

Warren Alpert Medical School of Brown University  
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**Lifespan**



## **2<sup>nd</sup> Annual Cerebrospinal Fluid Disorders Symposium** *Chiari and Cognition— Fiction or Reality?*

**Saturday, June 17, 2017**

Warren Alpert Medical School | Providence, RI

### **Jointly Provided By**

Warren Alpert Medical School, Brown University  
*and* Department of Neurosurgery at  
Rhode Island Hospital

### **In Collaboration With**

Chiari & Syringomyelia Foundation



**Lifespan**



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**CSF**  
Chiari & Syringomyelia Foundation  
*Built on Leadership, Vision & Commitment to Find a Cure*

## 2<sup>nd</sup> Annual CSF Disorders Symposium *Chiari and Cognition—Fiction or Reality?*

### Program Description

In the traditional thinking, a disorder like Chiari affecting the craniocervical junction & the cerebellum, has not been looked at as a disease potentially affecting higher cognitive function. The often reported “brain fog” has been largely attributed to chronic pain, depression & anxiety associated with the unknowns & physical challenges of this disorder.

Little knowledge & literature exists about the prevalence of cognitive symptoms in Chiari, mechanism of cognition & its clinical significance: Altered MRI diffusion tensor imaging (DTI) metrics in the genu of the corpus callosum, splenium, fornix correlated with cognitive neurocognitive function measured in Chiari. Also, the relevance of higher-level cognitive function in Chiari patients who underwent decompressive surgery has recently been addressed looking at episodic memory & executive function. One mechanism that might be relevant in Chiari is the cerebellar cognitive affective syndrome (CCAS), aka “Schmahmann’s syndrome”, that describes a constellation of non-motor cerebellar deficits.

The 2<sup>nd</sup> Annual CSF Disorders Symposium will further the study of cognitive impairment in Chiari diseases with consensus & evidentiary work as well as implementation of translational research & basic sciences that allow modelling cognition in Chiari disease to support the role of neurosurgery and excellence in neurosurgical techniques.

### Saturday, June 17, 2017

7:30–8:30 AM Registration, Breakfast, Visit Exhibitors

8:30–9:00 Welcome  
Ziya L. Gokaslan, MD, FAANS, FACS and  
Dorothy Poppe

9:00–9:30 Introduction  
Petra M. Klinge, MD, PhD  
Jeremy D. Schmahmann, MD

#### ANATOMICAL EVIDENCE FOR THE CONTRIBUTION OF THE CEREBELLUM TO COGNITIVE FUNCTION

*Moderated by: Jeremy D. Schmahmann, MD*

9:30–10:00 The Cerebellar Cognitive Affective Syndrome:  
Anatomy and Implications  
Jeremy D. Schmahmann, MD

10:00–10:30 Meylin Imaging and Mapping and Its Implication  
for Cognition in Chiari Disease  
Sean CL Deoni, PhD

10:30–11:00 Break, Art & Industry Exhibit, & Visit Exhibitors

#### FUNCTIONAL EVIDENCE FOR THE CONTRIBUTION OF THE CEREBELLUM TO COGNITION FUNCTION IN BASIC SCIENCES

*Moderated by: Petra M. Klinge, MD, PhD*

11:00–11:30 Cognitive and Motor Impairments in a Diseased  
Animal Model  
Rebecca D. Burwell, PhD

11:30–12:00 PM Emotional Stress Leads to Long Lasting Changes  
in Neuronal Activity in the Mouse Cerebellum—  
Implications for Chiari Disease  
Si-Qiong June Liu, PhD

12:00–12:30 Computational Background to the Contribution  
of the Cerebellum to Higher Cognitive Functions  
of the Cerebrum  
Wael Asaad, MD, PhD

### Target Audience

MD's and DO's, PA's NP's, residents, and fellows specializing in primary care, neurosurgery, neurology, orthopedic surgery, medicine, neuropsychology, geriatrics, & pediatrics.

