution to the understanding of neural control and autonomic regulation. The award was named in honor of the late Michael J. Brody, whose work was instrumental in furthering our understanding of central mechanisms involved in control of the cardiovascular system. Dr. Brody placed great emphasis on the importance of developing young scientists. The award is co-sponsored by the Neural Control and Autonomic Regulation Section of the APS and Merck Pharmaceuticals.

SUCCESSFUL NCAR PROGRAMMING FOR EB2002!

The participation of the section and section members at the annual Experimental Biology meeting in Orlando was outstanding. Submission of abstracts remained high and attendance at our section sponsored programming also was outstanding. The meeting was highlighted by the Carl Ludwig Distinguished Lectureship, given by **Dr. Suzanne Oparil**, M.D. entitled "The Anterior Hypothalamic Area: Gatekeeper in the Pathogenesis of Salt-Sensitive Hypertension". Dr. Oparil was honored at our section social, and participated in our traditional breakfast with the Distinguished Lecturer for students and postdoctoral fellows. NCAR also sponsored or co-sponsored symposia entitled "Neural Control of the Cerebral Circulation, chaired by **William T. Talman**. Our Featured Topics included "Hypothalamic PVN Neuromodulatory Mechanisms in Autonomic Regulation, chaired by **Glenn M. Toney** and **J.E. Stern**; "Sensory Afferents and Cardiovascular Regulation", chaired by **Donna Wang** and **Steven Mifflin**; and "Chemoreflexes in Health and Disease: Recent Perspectives in Cardiovascular Control", chaired by **Harold Schultz**. In addition, NCAR organized a **Special Topics Forum at EB2002** - "Re-examining the Antihypertensive Effects of Brain AV3V Lesions: Where are we now?" Despite a flurry of work on this area in the early 1980's regarding the observation that lesion of the AV3V region reversed many forms of hypertension, the mechanisms underlying the remarkable effects of these lesions have remained obscure and interest in this region declined. The goal of this NCAR Special Topics Forum was to encourage discussion of this effect of AV3V lesions, with discussants **Drs. A.K. Johnson, S. Oparil, V. Brooks**, and **W.W. Blessing** spending 5 minutes addressing the question: "In the year 2002, what, if anything, should we think about the antihypertensive actions of AV3V lesions?" The lively discussion was then opened to all participants. We plan to have a similar interactive topics forum this year following the Ludwig lecture. The title of the forum is "**Role of the A5 cell group in autonomic regulation: how to study the role of a brain area in integrated autonomic control.**" All of these programs were outstanding, and the attendance was high. We should all thank **Dr Alan Sved** for his great work on programming. Members are urged to continue their active participation at the Experimental Biology meeting in San Diego on April 11-15, 2003. NCAR sponsored programming is listed later in this newsletter.

NCAR Young Investigator Awards Given at EB 2002

The annual NCAR Young Investigator Awards were given out at the NCAR reception this year at the Experimental Biology Meeting. This award provides travel support (\$500) and registration to junior investigators to present meritorious research. A total of four awards were given this year to the following applicants:

Heidi L. Collins, Ph.D., Department of Physiology, Wayne State University, Detroit, MI

"Post-exercise alpha-adrenergic receptor hypo-responsiveness in T₅ spinal rats"

Frank A. Dinunno, Ph.D., Mayo Clinic and Foundation, Rochester, MN

"Aging and forearm α -adrenergic responsiveness in humans"

Yi-Fan Li, M.D., Ph.D., University of Nebraska Medical Center, Omaha, NE

"Enhanced NMDA receptor function within the paraventricular nucleus of rats with heart failure"

Xiuying Ma, M.D., Ph.D., University of Iowa, Iowa City, IA

"Direct activation of sympathetic neurons by angiotensin is mediated by both protein kinase C-dependent and PKC-independent mechanisms"

NCAR will be awarding at least two Young Investigator Awards at every EB Meeting. More awards will be possible, based on the number of abstracts submitted for our section's programming. NCAR will be able to award 4 for these awards for EB 2003. To be eligible, the investigator must have a Ph.D., M.D., or other professional degree with an academic rank or equivalent not higher than that of Assistant Professor and conduct either basic or clinical research in a field of neural control and autonomic regulation. To apply, the investigator must submit a first-authored abstract to any appropriate neural control topic of the Experimental Biology meeting. Award criteria will be based on current work reflected in the abstract and overall contributions to the field. A copy of the abstract and a CV from the investigator must be received by December 1, 2002 by the Member-at-Large of the NCAR Steering Committee, Dr. Robin Davisson, Assistant Professor, Department of Anatomy and Cell Biology, University of Iowa, 1-570 BSB, Iowa City, IA, 52242. The abstracts will be judged by the NCAR Steering Committee and the most meritorious applications will be awarded.

APS Award Winners

Two members of the NCAR Section received APS Young Investigator Awards at EB 2002. The Arthur C. Guyton Young Investigator Award (\$15,000) was given to **Dr. Simon C. Malpas**, Auckland University Medical School, Auckland, New Zealand, and the Shih-Chun Wang Young Investigator Award (\$12,000) was given to **Dr. Jeffrey T. Potts**, Wayne State University School of Medicine, Detroit, MI. Each award is designated for the use in the awardee's research program. We are proud of both of our members who won these prestigious awards. Methods for applying for these awards is found on the APS website at <http://www.the-aps.org/awards.htm>.

