



AMERICAN CLINICAL NEUROPHYSIOLOGY SOCIETY

FEBRUARY 5-9, 2020



# 2020 Annual Meeting & Courses

*New Orleans, Louisiana*

*Final Program*



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## ACNS Executive Office

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Elizabeth Mueller, Meetings Coordinator, emueller@acns.org



# WELCOME TO THE 2020 ACNS ANNUAL MEETING & COURSES

Dear Colleagues,

On behalf of the American Clinical Neurophysiology Society (ACNS) Council, we are thrilled to welcome you to the 2020 Annual Meeting & Courses in historic New Orleans, Louisiana.

The ACNS Annual Meeting & Courses are designed to provide a review of the fundamentals as well as the latest scientific advances in central and peripheral neurophysiology.

The Program Committee is pleased to present an impressive selection of sessions for delegates to attend throughout the weekend. There was an outstanding set of session proposals submitted for consideration this year and we are confident that the program content will provide an exciting educational opportunity for all in attendance. This year, the Annual Courses include more sessions throughout the meeting and expanded offerings in peripheral neurophysiology. Also, the courses are organized along tracks that should minimize conflicts for most attendees.

Following the success of previous year's Joint International Symposia, we are pleased to again include sessions co-organized by our colleagues outside the United States. We are honored to welcome representatives from the Brazilian Society of Clinical Neurophysiology, the British Society of Clinical Neurophysiology, the Mexican Society of Clinical Neurophysiology, the Canadian Society of Clinical Neurophysiology, the Spanish Society of Clinical Neurophysiology and the Austrian Society of Clinical Neurophysiology. We look forward to the opportunity to learn from and collaborate with our international colleagues.

In addition to the scientific sessions, there will be opportunities for educational entertainment and networking. See page 18 for a complete list of these events.

Overall, the 2020 Annual Meeting & Courses will provide an opportunity for education, networking, and interaction with the latest technologies across the fields of clinical neurophysiology. We wish everyone in attendance an enjoyable week in New Orleans!

Sincerely,



Frank W. Drislane, MD, FACNS  
Course Committee Co-Chair



Courtney J. Wusthoff, MD, FACNS  
Course Committee Co-Chair



Leslie Lee, MD, FACNS  
Program Committee Co-Chair



Nicholas S. Abend, MD, MSCE, FACNS  
Program Committee Co-Chair



# ACNS INFORMATION

## ACNS Officers and Council

### President

**Cecil D. Hahn, MD, MPH, FACNS**  
Hospital for Sick Children

### 1st Vice President

**Gloria M. Galloway, MD, MBA, FACNS**  
Ohio State University Medical Center

### 2nd Vice President

**Suzette M. LaRoche, MD, FACNS**  
Mission Health

### Secretary

**Saurabh R. Sinha, MD, PhD, FACNS**  
Duke University Medical Center

### Treasurer

**Jaime R. Lopez, MD, FACNS**  
Stanford University

### Immediate Past President

**Tobias Loddenkemper, MD, FACNS**  
Children's Hospital Boston

### Past President

**Stephan U. Schuele, MD, MPH, FACNS**  
Northwestern University

### Councilors-at-Large

**Meriem Bensalem-Owen, MD, FACNS**  
University of Kentucky

**Giridhar Kalamangalam, MD, DPhil, FACNS**  
University of Texas

**Jong Woo Lee, MD, PhD, FACNS**  
Brigham & Women's Hospital

**Daniel L. Menkes, MD, FACNS**  
William Beaumont Hospital

**Eva K. Ritzl, MD, FACNS**  
Johns Hopkins University

**Devon I. Rubin, MD, FACNS**  
Mayo Clinic

**Sarah E. Schmitt, MD, FACNS**  
Medical University of South Carolina

**Tammy Tsuchida, MS, PhD, FACNS**  
Children's National

**Courtney J. Wusthoff, MD, FACNS**  
Stanford University

### AMA Officer

**Marc R. Nuwer, MD, PhD, FACNS**  
University of California Los Angeles

### Journal Editor

**Aatif M. Husain, MD, FACNS**  
Duke University Medical Center

## About the American Clinical Neurophysiology Society (ACNS)

Founded in 1946 and originally named the American Electroencephalographic Society (AEEGS), ACNS is the major professional organization in the United States devoted to the establishment and maintenance of standards of professional excellence in clinical neurophysiology in the practice of neurology, neurosurgery and psychiatry. ACNS members utilize neurophysiology techniques in the diagnosis and management of patients with disorders of the nervous system and in research examining the function of the nervous system in health and disease.

ACNS' mission is to serve patients and society by empowering members to advance the science, practice and profession of clinical neurophysiology. This mission serves to fulfill the vision to optimize neurologic health through understanding of nervous system function.

## Past Presidents

1947 \*Herbert H. Jasper, MD, PhD  
1948 \*Herbert H. Jasper, MD, PhD  
1949 \*Frederic A. Gibbs, MD  
1950 \*Hallowell Davis, MD  
1951 \*Robert Schwab, MD  
1952 \*James O'Leary, MD  
1953 \*Robert B. Aird, MD  
1954 \*Mary A.B. Brazier, DSc  
1955 \*A. Earl Walker, MD  
1956 \*Reginald G. Bickford, MD  
1957 \*John R. Knott, PhD  
1958 \*Robert S. Dow, MD  
1959 \*W. Theodore Liberson, MD  
1960 \*Arthur A. Ward, Jr., MD  
1961 \*Jerome K. Merlis, MD  
1962 \*Charles E. Henry, PhD  
1963 \*Cosimo Ajmone-Marsan, MD  
1964 \*Peter Kellaway, PhD  
1965 \*Donald B. Lindsley, PhD  
1966 \*David D. Daly, MD  
1967 Kenneth A. Kooi, MD  
1968 Gian-Emilio Chatrian, MD  
1969 Robert J. Ellingson, PhD, MD  
1970 Donald W. Klass, MD  
1971 \*Daniel Silverman, MD  
1972 Eli S. Goldensohn, MD  
1973 \*Richard D. Walter, MD  
1974 Janice R. Stevens, MD  
1975 Ernst A. Rodin, MD  
1976 \*John S. Barlow, MD  
1977 \*Fernando Torres, MD  
1978 \*Frank Morrell, MD  
1979 \*Pierre Gloor, MD, PhD  
1980 Richard N. Harner, MD  
1981 Jack D. Grabow, MD  
1982 Roger Q. Cracco, MD  
1983 Cesare T. Lombroso, MD

1984 Robert J. Gumnit, MD  
1985 Andrew J. Gabor, MD, PhD  
1986 Juhn A. Wada, MD,  
1987 Frank W. Sharbrough, MD,  
1988 Joan B. Cracco, MD, FACNS  
1989 Barry R. Tharp, MD,  
1990 Timothy A. Pedley, MD, FACNS  
1991 Ernst Niedermeyer, MD, FACNS  
1992 Barbara F. Westmoreland, MD, FACNS  
1993 Jerome Engel, MD, PhD, FACNS  
1994 Marc R. Nuwer, MD, PhD, FACNS  
1995 Michael J. Aminoff, MD, FACNS  
1996 John S. Ebersole, MD, FACNS  
1997 Solomon L. Moshé, MD, FACNS  
1998 Warren T. Blume, MD, FACNS  
1999 C. William Erwin, MD, FACNS  
2000 Michael R. Sperling, MD, FACNS  
2001 Eli M. Mizrahi, MD, FACNS  
2002 Bruce J. Fisch, MD, FACNS  
2003 Charles M. Epstein, MD, FACNS  
2004 Donald L. Schomer, MD, FACNS  
2005 Ronald G. Emerson, MD, FACNS  
2006 Richard P. Brenner, MD, FACNS  
2007 Mark A. Ross, MD, FACNS  
2008 Alan D. Legatt, MD, PhD, FACNS  
2009 Gareth J. Parry, MD, FACNS  
2010 Peter W. Kaplan, MB, FRCP, FACNS  
2011 Douglas R. Nordli, Jr., MD, FACNS  
2012 Susan T. Herman, MD, FACNS  
2013 Frank W. Drislane, MD, FACNS  
2014 Aatif M. Husain, MD, FACNS  
2015 William O. Tatum, IV, DO, FACNS  
2016 Jonathan C. Edwards, MD, MBA, FACNS  
2017 Aatif M. Husain, MD, FACNS  
2018 Stephan U. Schuele, MD, MPH, FACNS  
2019 Tobias Loddenkemper, MD, FACNS

*\* Deceased*

# ANNUAL MEETING AND COURSES PLANNING COMMITTEES

## Continuing Medical Education (CME) Committee

---

### Co-Chairs:

Meriem Bensalem-Owen, MD, FACNS  
Jong Woo Lee, MD, PhD, FACNS

### Members:

Kapil Arya, MD, FACNS  
Amy Crepeau, MD  
Charles M. Epstein, MD, FACNS  
Evan J. Fertig, MD  
Gloria M. Galloway, MD, MBA, FACNS  
Elizabeth Gerard, MD, FACNS

Hiba A. Haider, MD  
Abeer J. Hani, MD  
Monica Islam, MD  
Pongkiat Kankirawatana, MD, FACNS  
Fawad A. Khan, MD  
Ammar Kheder, MD  
Luis Carlos Mayor-Romero, MD  
Joel Oster, MD  
Jun T. Park, MD, FAES  
Karl Erwin Sanzenbacher, MD, MS, FACNS

Sarah E. Schmitt, MD, FACNS  
Fahd Sultan, MD  
Christa Swisher, MD, FACNS  
Ron Tintner, MD

### Ex-Officio:

Nicholas S. Abend, MD, MSCE, FACNS  
Frank W. Drislane, MD, FACNS  
Susan T. Herman, MD, FACNS  
Leslie Lee, MD, FACNS  
Courtney J. Wusthoff, MD, FACNS

## Course Committee

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### Co-Chairs:

Frank W. Drislane, MD, FACNS  
Courtney J. Wusthoff, MD, FACNS

### Members:

Elizabeth Gerard, MD, FACNS  
Hiba A. Haider, MD, FACNS  
Aatif M. Husain, MD, FACNS  
Giridhar P. Kalamangalam, MD, DPhil, FACNS  
Ioannis Karakis, MD, PhD, MSc  
Ruple S. Laughlin, MD, FAAN  
Leslie H. Lee, MD, FACNS  
Jeffrey Liou, DO

Lynn Liu, MD, FACNS  
Jaime R. Lopez, MD, FACNS  
Shavonne L. Massey, MD  
Ana Lucila Moreira, MD  
Viet Nguyen, MD, FACNS  
Marc R. Nuwer, MD, PhD, FACNS  
Jay S. Pathmanathan, MD, PhD  
Phillip Pearl, MD, FACNS  
Claus Reinsberger, MD, PhD, FACNS  
Eva Ritzl, MD, FACNS  
Alexander Rotenberg, MD, PhD  
Elayna Rubens, MD, FACNS  
Devon I. Rubin, MD, FACNS