### Learning Objectives

At the conclusion of this activity, participants should be able to:

- Describe the cognitive symptoms of patients with Chiari disease and the neuropsychological findings and the impact on disability and health
- Report the cognitive impairment of patient's diagnosed with Chiari malformation and the outcome with and without neurosurgical intervention
- Recognize the role of the cerebellum in higher cognitive function(s) in Chiari disease and other cerebellar disorders
- Describe the contribution of basic sciences to understand the relevance of cognition in Chiari disease and the functional associations
- Outline the diversity of surgical treatment of Chiari disorders and promote evidence-based strategies towards understanding of how surgical intervention alters cognitive function(s) in Chiari patients

12:30–1:15 PM Lunch, Art & Industry Exhibit, & Visit Exhibitors

#### NEUROCOGNITION AND NEUROPSYCHOLOGICAL FINDINGS IN CHIARI AND CEREBELLAR DISORDERS

*Moderated by: Jeremy D. Schmahmann, MD*

1:15–1:45 Introduction to the Cerebellar Cognitive  
Affective Syndrome / Schmahmann Scale, and the  
Cerebellar Neuropsychiatric Rating Scale (CNRS)  
Jeremy D. Schmahmann, MD

1:45–2:15 Cognitive Testing With Pediatric Patients  
Christine L. Trask, MD

2:15–2:45 Proposal of a “Cerebellar” Cognitive Test  
Battery—Adult Perspective  
Philip A. Allen, PhD

2:45–3:00 Break, Art & Industry Exhibit, & Visit Exhibitors

#### NEUROSURGICAL IMPLICATIONS

*Moderated by: Petra M. Klinge, MD, PhD*

3:00–3:30 The Pediatric Chiari Patient  
William E. Butler, MD

3:30–4:00 The Adult Chiari Patient  
Petra M. Klinge, MD, PhD

4:00–5:00 PM Round Table: Excellence in Neurosurgical  
Techniques in Chiari Disease  
*Moderated by: William E. Butler, MD*  
Ziya L. Gokaslan, MD, FAANS, FACS  
Fraser C. Henderson Sr., MD  
Mark Luciano, MD, PhD, FACS  
Harold L. Rekate, MD

**2<sup>nd</sup> Annual CSF Disorders Symposium**  
***Chiari and Cognition—Fiction or Reality?***

**Course Directors**

**Petra M. Klinge, MD, PhD**

Professor of Neurosurgery  
Warren Alpert Medical School of Brown University  
Director, Center for CSF Disorders of the Brain and Spine  
Rhode Island Hospital  
Providence, RI

**Jeremy D. Schmahmann, MD**

Professor of Neurology  
Director, Ataxia Unit  
Director, Laboratory for Neuroanatomy & Cerebellar Neurobiology  
Cognitive Behavioral Neurology Unit  
Massachusetts General Hospital  
Harvard Medical School | Boston, MA

**Faculty**

**Philip A. Allen, PhD**

Professor, Adult Development & Aging Psychology  
University of Akron  
Akron, OH

**Fraser C. Henderson Sr., MD**

Director  
Metropolitan Neurosurgery Group, LLC  
Chevy Chase, MD

**Wael Asaad, MD, PhD**

Assistant Professor of Neurosurgery and Neuroscience  
Warren Alpert Medical School of Brown University  
Rhode Island Hospital & The Miriam Hospital  
Providence, RI

**Si-Qiong June Liu, PhD**

Associate Professor, Cell Biology & Anatomy  
Neuroscience Center of Excellence  
Louisiana State University School of Medicine  
New Orleans, LA

**Rebecca D. Burwell, PhD**

Professor of Cognitive, Linguistics, and Psychological Sciences  
Professor of Psychology and Neuroscience  
Brown University  
Providence, RI

**Mark Luciano, MD, PhD, FACS**

Professor of Neurosurgery  
Director of the Cerebral Fluid Center  
Johns Hopkins Medicine  
Baltimore, MD

