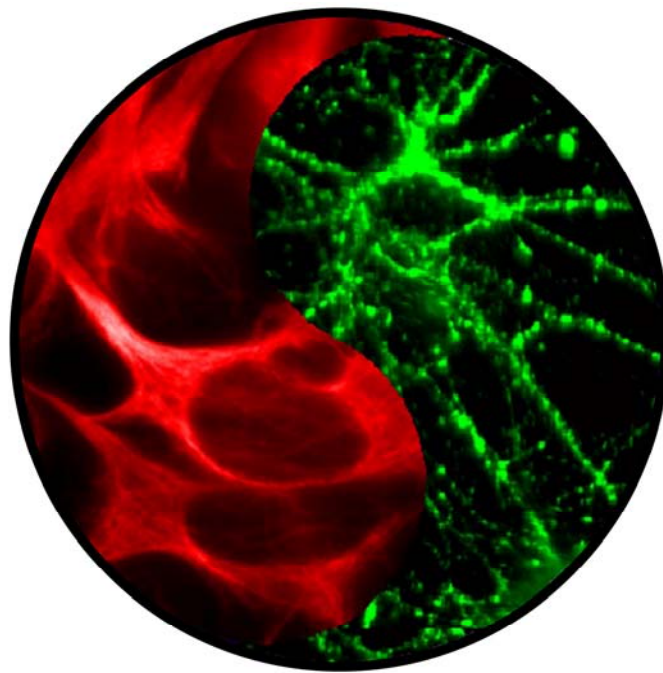




AMERICAN SOCIETY FOR NEUROCHEMISTRY  
*The Latest in Molecular and Cellular Neurobiology*

2012 Pre-meeting Workshop

***Glial cells in (patho)physiology:  
Possible new targets for medical  
intervention***



Saturday, March 3, 2012  
Baltimore Marriott Waterfront Hotel, Baltimore, MD  
8:00-17:00



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Saturday, March 3, 2012  
Baltimore Marriott Waterfront Hotel, Baltimore, MD

**“Glial cells in (patho)physiology:  
Possible new targets for medical intervention”**

Organizers/chairs:

**Vladimir Parpura**, M.D., Ph.D.  
University of Alabama, Birmingham, AL  
[vlad@uab.edu](mailto:vlad@uab.edu)

**Monica J. Carson**, Ph.D.  
University of California, Riverside, CA  
[monica.carson@ucr.edu](mailto:monica.carson@ucr.edu)

Description and objectives:

Glial cells have long been neglected as active participants in intercellular communication in the central nervous system. However, glial cells possess a diverse assortment of ion channels, neurotransmitter receptors, and transport mechanisms that enable these cells to respond to many of the same signals that act on neurons. Since glial cells can detect chemical transmitters that are released from neurons and can release extracellular signals there is an increasing awareness that they play physiological roles in regulating neuronal activity. In addition to these physiological roles, it is becoming increasingly recognized that glial cells play critical roles during pathophysiological states of the nervous system; these states include Alexander, Alzheimer's and Huntington's diseases and schizophrenia to mention a few. The goal of this workshop is to integrate the body of information that has accumulated in recent years revealing the active role of glia in physiological processes of the central nervous system and to use this synthesis of knowledge as a basis for identifying pathological roles of glial cells. Understanding roles of glial cells in pathology will provide new targets for medical intervention and aid the development of much needed therapeutics.

Lunch is provided to facilitate interactions between speakers and workshop registrants. The atmosphere of the workshop should be relaxed to encourage questions from attendees and to foster their participation. This program booklet provided to registrants contains speakers' short biographies, abstracts, lecture outlines and the contact information of the workshop speakers and registrants.



Speakers (last name-alphabetically):

**Etty (Tika) Benveniste**, Ph.D.

University of Alabama, Birmingham, AL

[tika@uab.edu](mailto:tika@uab.edu)

**Dwight E. Bergles**, Ph.D.

Johns Hopkins University, Baltimore, MD

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**Michelle Gray**, Ph.D.

University of Alabama, Birmingham, AL

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**Menachem Hanani**, Ph.D.

Hadassah University Hospital, Jerusalem, Israel

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**Albee Messing**, V.M.D., Ph.D.

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**José Julio Rodríguez Arellano**, M.Sc., Ph.D.

IKERBASQUE-Basque Foundation for Science and

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**Rita Sattler**, Ph.D.

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**Robert Schwarcz**, PhD

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**Alexei Verkhratsky**, M.D., Ph.D., D.Sc.