Arnold J. Sansevere, MD  
Sarah E. Schmitt, MD, FACNS  
Stephan U. Schuele, MD, MPH, FACNS  
Mirela V. Simon, MD, FACNS  
William O. Tatum, DO, FACNS  
Gregory Worrell, MD

### Ex-Officio:

Nicholas S. Abend, MD, MSCE, FACNS  
Meriem Bensalem-Owen, MD, FACNS  
Leslie Lee, MD, FACNS  
Jong Woo Lee, MD, PhD, FACNS

## Program Committee

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### Co-Chairs:

Nicholas S. Abend, MD, MSCE, FACNS  
Leslie Lee, MD, FACNS

### Council Liaison:

Saurabh R. Sinha, MD, PhD, FACNS

### Members:

Jayant N. Acharya, MD, FACNS  
Kapil Arya, MD, MBBS  
Adriana Bermeo-Ovalle, MD, FACNS, FAES  
Anna M. Bonner, REEGT  
William J. Bosl, PhD  
Richard C. Burgess, MD, PhD, FACNS  
Paul R. Carney, MD  
Catherine J. Chu, MD, MMSc  
Monica B. Dhakar, MD, MS  
Elliot Dimberg, MD, FACNS  
Jonathan C. Edwards, MD, MBA, FACNS  
Ronald Emerson, MD, FACNS  
Victor Ferastraoaru, MD  
William B. Gallentine, DO, FACNS

Cecil D. Hahn, MD, MPH, FACNS  
Mark Hallett, MD, FACNS  
Abeer J. Hani, MD, FACNS  
Hiba A. Haider, MD, FACNS  
Aatif M. Husain, MD, FACNS  
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Peter W. Kaplan, MD, FRCP, FACNS  
Ioannis Karakis, MD, PhD, MSc, FACNS  
Suzette M. LaRoche, MD, FACNS  
Jong Woo Lee, MD, PhD, FACNS  
Jaime R. Lopez, MD, FACNS  
Michael McGarvey, MD, FACNS  
Faye McNall, MD, REEGT  
John J. Millichap, MD, FACNS  
Daniela N. Minecan, MD, FACNS, FAES  
Heidi M. Munger Clary, MD, MPH, FACNS  
Marcus C. Ng, MD, FACNS, CSCN(EEG)  
Jonathan A. Norton, PhD, FACNS  
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Elana Pinchefskey, MD

Eva K. Ritzl, MD, FACNS  
Alexander Rotenberg, MD, PhD  
Devon I. Rubin, MD, FACNS  
Arnold J. Sansevere, Jr., MD  
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Jay L. Shils, PhD DABNM FACNS  
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William O. Tatum, DO, FACNS  
Tammy Tsuchida, MD, PhD, FACNS  
Martin Veilleux, MD, FACNS  
M. Brandon Westover, MD, PhD, FACNS  
Robyn Whitney, MD, FRCPC

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Jong Woo Lee, MD, PhD, FACNS  
Courtney J. Wusthoff, MD, FACNS

# GENERAL MEETING INFORMATION

## Business Meeting

The ACNS Annual Business Meeting will be held in Salon 4 & 5, from 5:30-6:00pm on Saturday, February 8, 2020. This meeting is open to all attendees, but only ACNS Members may vote.

## Internet

Wireless internet access is available to Annual Meeting & Courses delegates throughout the meeting space. To access the internet, use the following network credentials:

**Network: ACNS2020, Password: ACNS2020**

Wireless internet supported in the form of an unrestricted educational grant from Persyst Development Corporation.

## Poster Sessions

Authors will be present between 7:30–9:00pm on Friday, February 8 and 12:30–2:00pm on Saturday, February 9 for discussion. Poster abstracts and presentation dates can be found in the Poster Abstract Supplement included in registration materials.

## Publication of Abstracts

Speaker abstracts and poster abstracts will be published in the *Journal of Clinical Neurophysiology*.

## ACNS Meeting Policies

The American Clinical Neurophysiology Society (ACNS) is committed to providing a safe, productive, and welcoming environment for all meeting participants and ACNS/EDI staff. All participants, including, but not limited to, attendees, speakers, volunteers, exhibitors, ACNS/EDI staff, service providers, and others are expected to abide by this Meeting Safety & Responsibility Policy. This Policy applies to all ACNS meeting-related events, including those sponsored by organizations other than ACNS but held in conjunction with ACNS events, in public or private facilities.

### Responsible Drinking

At most ACNS networking events both alcoholic and non-alcoholic beverages are served. ACNS expects participants at our events to drink responsibly. ACNS and Meeting host event staff have the right to deny service to participants for any reason, and may require a participant to leave the event.

### Personal Safety and Security

ACNS works diligently to provide a safe and secure environment at its meetings and events by working with venue staff to make sure meeting participants are safe. We ask that all attendees report any questionable or concerning activity to ACNS/EDI staff so that they can take immediate action. No concern is too small, if you see something, say something.

- Be aware of your surroundings at all times.
- Use the buddy system when walking to and from the event venue, networking event locations during early or late hours.
- Don't wear your meeting badge on the street. Take it off as soon as you leave the building/venue.
- Don't carry a lot of cash or credit cards. Leave these items in your hotel room safe.
- Don't leave personal property unattended anywhere, anytime.

If it is an emergency or if you need immediate assistance, you should ask any ACNS/EDI staff member or the on-site security personnel to help you.

## Unacceptable Behavior

- Harassment, intimidation, or discrimination in any form.
- Physical or verbal abuse of any attendee, speaker, volunteer, exhibitor, ACNS/EDI staff member, service provider, or other meeting guest.
- Examples of unacceptable behavior include, but are not limited to, verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, national origin, inappropriate use of nudity and/or sexual images in public spaces or in presentations, or threatening or stalking any attendee, speaker, volunteer, exhibitor, ACNS/EDI staff member, service provider, or other meeting guest.
- Disruption of presentations at sessions, in the exhibit hall, or at other events organized by ACNS at the meeting venue, hotels, or other ACNS-contracted facilities.

ACNS has zero-tolerance for any form of discrimination or harassment, including but not limited to sexual harassment by participants or our staff at our meetings. If you experience harassment or hear of any incidents of unacceptable behavior, ACNS asks that you inform the ACNS President or ACNS Executive Director Megan M. Hille, CMP, CAE ([mhille@acns.org](mailto:mhille@acns.org)) so that we can take the appropriate action.

ACNS reserves the right to take any action deemed necessary and appropriate, including immediate removal from the meeting without warning or refund, in response to any incident of unacceptable behavior, and ACNS reserves the right to prohibit attendance at any future meeting.

## Smoking Policy

Smoking is not permitted during any Annual Meeting & Courses activity or event.

## Cell Phone Protocol

Please ensure that cell phone ringers, pagers and electronic devices are silenced or turned off during all sessions.

## Photography and Recording Policy

Photography or video or audio recording of sessions, materials presented in session, or exhibits without written permission from ACNS is strictly prohibited. Please note that photographs and video taken by or on behalf of ACNS of event activities and attendees shall be property of ACNS.

## Speaker Ready Room

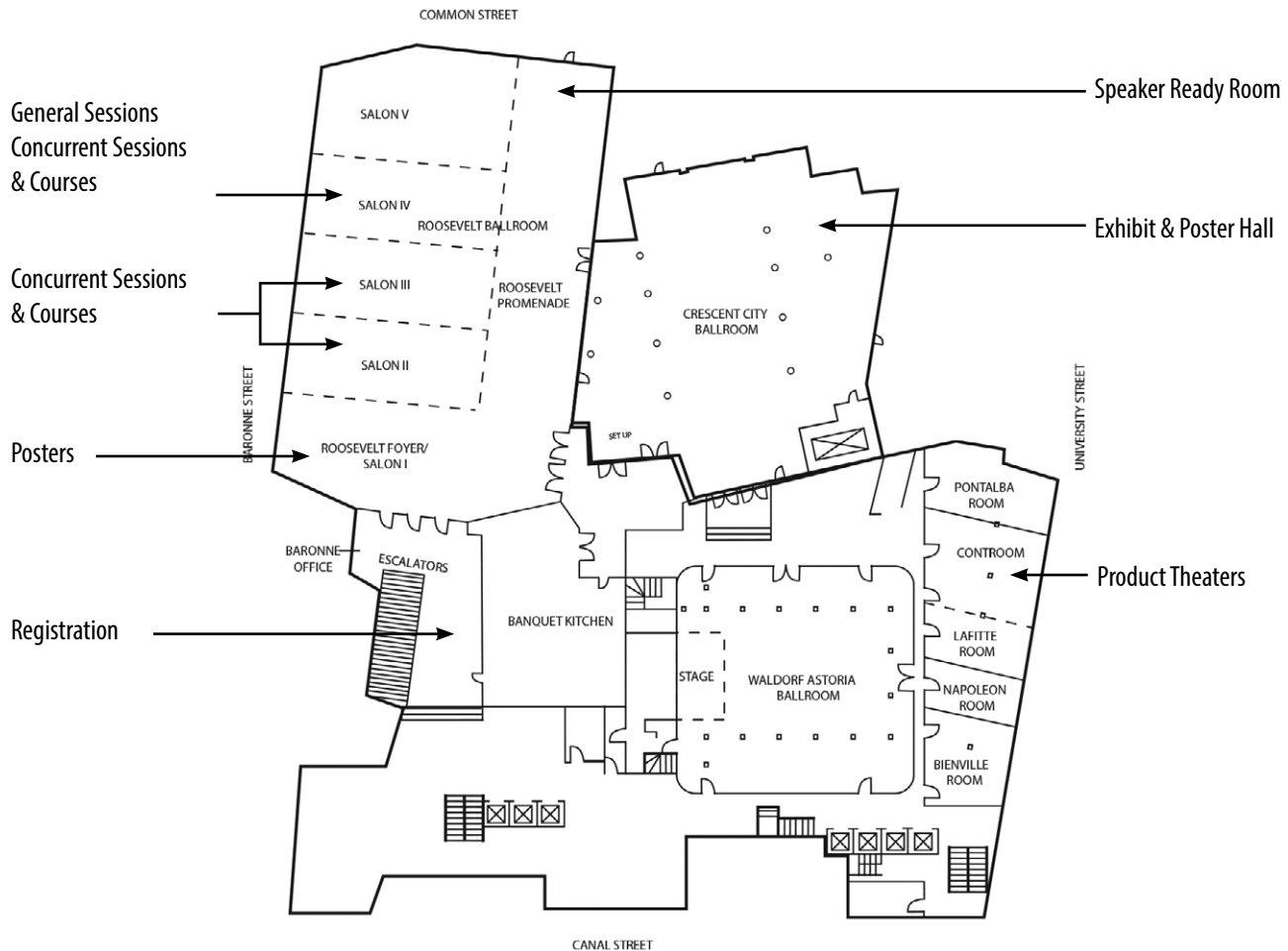
Location: Crescent City Ballroom

Presenters must upload their PowerPoint presentations in the Speaker Ready Room. Any changes must be uploaded 24 hours prior to your presentation. Presentations may not be uploaded in individual rooms. Since all presentations are pre-loaded, speakers are not permitted to use personal laptops during presentation.