**William E Butler, MD**

Assistant Professor of Surgery (Neurosurgery)  
Harvard Medical School  
Attending Neurosurgeon  
Massachusetts General Hospital  
Boston, MA

**Dorothy Poppe**

Executive Director  
Chiari & Syringomyelia Foundation  
Staten Island, NY

**Sean CL Deoni, PhD**

Assistant Professor of Engineering  
Brown University  
Providence, RI

**Harold L. Rekate, MD**

Professor of Neurosurgery  
Hofstra Northwell School of Medicine  
Hempstead, NY

**Ziya L. Gokaslan, MD, FAANS, FACS**

Gus Stoll, MD Professor and Chair  
Department of Neurosurgery  
Warren Alpert Medical School of Brown University  
Neurosurgeon-in-Chief  
Rhode Island Hospital & The Miriam Hospital  
Clinical Director, Norman Prince Neurosciences Institute  
President, Brown Neurosurgery Foundation  
Providence, RI

**Christine L. Trask, PhD, ABPP**

Clinical Assistant Professor of Psychiatry and Human Behavior  
Warren Alpert Medical School of Brown University  
Director, Outpatient Pediatric Neuropsychology Services  
Rhode Island Hospital & Hasbro Children's Hospital  
Providence, RI

## 2<sup>nd</sup> Annual CSF Disorders Symposium *Chiari and Cognition—Fiction or Reality?*

### Registration Information

Register online at:

[https://apps.biomed.brown.edu/cme\\_registration](https://apps.biomed.brown.edu/cme_registration)

### Registration Fees:

*Through May 31<sup>st</sup>*

\$75.00 Healthcare Professionals and Researchers

\$50.00 Residents, Fellows, Students

*After May 31<sup>st</sup>*

\$100.00 Healthcare Professionals and Researchers

\$50.00 Residents, Fellows, Students

Conference registration fee includes: breakfast, breaks, lunch, access to an online syllabus, and on-site parking.

### Cancellation Policy

Cancellations/substitutions must be made in writing to the Brown CME Office at least two weeks prior to the conference, no later than June 2, 2017. A \$25.00 administrative fee will be charged for all refunds (no refunds for “no shows”). There will be no additional charge for substitutions. This conference is subject to change or cancellation.

### Conference Location and Parking

Warren Alpert Medical School of Brown University  
222 Richmond Street, Providence, RI 02912

Parking will be available in the parking garage adjacent to the Medical Building. Enter through the Eddy Street Entrance (333 Eddy Street on Google Maps) and take a ticket from the machine—please bring this ticket with you and see the registration desk. You may park on any level of the garage and can exit using either the Eddy Street or Elm Street exits.

### Hotel Accommodations

The Providence Marriott  
1 Orms Street, Providence, RI 02903  
401-272-2400

To book hotel reservations with the current Brown University rate: <http://www.campustravel.com/university/brown/>

### Accreditation

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Warren Alpert Medical School of Brown University and Department of Neurosurgery at Rhode Island Hospital. The Warren Alpert Medical School of Brown University is accredited by the ACCME to provide continuing medical education for physicians.

### Credit Designation

Physicians: The Warren Alpert Medical School of Brown University designates this live activity for a maximum of 7.0 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Physician Assistants/Nurse Practitioners: Participants will receive a Certificate of Attendance stating this program is designated for 7.0 hours *AMA PRA Category 1 Credits*<sup>™</sup>. This credit is accepted by the AAPA and AANP.

### For More Information

Contact the Brown CME Office  
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Ph: 401.863.2871 | F: 401.863.2202  
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Please notify the Brown CME Office in writing at least two weeks prior to the conference to request reasonable accommodations.

**Register online at:**  
**[https://apps.biomed.brown.edu/cme\\_registration](https://apps.biomed.brown.edu/cme_registration)**