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**Schedule – Saturday, March 3, 2012**

8:00-8:15 Welcome and Introduction by Vladimir Parpura

**Session 1** Chair and Moderator: José Julio Rodríguez Arellano

8:15-8:50 **Alexei Verkhratsky**  
The University of Manchester, Manchester, UK  
*Ionotropic receptors in physiology and pathophysiology of astroglia*

8:50-8:55 Discussion

8:55-9:30 **Dwight E. Bergles**  
The Johns Hopkins School of Medicine, Baltimore, MD  
*Fate and function of NG2<sup>+</sup> glial progenitors in health and disease*

9:30-9:35 Discussion

9:35-10:00 Coffee/Tea Break

**Session 2** Chair and Moderator: Michelle Gray

10:00-10:35 **Menachem Hanani**  
Hadassah-Hebrew University Medical Center, Jerusalem, Israel  
*Satellite glial cells as target for chronic pain therapy*

10:35-10:40 Discussion

10:40-11:15 **Etty (Tika) Benveniste**  
University of Alabama, Birmingham, AL  
*The STAT3/SOCS3 axis in myeloid cells regulates neuroinflammation*

11:15-11:20 Discussion

11:20-11:55 **José Julio Rodríguez Arellano, M.Sc., Ph.D.**  
IKERBASQUE, Basque Foundation for Science, Bilbao, Spain  
*Complex and associated astroglial and microglial changes during the progression of Alzheimer's disease*

11:55-12:00 Discussion

12:00-13:15 Lunch



**Afternoon Schedule – Saturday, March 3, 2012**

**Session 3** Chair and Moderator: Alexei Verkhratsky

13:15-13:50 **Albee Messing**

University of Wisconsin-Madison, Madison, WI

*Astrocytes and Alexander disease: The first – but not last – primary disorder of astrocytes*

13:50-13:55 Discussion

13:55-14:30 **Robert Schwarcz**

University of Maryland School of Medicine, Baltimore, MD

*Kynurenic acid: An astrocyte-derived neuromodulatory agent with links to cognitive behaviors and schizophrenia*

14:30-14:35 Discussion

14:35-15:00 Coffee/Tea Break

**Session 4** Chair and Moderator: Monica J. Carson

15:00-15:35 **Michelle Gray**

University of Alabama, Birmingham, AL

*The role of astrocytes in Huntington's disease*

15:35-15:40 Discussion

15:40-16:15 **Rita Sattler**

Johns Hopkins University, Baltimore, MD

*Glial glutamate and metabolic transporters as a target for neurodegenerative therapy and biomarkers*

16:15-16:20 Discussion

16:20-16:35 General Questions and Discussion by  
Workshop Participants and All Speakers

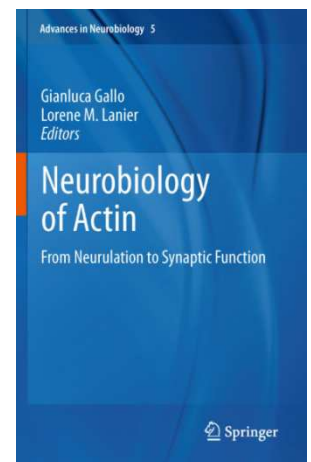
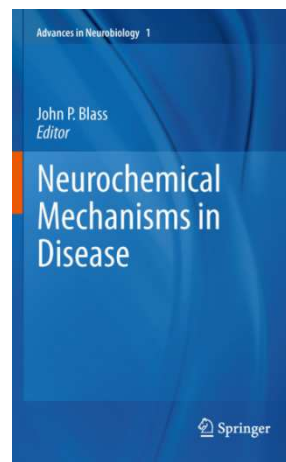
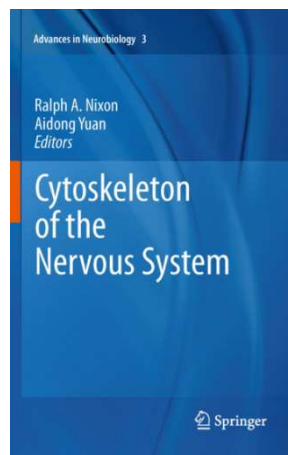
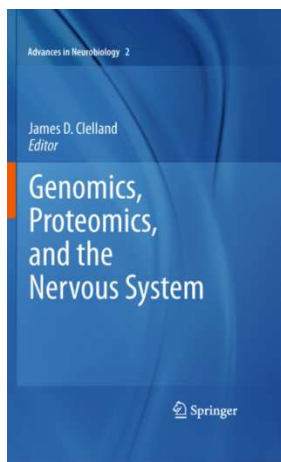
16:35-16:50 Summary and Closing by Monica J. Carson

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