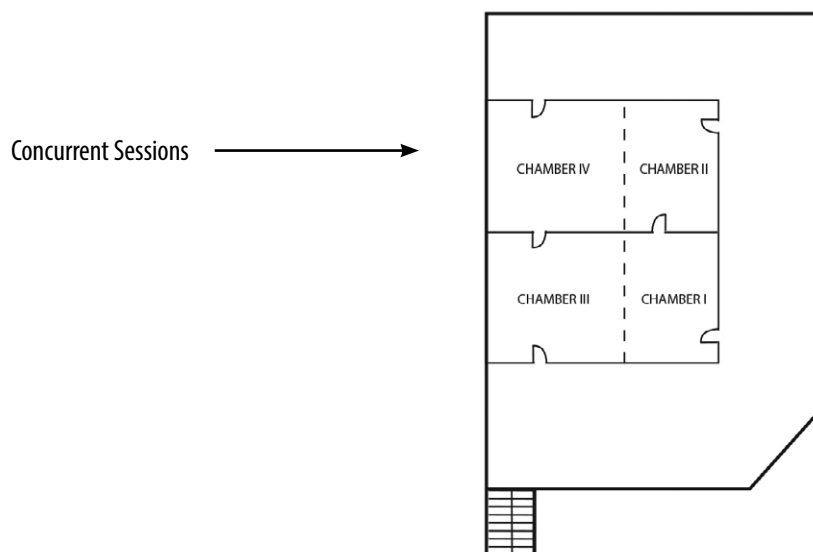
Tuesday, February 4	4:00 – 6:00pm
Wednesday, February 5	8:00am – 5:00pm
Thursday, February 6	6:00am – 5:00pm
Friday, February 7	6:00am – 5:00pm
Saturday, February 8	7:00am – 5:00pm
Sunday, February 9	7:30 – 10:00am

# THE ROOSEVELT HOTEL FLOORPLANS

## Mezzanine Level



## Mayor Suite Level



## NEARBY RESTAURANTS

### Fast-Casual Options

#### AMERICAN

Starbucks  
700 Canal Street  
504.524.9582

Jimmy J's Cafe  
115 Chartres Street  
504.309.9360

Café Beignet-Royal  
334 Royal Street  
504.524.5530

Crescent City Pizza Works  
407 Bourbon Street  
504.569.3664

#### SOUTHERN & CAJUN

Killer PoBoys  
219 Dauphine Street  
504.462.2731

#### ASIAN

Poke-Chan  
2809 St. Claude Avenue  
504.571.5446

### Fine Dining Options

#### CAJUN & CREOLE

M Bistro  
The Ritz Carlton New Orleans  
921 Canal Street  
504.524.1331

Gallier's Restaurant and Oyster Bar  
129 Carondelet Street  
504.267.5672

Restaurant August  
301 Tchoupitoulas Street  
504.299.9777

Broussard's  
819 Rue Conti  
504.581.3866

Bourbon House  
144 Bourbon Street  
504.522.0111

Toups South  
1504 Oretha Castle Haley Blvd.  
504. 304. 2147

Galatoire's Restaurant  
209 Bourbon Street  
504.525.2021

#### AMERICAN

Bywater American Bistro  
2900 Chartres Street  
504.605.3827

Domenica  
The Roosevelt New Orleans  
123 Baronne St  
504.648.6020

SoBou  
W New Orleans  
310 Chartres Street  
504.552.4095

Green Goddess  
307 Exchange Place  
504.301.3347

#### STEAKHOUSE

Desi Vega's Steakhouse  
628 St. Charles Avenue  
504.523.7600

Chophouse New Orleans  
322 Magazine St.  
504.522.7902

#### ITALIAN

Marcello's New Orleans  
715 St. Charles Avenue  
504.581.6333

Irene's  
529 Bienville Street  
504.529.8811

Avo  
5908 Magazine Street  
504.509.6550

#### LATIN AMERICAN

NOLA Cantina  
437 Esplanade Ave  
504. 266. 2848

Espíritu — Mezcaleria and Cocina  
520 Capdeville Street  
504. 267. 4975

Palm&Pine  
308 N. Rampart St.  
504.814.6200





# Get the #ACNS2020 App!



Download the "ACNS Events" app from the Apple App Store or Google Play Store.



Search for "ACNS 2020" or find the event icon and click to open the app. Follow the login instructions provided in the email sent by the ACNS Executive Office to begin using the app.



As long as you have an internet connection, you can access the app through your **laptop** via this link:

<https://tinyurl.com/ACNS2020>

\*Download before you go! On-Site WiFi service can affect the functionality of the app.



## 2020 Annual Meeting & Courses

New Orleans, Louisiana  
FEBRUARY 5-9, 2020

# CONTINUING MEDICAL EDUCATION (CME) INFORMATION

## Educational Mission Statement

### Purpose

The American Clinical Neurophysiology Society (ACNS) is a professional association dedicated to fostering excellence in clinical neurophysiology and furthering the understanding of central and peripheral nervous system function in health and disease through education, research, and the provision of a forum for discussion and interaction.

### Content

ACNS is committed to providing continuing medical education to its members and others interested in clinical neurophysiology. Educational objectives include 1) Reviewing current knowledge of clinical neurophysiology including: electroencephalography, evoked potentials, electromyography, nerve conduction studies, intraoperative monitoring, polysomnography and other sleep technology, quantitative neurophysiological methods, magnetoencephalography, sleep disorders, epilepsy, neuromuscular disorders, brain stimulation, brain-computer interfacing, and related areas; and 2) Informing course and meeting attendees of recent technological developments and their implications for clinical practice.

### Target Audience

The Society's educational activities are directed to clinical neurophysiologists, neurologists, psychiatrists, physiatrists, neurosurgeons, trainees in these disciplines and other physicians and researchers who utilize clinical neurophysiological techniques and knowledge in the diagnosis and management of patients with disorders of the nervous system.

### Expected Result

Attendees will improve competence in clinical neurophysiology procedures and incorporate new technological advancements into their practice.

### Gaps and Needs

In compliance with the Updated Accreditation Criteria of the Accreditation Council for Continuing Medical Education (ACCME), the Continuing Medical Education Committee of the ACNS has identified "professional practice gaps." Definition: A "professional practice gap" is the difference between what a health professional is doing or accomplishing compared to what is achievable on the basis of current professional knowledge.

The following professional practice gaps and educational needs were identified by a combined effort of the Program, Course and CME Committees.

#### Gap 1. Emerging Areas of Practice

Several emerging areas of clinical neurophysiology have significant practice gaps in which the opportunities for training and mentoring fall short of the need for experienced and trained neurologists. Intraoperative monitoring, intensive care unit EEG monitoring, Video and Quantitative EEG and invasive evaluation for epilepsy surgery with Stereo EEG are growing areas of clinical neurophysiology with few practicing neurologists having adequate training in these techniques. Adult and pediatric physicians as well as neurodiagnostic technologists with competence in these areas are in great demand. Without additional specialized training, neurologists will not be competent to conduct these types of monitoring.

#### Gap 2. General Practice of Clinical Neurophysiology

Clinical neurophysiology procedures are performed by a large proportion of practicing US neurologists, many of whom have little or no formal training in clinical neurophysiology. Many clinical neurophysiology procedures (e.g. evoked potentials, invasive EEG, advanced EMG procedures) are performed at low volume at many centers and a forum for review and hands-on interpretation are essential to improve and maintain competence in these areas.

Several specific topics with significant gaps between current practice and ideal practice have been identified via review of the literature, review of clinical neurophysiology fellowship curricula, and surveys of ACNS members and Annual Meeting attendees.

These include:

- Peripheral neurophysiology, Pediatric EMG, critical illness related neurophysiology, and muscle ultrasound
- Basic EEG: Identification of normal variants, identification of artifacts, clinical correlation
- Pediatric EEG, especially neonatal EEG
- Digital EEG processing, e.g. quantitative EEG and trends for use in the intensive care unit, source localization, coregistration with neuroimaging, etc.
- Full band EEG, Ultrafast and ultraslow EEG
- NIOM: Motor evoked potentials, guidelines and standards of care for NIOM (e.g. indications, cost effectiveness)
- Evoked potentials: Current role of short- and long-latency EPs
- Video-EEG monitoring, especially invasive EEG
- Sleep, Use of new scoring system, implications for patient care

### Changes in Behavior/Practice

It is intended that, as a result of attending the meeting and/or courses, physician attendees will be able to identify changes in competence or performance that are desirable. Definitions: "Competence" is knowing how to do something. "Performance" is what the physician would do in practice, if given the opportunity.

### Evaluation

The updated ACCME accreditation criteria are designed to integrate with the new requirements for maintenance of certification (for more information see [www.ABPN.org](http://www.ABPN.org)). Physicians are expected to perform self-assessments of their practice, but the ACNS, as an organization accredited by the ACCME, is expected to measure how its educational activities assist physicians in this activity. Thus, there are new questions in the evaluation form. These questions address your intended changes in competence or performance. In a few months, we will contact all physician meeting attendees to ask you if you actually HAVE experienced changes in competence or performance. Your responses, now and in the future, will assist us and ultimately you in determining educational activities that are most useful to you.

### Policy on Financial Disclosures

It is the policy of ACNS to ensure balance, independence, objectivity and scientific rigor in all its individually sponsored or jointly sponsored educational programs. In order to comply with the ACCME's Updated Standards for Commercial Support, ACNS requires that anyone who is in a position to control the content of an educational activity discloses all relevant financial relationships with any commercial interest pertaining to the content of the presentation. Should it be determined that a conflict of interest exists as a result of a financial relationship of a planner of the CME activity, the planner must recuse himself or herself from the planning for that activity or relevant portion of that activity. All presentations for which the presenter disclosed a potential conflict of interest are peer reviewed by two members of the ACNS CME Committee with no relationships. If bias is found, the presenter is asked to make changes to the presentation and it is re-reviewed for bias before final approval. Refusal to disclose a conflict or the inability to resolve an identified conflict precludes participation in the CME activity. Complete conflict of interest disclosure information is printed in the final program for the activity. A learner may request additional information regarding the nature of a planner or speaker's disclosure if "No Relevant Relationships" has been indicated below. To request additional information, contact the ACNS Executive office at [info@acns.org](mailto:info@acns.org).