EXPERIMENTAL BIOLOGY MEETING

APRIL 11-15, 2003

San Diego, CA

Many events are planned for the annual Experimental Biology Meeting. These include the Carl Ludwig Distinguished Lecture on Saturday, April 12 and a reception and business meeting on Sunday, April 13. In addition, we have a lot of interesting programming, including one symposium and three featured topics sponsored by NCAR. These events are outlined below. Check your program and the APS website for additional information on these and other sessions of interest.

Sponsored Symposium

Neurogenic Hypertension, Chaired by Alan Sved (Speakers include Vito Campese, Murray Esler, Alan Sved, and Ronald Victor) Sunday, April 13, 8:00 am - 10:00 am

Sponsored Featured Topics

Identifying Genes and Targets in Cardiovascular Autonomic Pathophysiological States, Chaired by Julian Paton Tuesday, April 13, 10:30 am - 12:30 pm

Oxidant Mechanisms in Neural regulation of Cardiovascular Function, Chaired by Robin Davisson Sunday, April 13, 3:15 pm - 5:15 pm

The Regulation of Sympathetic Nerve Activity in Chronic Heart Failure, Chaired by Irving Zucker Saturday, April 12, 3:15 pm - 5:15 pm



Dr. John Coote

Carl Ludwig Distinguished Lecturer for EB 2003

"The Significance for Circulatory Control of the Paraventricular Nucleus"

Saturday, April 12, 10:30 AM - 11:30 AM

The **Carl Ludwig Distinguished Lecture** at Experimental Biology 2003 will be given by **Dr. John Coote**, University of Birmingham, UK. This lectureship is named in honor of Carl Ludwig in recognition of his many and important contributions to understanding autonomic regulatory mechanisms. The lectureship is sponsored by the Neural Control and Autonomic Regulation Section of the American Physiological Society.

Dr. Coote is Professor and Head of the Department of Physiology at the University of Birmingham, UK. Research in Dr. Coote's laboratory focuses on functional and anatomical aspects of central nervous cardiovascular regulation and blood pressure control. Dr. Coote has been a leader in research leading to understanding of the cellular mechanisms underlying autonomic nervous activity patterns in both animals and humans. Studies have been mainly concerned with how the brain generates a pattern of activity in sympathetic outflows to the heart and various vascular beds which are fundamental to different types of behavior associated with survival, enabling an adequate defense against life threatening stimuli. Some examples are the "fight or flight" response, exercise, energy conservation and balance, fluid volume regulation, temperature regulation and even sleep. For this purpose, Dr. Coote and colleagues have conducted anatomical studies to locate neurons and trace pathways and to identify neurotransmitters using immunohistochemistry. Functional studies have been performed using electrophysiological and neuropharmacological approaches to determine the influence of identified neurons and pathways in altering sympathetic activity in animals and parasympathetic activity to the heart in humans. Experiments involve the recording of sympathetic activity and vascular and cardiac parameters in anesthetized animals and humans.

Dr. Coote will also attend the **NCAR Reception/Business meeting** on Sunday, April 13, at 6:30 pm in the Marriott Hotel. Please attend and use this opportunity to meet Dr. Coote and mingle with other NCAR members.

FASEB Summer Research Conference
Snowmass Village, Colorado
“Neural Mechanisms in Cardiovascular Regulation”
July 20-25, 2002

The 2002 FASEB Summer Research Conference on “Neural Mechanisms in Cardiovascular Regulation” was held in Snowmass Village, Colorado, from July 20-25. The purpose of the conference was to bring together investigators and trainees with an interest in neural control of the cardiovascular system in an informal setting that facilitates scientific and personal interactions, and career development of younger scientists. The speakers and participants represented diverse areas ranging from cellular and molecular studies of sensory transduction and neural transmission to studies of integrated physiology in anesthetized and conscious animals to studies in humans. The meeting was well attended with approximately 135 participants, with over 25% being women and a large percentage of international attendees. There were nine sessions of oral presentations, including:

- 1) Mechanisms of Sensory Transduction in the Cardiovascular System
- 2) Neural Transmitters and Techniques in the Brainstem
- 3) Exciting the RVLM: What Drives the Activity of RVLM Vasomotor Neurons?
- 4) Contributions by the Brain in Hypertension
- 5) Forebrain Mechanisms and Neurohumoral Control
- 6) Central Control of Blood Pressure and Fluid Homeostasis: The Functional Genomics Era
- 7) Regulation of Circulation by Higher Brain Centers
- 8) Origins of Cardiovascular Variability and Its Functional Implications
- 9) Mechanisms of Activation of the Sympathetic Nervous System in Aging,

Obesity, and Heart Failure.

Each session contained four to five presentations by invited speakers, followed by ~1-hour informal discussion periods, typically containing brief presentations by young investigators.

Sixty-three abstracts were submitted for poster presentations. The posters were displayed throughout the duration of the conference. A 2-hour poster session that included discussion among the posters and oral presentations by recipients of the Trainee Travel Awards was well attended.

The success of the conference and the importance of continuing to meet on this topic was unanimously affirmed. It was decided that the conference should meet again in two years (2004) with our first choice for conference site to again be Snowmass Village, Colorado. The decision to meet again in two years was based on the anticipated rapid progress in this area of research and the desire to avoid conflict with the IUPS meeting scheduled in 2005. The second choice for conference site was Saxton’s River, Vermont. It was decided that July was the preferred time for the conference and that the Chair and Co-chair for the next meeting will be Dr. Meredith Hay of the University of Missouri and Dr. Alan Sved of the University of Pittsburgh, respectively.

NEURAL CONTROL AND AUTONOMIC REGULATION SECTION COMMITTEES

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