# CONTINUING MEDICAL EDUCATION (CME) INFORMATION

## Meeting Description

The ACNS Annual Meeting & Courses are designed to provide a solid review of the fundamentals and the latest scientific advances in both “central” and “peripheral” clinical neurophysiology. Presentations at the Annual Meeting & Courses are given by leading experts in the field and have value for health care professionals who utilize clinical neurophysiology. Sessions include symposia, workshops, courses and Special Interest Groups, featuring didactic lectures, expert panels, debates and interactive formats. Poster presentations at the Annual Meeting highlight the latest work conducted at clinical neurophysiology centers around the country.

## Target Audience

The Society's educational activities are directed to clinical neurophysiologists, neurologists, psychiatrists, physiatrists, neurosurgeons, trainees in these disciplines and other physicians and researchers who utilize clinical neurophysiological techniques and knowledge in the diagnosis and management of patients with disorders of the nervous system.

## Annual Courses Learning Objectives

At the conclusion of the Annual Courses, the participant will be able to:

1. Describe the indications for use of clinical neurophysiology techniques in diagnosis of disorders of the nervous system;
2. Incorporate new neurophysiology procedures and technological advances into his/her own clinical practice; and
3. Perform and interpret a broad range of clinical neurophysiology procedures, and integrate the results of these tests into comprehensive patient management plans.

## Annual Meeting Learning Objectives

At the conclusion of the Annual Meeting, the participant will be able to:

1. Discuss recent advances in electroencephalography, evoked potentials, ALS, magnetoencephalography, practice technologies, nerve conduction studies and other clinical neurophysiology techniques; and
2. Apply advances in clinical neurophysiology techniques to improve the diagnosis of neurologic disorders.

## Accreditation Statement

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the sponsorship of ACNS. ACNS is accredited by ACCME to provide continuing medical education for physicians.

## Credit Designation

ACNS designates the Annual Meeting for a maximum of 17 *AMA PRA Category I Credit(s)*<sup>™</sup>. Physicians should claim only credit commensurate with the extent of their participation in the activity.

ACNS designates the Annual Courses for the maximum number of *AMA PRA Category I Credit(s)*<sup>™</sup> indicated below.

### Surgery/Stereo EEG Part I

6.5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Neurophysiologic Intraoperative Monitoring (NIOM) Part I

6.5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Intensive Care Unit EEG Monitoring (ICU EEG) Part I

6.5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Video-EEG Basic

2 *AMA PRA Category I Credit(s)*<sup>™</sup>

### EMG/Peripheral Nervous System

6.5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Epilepsy Surgery/Invasive EEG Course Part II

1.5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Neurophysiologic Intraoperative Monitoring (NIOM) Part II

5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Intensive Care Unit EEG Monitoring (ICU EEG) Part II

3 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Autonomic Neurophysiology

2 *AMA PRA Category I Credit(s)*<sup>™</sup>

### 6th Annual CNP Program Director's Symposium

2 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Basic EEG

3 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Video-EEG Advanced

2 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Evoked Potentials

1.5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Neonatal EEG Workshop: Year of the Premie

1.5 *AMA PRA Category I Credit(s)*<sup>™</sup>

### CPT Coding Changes

2 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Neuromodulation/Stimulation in Human Brain

3 *AMA PRA Category I Credit(s)*<sup>™</sup>

### Ultrasound Workshop

3 *AMA PRA Category I Credit(s)*<sup>™</sup>

## Certificates of Attendance & CME Certificates

CME certificates will be available to pre-registered delegates immediately upon the close of the meeting at [www.acns.org](http://www.acns.org). Delegates who registered on-site will receive an email with further information within 3 weeks of the end of the meeting.

Delegates are REQUIRED to complete session evaluations to obtain a CME Certificate or Certificate of Attendance. Delegates should log on to the website listed above and enter their last name and the ID# listed at the top of their Annual Meeting & Courses confirmation form (included in this packet). The system will then ask delegates to indicate which sessions they attended, to complete evaluation forms for each of those sessions, and then will generate a PDF certificate which may be printed or saved to the delegate's computer. Session attendance and evaluation information are saved in the database, and certificates may be accessed again, in the event the certificate is lost or another copy is required.

Please note that certificates will not be mailed or emailed after the meeting. The online certificate program is the only source for this documentation. Please contact ACNS at [info@acns.org](mailto:info@acns.org) for any questions. ACNS asks that all CME certificates be claimed no later than April 1, 2020.

# CONFLICT OF INTEREST DISCLOSURES

## Policy on Financial Disclosures

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<i>a. Grants/Research Support; b. Consultant; c. Stock/Shareholder (self-managed); d. Speaker's Bureau; e. Advisory Board or Panel; f. Salary, Contractual Services; g. Other Financial or Material Support</i>			
<b>Name</b>	<b>Organization</b>	<b>Role</b>	<b>Financial Disclosures</b>
Nicholas S. Abend, MD, MSCE, FACNS	The Perelman School of Medicine at the University of Pennsylvania, The Children's Hospital of Philadelphia, Philadelphia	Speaker, Planner, Reviewer	No Relationships
Jayant N. Acharya, MD, DM, FACNS, FAES, FAAN	Penn State University Hershey Medical Center	Speaker, Planner	SK Life Science (e)
Susan D. Agostini, R. EEG, CLTM	Mayo Clinic Arizona	Speaker	No Relationships
Edilberto Amorim, MD	Massachusetts General Hospital	Speaker	No Relationships
Brian L. Appavu, MD	University of Arizona College of Medicine - Phoenix, Barrow Neurological Institute at Phoenix Children's Hospital	Speaker	Moberg ICU Solutions (a)
Jeff Arle, MD, PhD, FAANS	Beth Israel Deaconess Medical Center, Department of Neurosurgery Boston MA	Speaker	Abbott Labs (b); Boston Scientific (b); Medtronic (b); Wenzel Spine (e)
Ravindra Arya, MD, DM	Cincinnati Children's Hospital Medical Center	Speaker, Reviewer	No Relationships
Eishi Asano, MD, PhD	Wayne State University	Speaker	No Relationships
Luca Bartolini, MD	Brown University	Speaker	No Relationships
Lisa M. Bateman, MD	Columbia University	Speaker	No Relationships
Selim R. Benbadis, MD, FACNS	University of South Florida	Speaker	Ceribell, Inc. (e, b)
Meriem Bensalem-Owen, MD, FACNS	University of Kentucky	Speaker, Planner, Reviewer	Neuropace (a); UCB Biopharma (a)
Adriana Bermeo-Ovalle, MD, FACNS, FAES	Rush Medical Center	Speaker	No Relationships
Tom P. Bleck, MD, FACNS	Northwestern Medicine	Speaker	No Relationships
Leonardo Bonilha, MD, PhD	Medical University of South Carolina	Speaker	Medtronic (a)
Anna M. Bonner, REEGT	ASET - The Neurodiagnostic Society	Planner	No Relationships
William J. Bosl, PhD	University of San Francisco	Planner	No Relationships
Geraldine Boylan, MD	University of Cork,	Speaker	No Relationships
Benjamin H. Brinkmann, PhD	Mayo Systems Electrophysiology Laboratory, Department of Neurology, Mayo Clinic	Speaker	Cadence Neuroscience (c)
Richard C. Burgess, MD, PhD, FACNS	Cleveland Clinic Epilepsy Center	Speaker, Planner	No Relationships
Neil A. Busis, MD	University of Pittsburgh Physicians	Speaker	No Relationships
Isabel Camacho, MD	Universidad de Antioquia	Speaker	No Relationships
Patrick Chauvel, MD	Cleveland Clinic Foundation	Speaker	No Relationships
Thomas Chelimsky, MD	Medical College of Wisconsin	Speaker	PainSTakers, LLC (f)

## CONFLICT OF INTEREST DISCLOSURES, CONTINUED

<i>a. Grants/Research Support; b. Consultant; c. Stock/Shareholder (self-managed); d. Speaker's Bureau; e. Advisory Board or Panel; f. Salary, Contractual Services; g. Other Financial or Material Support</i>			
<b>Name</b>	<b>Organization</b>	<b>Role</b>	<b>Financial Disclosures</b>
ShiNung Ching, PhD, MASc	Washington University in St. Louis	Speaker	No Relationships
Asim Choudhri, MD	Le Bonheur Children's Hospital, University of Tennessee Health Science Center	Speaker	No Relationships
Bernard Allen Cohen, PhD, FACNS, FASNM	Neurological Monitoring Associates, LLC	Planner	No Relationships
Amy Crepeau, MD	Mayo Clinic	Speaker, Reviewer	No Relationships
Nathan E. Crone, MD	Johns Hopkins University	Speaker	No Relationships
Monica B. Dhakar, MD, MS	Emory University/Grady Memorial Hospital	Speaker	Adamas Pharmaceuticals (b) : Marinus Pharmaceuticals (a)
Priya Dhawan, MD	Mayo Clinic Arizona	Speaker	No Relationships
Elliot Dimberg, MD, FACNS	Mayo Clinic	Planner	No Relationships
Daniel Drane, PhD	Emory University	Speaker	Medtronic (a); Neuropace (b)
Frank W. Drislane, MD, FACNS	Beth Israel Deaconess Medical Center	Planner, Reviewer	No Relationships
Francois Dubeau, MD	McGill University	Speaker	No Relationships
Jonathan C. Edwards, MD, FACNS	Medical University of South Carolina	Speaker, Planner	No Relationships
Dawn Eliashiv, MD, FACNS	David Geffen School of Medicine at UCLA	Speaker	Eisai Pharmaceuticals (d); Greenwich Biosciences (d); LivaNova (d); Neuropace (d); UCB Pharmaceuticals (d)
Ronald Emerson, MD, FACNS	Hospital for Special Surgery / Weill Cornell Med Ctr	Speaker, Planner	Amgen: (c); Bristol Myers Squibb: (c); Eli Lilly & Company: (c); General Electric: (c); Ice Neurosystems, Inc: (c); Johnson & Johnson, Inc.: (c); Neuropace : (c); Pfizer: (c); Quality Care Properties: (c); Reach Bionics: (c); Thermo Fisher Scientific: (c)
Jerome Engel Jr., MD, PhD, FACNS	UCLA	Speaker	No Relationships
Charles M. Epstein, MD, FACNS	Emory University School of Medicine	Reviewer	Neuronetics, Inc (d)
Guadalupe Fernandez-Baca, MD	UH Cleveland Medical Center	Speaker	No Relationships
Evan J. Fertig, MD, FAES	Providence Brain and Spine Institute	Reviewer	No Relationships
Robert S. Fisher, MD, PhD	Stanford University Medical Center	Speaker	Avails Medical (c); Cerebral Therapeutics (c); Cyberonics (b) Irody (c); Medtronic (b); Smart Monitor (c); Zeto (c)
Birgit Frauscher, MD	McGill University	Speaker	Eisai Inc. (e, d, g); UCB Canada (e, d)
France W. Fung, MD	Children's Hospital of Philadelphia & University of Pennsylvania	Speaker	No Relationships
Maria Moreno-Galera, MD	Fundación Jiménez Díaz Hospital	Speaker	No Relationships
William B. Gallentine, DO, FACNS	Stanford University	Speaker, Planner	No Relationships
Gloria M. Galloway, MD, MBA, FACNS	Ohio State University Wexner Medical Center	Speaker, Planner, Reviewer	No Relationships
Naiara Garcia-Losarcos, MD	UH Cleveland Medical Center	Speaker	No Relationships
Calvin Gardner, BS, MBA	Mission Health	Speaker	See Addendum
Nicolas Gaspard, MD, PhD	University Libre de Bruxelles	Speaker	No Relationships
Jay Gavvala, MD, MSCI, FACNS	Baylor College of Medicine	Speaker	No Relationships
Elizabeth Gerard, MD, FACNS	Northwestern University	Reviewer, Planner	Sunovian Pharmaceuticals, Inc. (a)



## CONFLICT OF INTEREST DISCLOSURES, CONTINUED

*a. Grants/Research Support; b. Consultant; c. Stock/Shareholder (self-managed); d. Speaker's Bureau; e. Advisory Board or Panel; f. Salary, Contractual Services; g. Other Financial or Material Support*

Name	Organization	Role	Financial Disclosures
Steve Gibbs, MD, MSc, FRCPC	Center for Advanced Research in Sleep Medicine, University of Montreal	Speaker	No Relationships
Emily Gilmore, MD	Yale School of Medicine	Speaker	No Relationships
Brent Goodman, MD	Mayo Clinic Arizona	Speaker	No Relationships
Jean Gotman, PhD, FACNS	Montreal Neurological Institute, McGill University	Speaker	Precis (e)
Robert E. Gross, MD, PhD	Emory	Speaker	Medtronic (a, b); Neuropace (a, b)
Christophe Grova	Concordia University	Speaker	See Addendum
Rejean M. Guerriero, DO	Washington University School of Medicine/ St. Louis Children's Hospital	Speaker	No Relationships
Cecil D. Hahn, MD, MPH, FRCPC, FACNS	The Hospital for Sick Children	Speaker, Planner	No Relationships
Hiba Haider, MD, FACNS	Emory University School of Medicine	Speaker, Planner, Reviewer	Ceribell, Inc. (b); UpToDate, Inc. (g)
Mark Hallett, MD, DM (hon), FACNS	NINDS, NIH	Speaker, Planner	Brainsway (e, g)
Ana Hamad, MD	Faculdade de Medicina de Ribeirão Preto	Speaker	No Relationships
Matti Hamalainen, PhD	Massachusetts General Hospital	Speaker	No Relationships
Roy Hamilton, MD	University of Pennsylvania	Speaker	No Relationships
Abeer J. Hani, MD, FACNS	Lebanese American University	Reviewer, Planner	No Relationships
Jed Hartings, PhD	University of Cincinnati	Speaker	No Relationships
Walter Heine, MD, PhD	Beth Israel Deaconess Medical Center, Harvard Medical School	Speaker	No Relationships
Susan T. Herman, MD, FACNS	Beth Israel Deaconess Medical Center, Harvard Medical School	Speaker, Reviewer	Epilepsy Therapy Development Project (a); Neuropace (g); UCB Pharmaceuticals (a)
Max J. Hilz, MD	Icahn School of Medicine	Speaker	Alnylam Pharmaceuticals (e); Amicus Therapeutics (d); Bayer Health Care Germany (d); Novartis Pharmaceuticals (a); Sanofi-Genzyme (d, e)
Lawrence J. Hirsch, MD	Yale University	Speaker	Adamas Pharmaceuticals (b); Aquestive (b); Ceribell, Inc. (b); Marinus Pharmaceuticals (b); Medtronic (b); Neuropace (d); UCB Biopharma (b); Upsher Smith Laboratories, Inc. (a)
Sara Hocker, MD, PhD	Mayo Clinic	Speaker	No Relationships
Jennifer Hopp, MD	University of Maryland School of Medicine	Speaker	Gerolamo McNulty Divis & Lewbart A Professional Corporation Attorneys at Law (g)
Alexandra Hovaguimian, MD	Beth Israel Deaconess Medical Center	Speaker	No Relationships
Aatif M. Husain, MD, FACNS	Duke University Medical Center	Speaker, Planner	Eisai Pharmaceuticals (b, e); Jazz Pharmaceuticals (b, e); Marinus Pharmaceuticals (b, e)
Akio Ikeda, MD, PhD, FACNS	Kyoto University Graduate School of Medicine	Planner	Eisai (d, g); UCB (d, g); Daiichi-sankyo (d); Nihon Kohden (g); Ohtsuka (g)
Monica P. Islam, MD, FACNS	Nationwide Children's Hospital/ The Ohio State University	Speaker, Reviewer	No Relationships
Lara E. Jehi, MD	Cleveland Clinic	Speaker	Eisai Inc. (a)
Barbara C. Jobst, MD, FACNS	Dartmouth Hitchcock Medical Center	Speaker	Eisai Inc. (a); Neuropace (a); Sunovion (a)

## CONFLICT OF INTEREST DISCLOSURES, CONTINUED

<i>a. Grants/Research Support; b. Consultant; c. Stock/Shareholder (self-managed); d. Speaker's Bureau; e. Advisory Board or Panel; f. Salary, Contractual Services; g. Other Financial or Material Support</i>			
<b>Name</b>	<b>Organization</b>	<b>Role</b>	<b>Financial Disclosures</b>
Giridhar P. Kalamangalam, MD, DPhil, FACNS	University of Florida	Speaker, Planner	No Relationships
Pongkiat Kankirawatana, MD, FACNS, FAES	Children's of Atlanta - UAB	Reviewer	No Relationships
Peter W. Kaplan, MD, FRCP, FACNS	Johns Hopkins University School of Medicine	Speaker, Planner	No Relationships
Ioannis Karakis, MD, PhD, MSc, FACNS	Emory University School of Medicine	Speaker, Planner	No Relationships
Hans Katzberg, MD, MSc, FRCPC	University of Toronto	Speaker	Akcea (b); Alexion (b); CSL Behring (a, b, e); Grifols (a, b, e); Octapharma (b, b, e; Pfizer (e ); Shire (b); Terumo (b, e)
Fawad A. Khan, MD, FACNS	Oschner Medical Center	Reviewer	Engage Therapeutics (a); Sage Therapeutics (a)
Ammar Kheder, MD	Penn Epilepsy Center	Reviewer	No Relationships
David King Stevens, MD	Sutter Pacific Epilepsy Program	Speaker	Neuropace (b, e)
Robert Knowlton, MD, MPH	UCSF Medical Center	Speaker	Stratus (e)
Inga Koerte, MD, PhD	Ludwig Maximilian University	Speaker	Abbott Inc. (e, a); Expesicor (b); Siemens Healthineers (Spouse/Partner: f)
Cory J. Kogelschatz, MD	Intermountain Neurosciences Institute	Speaker	No Relationships
Saptharishi Lalgudi-Ganesan, MBBS, MD, DM	Hospital for Sick Children	Speaker	No Relationships
Alice D. Lam, MD, PhD	Massachusetts General Hospital, Harvard Medical School	Speaker	No Relationships
Suzette M. LaRoche, MD, FACNS	Mission Health	Speaker, Planner	Brain Sentinel (e )
Ruple S. Laughlin, MD, FAAN	Mayo Clinic Rochester	Speaker, Planner	No Relationships
Jong Woo Lee, MD, PhD, FACNS	Brigham and Women's Hospital	Planner, Reviewer	Advance Medical (g); Engage Therapeutics (g); SleepMed/DigiTrace (g)
Leslie Lee, MD, FACNS	Stanford University School of Medicine	Speaker, Planner, Reviewer	No Relationships
Alan D. Legatt, MD, PhD, FACNS	Montefiore Medical Center	Speaker	Brain Sentinel (b); General Electric (c); Glaxo SmithKline (c); Johnson & Johnson (c); Merck (c); Pfizer (c); Proctor & Gamble (c); TEVA (c )
Markus Leitinger, MD	Department of Neurology, Christian Doppler University Hospital, Paracelsus Medical University	Speaker	Eisai Inc. (f, g); Everpharma (f); Medtronic (a); UCB Pharmaceuticals (a)
Maria Fernanda Lengua, MD	Universidad del Sinu	Speaker	See Addendum
Jeffrey R. Leonard, MD	Nationwide Children's Hospital	Speaker	No Relationships
Jeffrey Liou, DO	Harvard Medical School	Speaker, Planner	No Relationships
Lynn Liu, MD, FACNS	University of Rochester School of Medicine	Speaker, Planner	No Relationships
Tobias Lodenkemper, MD, FACNS	Boston Children's Hospital	Planner	Lundbeck (a); Eisai (a, g); Upsher-Smith (a, g); Malinckrodt (a); Sage (a); Pfizer (a); Zogenix (g); Amzell (g); Advance Medical (g); Device Loans (g)
Eric Logigian, MD	University of Rochester School of Medicine	Speaker	No Relationships
Jaime R. Lopez, MD, FACNS	Stanford University	Speaker, Planner	No Relationships
Matthew W. Luedke, MD	Duke University Hospital	Speaker	Eisai Pharmaceuticals (a, b); Monteris (a)
Brian Lundstrom, MD, PhD	Mayo Clinic	Speaker	Philips, Inc.(a)

## CONFLICT OF INTEREST DISCLOSURES, CONTINUED

*a. Grants/Research Support; b. Consultant; c. Stock/Shareholder (self-managed); d. Speaker's Bureau; e. Advisory Board or Panel; f. Salary, Contractual Services; g. Other Financial or Material Support*

Name	Organization	Role	Financial Disclosures
Matthew Mahoney, PhD	University of Vermont Larner College of Medicine	Speaker	No Relationships
Shavonne Massey, MD	The Children's Hospital of Philadelphia	Speaker, Planner	No Relationships
Luis Carlos Mayor-Romero, MD	Hospital Universitario Fundacion Santa Fe de Bogota	Reviewer	No Relationships
Jennifer McKinney, MD, FACNS	Nationwide Children's Hospital/ The Ohio State University	Speaker	No Relationships
Daniel L. Menkes, MD, FACNS	Beaumont Health System	Planner	CMTE (c)
Mitchell Miglis, MD	Stanford University	Speaker	VanCott Talamante LLC (g)
Yara Mikhaeil Demo, MD	Northwestern University	Speaker	No Relationships
Daniela N. Minecan, MD, FACNS, FAES	University of Michigan Health System	Planner	No Relationships
Ana L. Moreira, MD	Brazilian Society of Clinical Neurophysiology	Speaker, Planner	Surgical Line (Inomed Brazil) (Spouse/Partner: d)
Heidi M. Munger Clary, MD, MPH, FACNS	Wake Forest University	Planner	No Relationships
Srikanth Muppidi, MD	Stanford university	Speaker	Alexion Pharma (e)
Imad Najm, MD	Epilepsy Center, Neurology Department, Cleveland Clinic Foundation	Speaker	Eisai Pharmaceuticals (d, e)
Shalini Narayana, PhD	Le Bonheur Children's Hospital, University of Tennessee Health Science Center	Speaker	No Relationships
Marcus C. Ng, MD, FRCPC, CSCN, FACNS	University of Manitoba	Speaker, Planner	Eisai Pharmaceuticals (e)
Viet Nguyen, MD, FACNS	Stanford University	Planner	No Relationships
Lino Nobili, MD, PhD	G. Gaslini Institute, DINOEMI, University of Genova	Speaker	No Relationships
Douglas R. Nordli Jr., MD, FACNS	University of Chicago	Speaker	No Relationships
Jonathan A. Norton, PhD, FACNS	University of Saskatchewan	Planner	No Relationships
Peter Novak, MD, PhD	Brigham and Women's Hospital	Speaker	Dysimmune Foundation (b, f) Endonovo (e); KabaFusion (d) Lundbeck (e)
Marc R. Nuwer, MD, PhD, FACNS	University of California Los Angeles	Speaker, Planner	Corticare (c)
Cormac O'Donovan, MD, FACNS	Wake Forest University	Speaker	No Relationships
Joel Oster, MD, FACNS	Tufts University	Reviewer	No Relationships
Luis Otavio Caboclo, MD, MSc, PhD	Hospital Israelita Albert Einstein	Speaker	No Relationships
Guillermo Martin Palomeque, MD	Hospital Ramón y Cajal	Speaker	No Relationships
Jun T. Park, MD, FAES	Case Western Reserve University; Rainbow Babies and Children's	Reviewer	No Relationships
Jay S. Pathmanathan, MD, PhD	University of Pennsylvania	Speaker, Planner	No Relationships
Milena Pavlova, MD	Brigham and Women's Hospital, Harvard Medical School	Speaker	Biomobie (a); Jazz Pharmaceuticals (a); Lundbeck (a); Mass Medical (b); Oak Stone (f)
Phillip Pearl, MD, FACNS	Boston Children's Hospital	Speaker, Planner	No Relationships
Giovanni Pellegrino, MD	Montreal Neurological Institute and Hospital Montreal	Speaker	No Relationships
Juan Carlos Perez Poveda, MD	Pontifica Universidad Javeriana Y Hospital Universitario San Ignacio	Speaker	No Relationships
Elia Pestana-Knight, MD, FACNS	Cleveland Clinic Foundation	Speaker	No Relationships

## CONFLICT OF INTEREST DISCLOSURES, CONTINUED

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Name	Organization	Role	Financial Disclosures
Jurriaan Peters, MD, PhD	Boston Children's Hospital	Speaker	Philips, Inc. (b)
Chris Plummer, MD	University of Melbourne	Speaker	No Relationships
Ronit M. Pressler, PhD, MD	Great Ormond Street Hospital	Speaker	Bial (Spouse/Partner: b, e); Esai (Both Myself and my Spouse/Partner: e); Glaxo SmithKline (Spouse/Partner: c); Johnson & Johnson (g); LivaNova (Spouse/Partner: e); Sanofi-Genzyme (Spouse/Partner: b, d); UCB Pharmaceuticals (Both Myself and my Spouse/Partner: a, b, d, e, g)
Claus Reinsberger, MD, PhD, FACNS	Paderborn University	Speaker, Planner	IOB (b); SleepMed/Digitrace (b); Westfalen Foundation (a)
Roozbeh Rezaie, PhD	Le Bonheur Children's Hospital, University of Tennessee Health Science Center	Speaker	No Relationships
Eva K. Ritzl, MD, FACNS	Johns Hopkins University	Speaker, Planner	InVivo (b): various lawfirms (b)
James J. Riviello, MD	Baylor College of Medicine	Speaker	Biomarin (e)
Andres Rodriguez-Ruiz, MD	Emory University School of Medicine	Speaker	No Relationships
Alexander Rotenberg, MD, PhD	Boston Children's Hospital	Speaker, Planner	Cavion (e); CRE Medical (a); Gamify (e); Kintai (a); Neuroelectrics (a); Neuromotion (e); Roche (a, e); Takeda (a)
Elayna Rubens, MD, FACNS	Memorial Sloan Kettering Cancer Center	Speaker, Planner	No Relationships
Devon I. Rubin, MD, FACNS	Mayo Clinic	Speaker, Planner	No Relationships
Daniel San Juan de Orta, MD, FACNS	National Institute of Neurology & Neurosurgery	Speaker	No Relationships
Arnold J. Sansevere, MD	Boston Children's Hospital	Planner	No Relationships
Emiliano Santarnecchi, PhD	Harvard Medical School	Speaker	Neuroelectrics (e)
Karl E. Sanzenbacher, MD, MS, FACNS	Eastern Maine Medical Center	Reviewer	No Relationships
Rani Sarkis, MD, MSc, FACNS	Brigham and Women's Hospital, Harvard Medical School	Speaker	Biogen (a); UCB Biopharma SPRL (a)
Mark S. Scher, MD	Rainbow Babies and Childrens Hospital	Speaker	No Relationships
Adam Schiavi, MD, PhD, MS	Johns Hopkins University School of Medicine	Speaker	No Relationships
Sarah E. Schmitt, MD, FACNS	Department of Neurology, MUSC	Speaker, Planner, Reviewer	No Relationships
Stephan U. Schuele, MD, MPH, FACNS	Northwestern University	Speaker, Planner	Eisai Inc. (d); Greenwich Biosciences (d); Sunovion Pharmaceuticals, Inc. (d)
Rodney Scott, MD, PhD	University of Vermont Larner College of Medicine	Speaker	No Relationships
Mouhsin Shafi, MD, PhD	Beth Israel Deaconess Medical Center, Harvard Medical School	Speaker	No Relationships
Raj D. Sheth, MD, FAAN, FACNS	Mayo Clinic / Nemours Clinic-Florida	Planner	No Relationships
Jay L. Shils, PhD, DABNM, FACNS	Rush University Medical Center, Dept. of Anesthesiology	Speaker, Planner	Medtronic (b); St. Jude Abbott (a)
Mirela V. Simon, MD, MSc, FACNS	Massachusetts General Hospital	Speaker, Planner	No Relationships
Saurabh R. Sinha, MD, PhD, FACNS	Duke University Medical Center	Speaker, Planner	Basilea Inc. (e); Eisai Inc. (a); Monteris Medical (a, b); UCB Pharmaceuticals (b)

## CONFLICT OF INTEREST DISCLOSURES, CONTINUED

*a. Grants/Research Support; b. Consultant; c. Stock/Shareholder (self-managed); d. Speaker's Bureau; e. Advisory Board or Panel; f. Salary, Contractual Services; g. Other Financial or Material Support*

Name	Organization	Role	Financial Disclosures
Dong-In Sinn, MD	Stanford University	Speaker	No Relationships
Stanley Skinner, MD, FACNS	Abbott Northwestern Hospital	Speaker	Medtronic (g)
Elson Lee So, MD, FACNS	Mayo Clinic	Speaker	No Relationships
Michael R. Sperling, MD, FACNS	Jefferson University	Speaker	Eisai Pharmaceuticals (a, f); Engage Therapeutics (a); Medtronic (a, b); Neurelis (a); NeurologyLive (b)); SK Life Science (a); Takeda (a); UCB Pharmaceuticals (a); Xenon Pharmaceuticals (a)
Mark Stecker, MD, PhD, FACNS	UCSF/Fresno Division of Neurology Fresno CA	Speaker	No Relationships
Michael Stein, MD, FACNS	Barrow Neurological Institute	Speaker	Compumedics (b)
Claude Steriade, MD	NYU Langone	Speaker	The Epilepsy Study Consortium (f); UCB Pharmaceuticals (a, e)
Scellig Stone, PhD, MD	Harvard Medical School	Speaker	Alcyone Lifesciences, Inc. (b, g); PTC (Formerly Agilis Biotherapeutics) (b)
Travis Stoub, PhD	Rush Medical Center	Speaker	No Relationships
Aaron Struck, MD	University of Wisconsin	Speaker	No Relationships
Fahd Sultan, MD	University of Oklahoma College of Medicine	Reviewer	No Relationships
Christa Swisher, MD, FACNS	Duke University Medical Center	Speaker, Reviewer	No Relationships
Nitin Tandon, MD	Memorial Hermann Health System	Speaker	No Relationships
Olga Taraschenko, MD, PhD	University of Nebraska Medical Center	Speaker	No Relationships
Matthew Tate, MD, PhD	Northwestern University, Feinberg School of Medicine	Speaker	No Relationships
William O. Tatum, DO, FACNS	Mayo Clinic	Speaker, Planner	Esai (a); Mayo Clinic (a, g)
Jessica W. Templer, MD, FACNS	Northwestern University, Feinberg School of Medicine	Speaker	No Relationships
Parthasarathy Thirumala, MD, FACNS	University of Pittsburgh Medical Center	Speaker	No Relationships
Ron Tintner, MD	Houston Methodist Hospital	Reviewer	No Relationships
Eugen Trinkka, MD, MSc, FRCP	Christian Doppler University Hospital, Paracelsus Medical University	Speaker	No Relationships
Melissa Tsuboyama, MD	Boston Children's Hospital	Speaker	No Relationships
Tammy Tsuchida, MD, PhD, FACNS	Children's National Health System	Speaker, Planner	No Relationships
Sedat Ulkatan	Mount Sinai West	Speaker	No Relationships
Michel van Putten, MD, PhD	Medisch Spectrum Twente & University of Twente	Speaker	Clinical Science Systems (b)
Rocio Vazquez do Campo, MD	Mayo Clinic	Speaker	No Relationships
Martin Veilleux, MD, FRCP(C), FACNS	Montreal Neurological Hospital	Planner	No Relationships
Ana L. Velasco-Monroy, MD, PhD	Hospital General de Mexico	Speaker	No Relationships
Dalila W. Lewis, MD	University of Wisconsin- Madison	Speaker	No Relationships
Richard Wennberg	University of Toronto Health Network	Speaker	No Relationships
M. Brandon Westover, MD, PhD, FACNS	Harvard Medical School	Speaker, Planner	No Relationships
James W. Wheless, MD, FAAP, FAAN, FAES	Le Bonheur Children's Hospital, University of Tennessee Health Science Center	Speaker	No Relationships



## CONFLICT OF INTEREST DISCLOSURES, CONTINUED

<i>a. Grants/Research Support; b. Consultant; c. Stock/Shareholder (self-managed); d. Speaker's Bureau; e. Advisory Board or Panel; f. Salary, Contractual Services; g. Other Financial or Material Support</i>			
<b>Name</b>	<b>Organization</b>	<b>Role</b>	<b>Financial Disclosures</b>
Gregory Worrell, MD	Mayo Clinic	Speaker, Planner	Cadence Neuroscience (a, b, c); NeuroOne Inc. (a, b, c)
Courtney J. Wusthoff, MD, FACNS	Stanford Division of Child Neurology	Speaker, Planner, Reviewer	Ceribell (b); Persyst (b)
June Yoshii-Contreras, MD	UC San Diego	Speaker	No Relationships

## SUPPORT ACKNOWLEDGEMENT

ACNS gratefully acknowledges the following companies for their support of the 2020 Annual Meeting & Courses:

### Bronze Level

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Brain Sentinel

Cadwell Industries, Inc *in the form of an in-kind donation of equipment for the Electromyography (EMG)/Peripheral Course.*

Ceribell

Greenwich Biosciences *in the form of an unrestricted educational grant.*

Persyst Development Corporation *in the form of an unrestricted educational grant.*

### Bronze Level Exhibitors

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American Board of Clinical Neurophysiology

ABRET

ASET - The Neurodiagnostic Society

Compumedics Neuroscan

Corticare

Demos Medical by Springer Publishing

Dixi Medical USA Corp

Eisai, Inc

g.tec Neurotechnology GmbH

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SK Life Science, Inc.

SpecialtyCare

Spes Medica USA

Stratus

UCSF Health

University of Florida Health Shands Hospital

Wolters Kluwer

Zeto

## SOCIAL AND NETWORKING EVENTS

### Mentor Program Meet and Greet & Career Development Panel

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**Thursday, February 6, 2020**

5:45–7:45pm

**Location:** Salon 3

This panel discussion will provide guidance to residents, fellows and early-stage neurologists to plan and build a successful career in Clinical Neurophysiology. A panel of experts will share their experience on various career pathways in clinical neurophysiology, including academia, transition to private practice, collaboration with industry and telemedicine. The audience will learn about the clinical duties, education, innovation and research, administration and leadership, finance, regulatory and medicolegal issues of different practice models and how each of them impacts quality of life.

#### Panelists:

**Jeffrey Britton, MD, FACNS**

Professor of Neurology, Mayo Clinic School of Medicine

Perspective: Clinician educator and division chief

**Eric Anderson, MD, PhD**

Chair of Neurology, SOC Telemed; Medical Director/Director of Telemedicine, Corticare; Owner, Intensive Neuromonitoring

Perspective: Working in Tele-CNP

**M. Brandon Westover, MD, PhD, FACNS**

Massachusetts General Hospital

Perspective: Clinician researcher about NIH funding in CNP

**Jay S. Pathmanathan, MD, PhD**

Assistant Professor, University of Pennsylvania

Perspective: Working and applying for funding at the VA

**Andrea Hakimi, DO, FACNS, FAES**

Epilepsy Director, UMG/Neuroscience Associates

Perspective: Working in a private/semiprivate setting

**Martha J. Morrell, MD**

Chief Medical Officer, Neuropace

Perspective: Working in and collaborating with industry

### Professional Development Mentor Program

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Participants in the ACNS Professional Development Mentor Program are welcome to make use of a designated meeting area in the common areas on Friday and Saturday during breaks and lunches. Please look for the designated tables as a place to meet up!

### Welcome Reception

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**Friday, February 7, 2020**

7:30–9:00pm

**Location:** Crescent City Ballroom

Dr. Cecil D. Hahn, MD, MPH, FACNS formally invites all Annual Meeting delegates to attend the ACNS Welcome Reception. There will be complimentary hors d'oeuvre and a cash bar, as well as the opportunity to connect with new and familiar exhibitors.

### New Member Breakfast

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**Saturday, February 8, 2020**

7:00–8:30am

**Location:** Conti Room

ACNS members who have joined the Society in the past year are invited and encouraged to attend the New Member Breakfast. ACNS leaders will be in attendance to welcome you to the Society and to discuss all the benefits ACNS membership has to offer.

### International Attendee Breakfast

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**Saturday, February 8, 2020**

7:00–8:30am

**Location:** Crescent City Ballroom

International meeting attendees are invited to join ACNS leadership for a breakfast and networking.

## ANNUAL COURSES • OVERVIEW

### Wednesday, February 5, 2020

9:00am–5:00pm	Intensive Care Unit EEG Monitoring (ICU EEG) - Part I	Salon 3
9:00am–5:00pm	Neurophysiologic Intraoperative Monitoring (NIOM) - Part I	Salon 2
9:00am–5:00pm	Epilepsy Surgery/Stereo EEG - Part I	Salon 4

### Thursday, February 6, 2020

7:00–8:30am	Evoked Potentials	Salon 2
7:00–8:30am	Neonatal EEG Workshop: Year of the Premie	Salon 3
7:00–8:30am	Epilepsy Surgery/Invasive EEG Course - Part II: - SEEG/Case-Based Discussion	Salon 4
9:00am–12:00pm	Intensive Care Unit EEG Monitoring (ICU EEG) - Part II	Salon 3
9:00am–3:00pm	Neurophysiologic Intraoperative Monitoring (NIOM) - Part II	Salon 2
9:00am–5:00pm	Electromyography (EMG)/Peripheral	Salon 4
12:30–3:00pm	CNP Directors Symposium: Navigating the CNP Fellowship Landscape in the Era of Neuromuscular and Epilepsy Fellowships	Salon 5
1:00–3:00pm	Video EEG Basic	Salon 3
3:30–5:30pm	Autonomic Neurophysiology	Salon 3
3:30–5:30pm	CPT Coding Changes: EEG Monitoring and Neurostimulation	Salon 2
5:45–7:45pm	Mentor Program Meet and Greet & Career Development Panel	Salon 5

### Friday, February 7, 2020

7:00–10:00am	Basic EEG	Chamber 1, Mayor Suite Level
7:00–10:00am	Neuromodulation/Stimulation in Human Brain	Salon 3
7:00–10:00am	Ultrasound Workshop	Salon 2
8:00–10:00am	Video EEG Advanced	Chamber 3, Mayor Suite Level

## ANNUAL MEETING • PROGRAM OVERVIEW

### Friday, February 7, 2020

10:30 - 11:30am	<b>General Session</b> - Presidential Address	Salons 4 & 5
11:30am–1:00pm	<b>Lunch Break   Exhibit Hall Open   Product Theater</b>	Crescent City Ballroom I Conti Room
1:00–2:30pm	<b>Concurrent Sessions</b>	
	Continuous EEG Findings in Refractory Status Epilepticus	Salons 4 & 5
	High Density EEG and Electrical Source Imaging in Clinical Practice	Salon 3
	Mastering EMG Motor Unit Potential Analysis: Learning the Skill of Deliberate Practice	Chamber 1, Mayor Suite Level
	Update on Non-Invasive Presurgical Functional Mapping Methods in Children	Chamber 3, Mayor Suite Level
	Wearables Against Death – SUDEP, Sleep, and Nocturnal Seizures	Salon 2
2:30–2:45pm	<b>Coffee Break</b>	
2:45–4:15pm	<b>Concurrent Sessions</b>	
	Continuous EEG of Hypoxic-Ischemic Brain Injury in The Era of Targeted Temperature Management	Salon 4 & 5
	Controversies in Neonatal Seizures (ACNS/British Society for Clinical Neurophysiology Joint Symposium)	Salon 2
	Complex Systems, Epilepsy and EEG	Salon 3
	Inpatient Weakness: Clinical and EDX Approach	Chamber 1
4:15–4:30pm	<b>Break</b>	
4:30–6:00pm	<b>Concurrent Sessions</b>	
	Nonconvulsive Status Epilepticus: Diagnostic Approach in Adults and Children (ACNS/Austrian Society for Clinical Neurophysiology Joint Symposium)	Salon 4 & 5
	It's Not All Child's Play: Presurgical Functional Mapping in Children Using Transcranial Magnetic Stimulation	Chamber 1, Mayor Suite Level
	Selective Dorsal Rhizotomy: Making the Cut	Chamber 3, Mayor Suite Level
	The Business of Clinical Neurophysiology	Salon 2
	The Postictal State: Clinical Neurophysiology and Implications	Salon 3
6:15–7:30pm	<b>General Session</b> – Jasper Award Presentation and Lecture   Gloor Award Presentation and Lecture	Salons 4 & 5
7:30–9:00pm	<b>Welcome Reception</b>	Crescent City Ballroom

# ANNUAL MEETING • PROGRAM OVERVIEW

Saturday, February 8, 2020		
9:00–10:30am	<b>Concurrent Sessions   Special Interest Groups (SIGs)</b>	
	Clinical Neurophysiology Resident and Fellow SIG	Chamber 1, Mayor Suite Level
	How Slow Can the Brain Go? Investigating the Dynamics of Slow Oscillations Following Acquired Brain Injuries	Salon 2
	Comprehensive Introduction to Clinical Neuromodulation	Salons 4 & 5
	High Density EEG SIG: The High Density EEG Research Consortium	Chamber 3, Mayor Suite Level
	Staffing Models for Continuous Visual Surveillance in EMU and ICU Monitoring Units	Salon 3
10:30–11:00am	<b>Coffee Break</b>	
11:00am–12:30pm	<b>Concurrent Sessions</b>	
	IOM in Vascular Procedures (ACNS/Spanish Society of Clinical Neurophysiology Joint Symposium)	Chamber 1, Mayor Suite Level
	Myoclonus: The Road Less Traveled	Salon 2
	Presurgical Language Localization with Stereo-EEG: Challenges and Opportunities	Salons 4 & 5
	Quantitative Electroencephalography: Applications in Pediatric Neurocritical Care	Salon 3
	Sleep-Related Epilepsy: Lessons from the Sleep Laboratory	Chamber 3, Mayor Suite Level
12:30–2:00pm	<b>Lunch Break   Exhibit Hall Open   Product Theater</b>	Crescent City Ballroom I Conti Room
2:00–3:30pm	<b>Concurrent Sessions</b>	
	Advanced Autonomic Testing	Chamber 3, Mayor Suite Level
	Approach to Surgery for Low Grade Glioma: Is an Epilepsy Evaluation Necessary?	Chamber 1, Mayor Suite Level
	Long-term Video EEG Monitoring: In the EMU, ICU and at Home	Salons 4 & 5
	Neuromodulation in Refractory Epilepsy (ACNS/Mexican Clinical Neurophysiology Society Joint Symposium)	Salon 3
	Prediction Analytics for Forecasting Seizure Risk in Critically Ill Patients	Salon 2
3:30–3:45pm	<b>Break</b>	
3:45–5:15pm	<b>Concurrent Sessions</b>	
	Clinical Neurophysiology of Repetitive Head Impacts	Salon 2
	How Deep in the Brain Can You See with EEG, MEG and EEG-fMRI? (ACNS/Canadian Society for Clinical Neurophysiology Joint Symposium)	Salons 4 & 5
	My Patient's Dizzy, Now What?: Autonomic Neurophysiology through Clinical Cases	Salon 3
	Neuromonitoring in Neonates with Critical Congenital Heart Disease	Chamber 1, Mayor Suite Level
	Spanish Symposium: Epilepsia de Inicio Temprano /Early Onset Epilepsies. The Colombian Experience	Chamber 3, Mayor Suite Level
5:30–7:00pm	<b>General Session – ACNS Business Meeting   Schwab Award Presentation and Lecture   Voodoo Neurology</b>	Salons 4 & 5
Sunday, February 9, 2020		
8:00–9:30am	<b>Concurrent Sessions</b>	
	Battle-Lines are Drawn: Is it HD-EEG vs MEG, or EEG with MEG?	Salons 4 & 5
	EEG in Epileptic Encephalopathies in Childhood (ACNS/Brazilian Clinical Neurophysiology Society Joint Symposium)	Salon 3
	SEEG Implantation Strategy in Epileptic Patients: Illustrative Cases	Salon 2
9:30–10:00am	<b>Coffee Break</b>	Salons Foyer
8:00–11:30am	<b>Diversity in Leadership Symposium</b>	Chamber 3, Mayor Suite Level
10:00–11:30am	<b>Concurrent Sessions</b>	
	Controversies in Neurostimulation and Epilepsy Surgery	Salons 4 & 5
	Stat EEGs: Use, Abuse, and the Role of New Rapid-EEG Devices	Salon 2
	The Neurophysiology of Alzheimer's Disease	Salon 3



## AWARD RECIPIENTS & LECTURES

### FRIDAY, FEBRUARY 7, 2020

#### 2020 Herbert H. Jasper Award & Lecture

**"Stimulation"**

**Ronald Lesser, MD, FACNS**



The Jasper Award is presented annually to an individual who has made a lifetime of outstanding contributions to the field of clinical neurophysiology. Dr. Lesser will be recognized and present the 2020 Jasper Award Lecture during a general session on Friday, February 7, 2020.

Dr. Lesser grew up in Los Angeles, attending Hollywood High School, Pomona College, and the University of Southern California School of Medicine. He then did his PGY1 year in Pediatrics at Mayo Clinic, in Rochester, Minnesota and two years in the United States Indian Health Service in Rapid City, South Dakota. After training in Psychiatry and then Neurology at Columbia-Presbyterian Medical Center, New York City, he was at the Cleveland Clinic from 1979–1986. Since then, he has been at Johns Hopkins University School of Medicine, where he is Professor of Neurology and Neurosurgery.

#### 2020 Pierre Gloor Award & Lecture

**"What's the Pattern?"**

**Richard C. Burgess, MD, PhD, FACNS**



The Gloor Award is presented annually for outstanding current contributions to clinical neurophysiology research. Dr. Burgess will be recognized and will deliver the 2020 Gloor Award Lecture on Friday, February 7, 2020.

Dr. Burgess was responsible for bringing magnetoencephalography to the Cleveland Clinic in 2008. Since its inception at CCF, Dr. Burgess has conducted MEG assessments of more than 2,000 patients with complicated epilepsy, and has mentored many post-doctoral trainees in multi-year Magnetoencephalography Fellowships (including 9 international fellows). Since 2010, Dr. Burgess has been a member the Board of Directors of the American Clinical MEG Society (ACMEGS). As a leader of the ACMEGS Clinical Practice Guidelines taskforce, Dr. Burgess has promulgated magnetoencephalography clinical guidelines in 2011, which were also subsequently endorsed by the ACNS. From 2015 to 2018, Dr. Burgess served as President of the ACMEGS. He is also on the Executive Committee of the International Society for the Advancement of Clinical Magnetoencephalography.

### SATURDAY, FEBRUARY 8, 2020

#### 2020 Robert S. Schwab Award & Lecture

**"Shock, Listen or Look? The Evolution of Neuromuscular Ultrasound"**

**Francis O. Walker, MD, FACNS**



The Schwab Award is presented annually to an individual who has made significant contributions in the area of clinical neurophysiology. Dr. Walker will be recognized and will deliver the 2020 Schwab Award Lecture on Saturday, February 8, 2020.

Dr. Walker earned his medical degree at Indiana University School of Medicine and completed residency and fellowship training at the Universities of Iowa and Michigan. He currently is a Professor of Neurology at Wake Forest School of Medicine where he established Diagnostic EMG Laboratory, The Section of Movement Disorders, the Deep Brain Stimulation Program for Parkinson's Disease, The Botulinum Toxin program, and The Victor T. Rogers Huntington's Disease Clinic. He has helped train 60 fellows and is the recipient of Wake Forest Medical Student Teaching and Faculty Mentoring Awards. He has authored or co-authored over 200 peer reviewed publications. His work in the field of Neuromuscular Ultrasound and his textbook are considered pioneering. Dr. Walker has also served on the ACNS Council and on the Editorial Boards of *The Journal of the Neurological Sciences*, *the Journal of Clinical Neurophysiology*, and *Muscle and Nerve* and he is a Past President of the American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM).

#### Marc R. Nuwer Service Award

**Marc R. Nuwer, MD, PhD, FACNS**



Dr. Nuwer is Professor of Neurology and the Director of the Clinical Neurophysiology Fellowship Program at UCLA.

Dr. Nuwer has served ACNS and field of Clinical Neurophysiology enormously over the past 35 years, having served as president of ACNS from 1993–94 and of IFCN from 1997–2001. Dr. Nuwer has been a tireless advocate for ACNS and his members, representing ACNS in the AMA House of Delegates, at RUC and CPT, and as the chair of the Advocacy Committee all for more than a decade. He has instrumental in advocating for reimbursement for clinical neurophysiology. He holds a "permanent" seat on the ACNS Council and is the most fervent of ACNS's supporters worldwide.

Dr. Nuwer is the inaugural recipient of the ACNS Service Award, which shall be known as the Marc R. Nuwer Service Award. The award will be presented during the ACNS Business Meeting on Saturday, February 8 at 5:30pm.

# ANNUAL COURSES AGENDA

**9:00am–5:00pm**

## **502: Intensive Care Unit EEG Monitoring (ICU EEG) - Part I**

*Course Co-Chairs: Elizabeth Gerard, MD, FACNS and Courtney J. Wusthoff, MD, FACNS*

### **LOCATION:**

Salon 3

### **LEARNING OBJECTIVES:**

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

1. Discuss current guidelines and evaluate various practice models for ICU EEG monitoring to improve patient care for both adults and children;
2. Apply the standard ACNS terminology to ICU EEG recordings, to improve standardization of ICU EEG reports and communication between providers;
3. Recognize controversial EEG patterns in ICU patients with altered mental status, and formulate a rational plan for treatment based on these EEG patterns;
4. Use QEEG to efficiently enhance ICU EEG interpretation; and
5. Discuss the role of amplitude-integrated EEG in neonatal ICUs.

### **AGENDA:**

- 9:00am Welcome  
*Elizabeth Gerard, MD, FACNS, and Courtney J. Wusthoff, MD, FACNS*
- 9:05am Logistics of ICU EEG Monitoring from Neonates to Adults  
*William B. Gallentine, DO, FACNS*
- 9:30am Discussion
- 9:40am ACNS Terminology  
*Lawrence J. Hirsch, MD, FACNS*
- 10:05am Discussion
- 10:15am Coffee Break
- 10:25am The Ictal-Interictal Continuum  
*Suzette M. LaRoche, MD, FACNS*
- 10:50am Discussion
- 11:00am cEEG in Neonates  
*Tammy Tsuchida, MD, PhD, FACNS*
- 11:25am Discussion
- 11:35pm Neonatal and Pediatric Cases  
*Dalila Watford Lewis, MD and Rejean Guerriero, DO*
- 12:00pm Lunch Break (not provided. See pg.6 for a list of nearby restaurants)
- 1:00pm That's a Seizure... Is It? Definitions of Electrographic Seizures and When to Trust Your Instincts  
*Sarah E. Schmitt, MD, FACNS*
- 1:25pm Discussion
- 1:35pm Treatment of Convulsive and Nonconvulsive Seizures and Status Epilepticus  
*Thomas Bleck, MD, FACNS*
- 2:00pm Discussion
- 2:10pm NORSE, FIRES and Autoimmune Encephalitis  
*Olga Taraschenko, MD, PhD*
- 2:35pm Discussion
- 2:45pm Background, Reactivity and Toxic Metabolic Encephalopathy  
*Peter W. Kaplan, MB, BS, FRCP, FACNS*
- 3:10pm Discussion
- 3:20pm Coffee Break

- 3:30pm Anoxic Brain Injury and Myoclonic Status  
*Yara Mikhaeil-Demo, MD*
- 3:55pm Discussion
- 4:05pm Name that Artifact – Adult EEG  
*Emily Gilmore, MD*
- 4:20pm Name that Artifact- Peds EEG  
*Dalila Watford Lewis, MD and Rejean Guerriero, DO*
- 4:35pm Adult ICU EEG Cases  
*Andres Rodriguez Ruiz, MD*
- 4:55pm Discussion

Wednesday,  
February 5, 2020

# ANNUAL COURSES AGENDA

Wednesday,  
February 5, 2020

9:00am–5:00pm

## 501: Neurophysiologic Intraoperative Monitoring (NIOM) - Part I

Course Co-Chairs: Eva K. Ritzl, MD, FACNS and Mirela V. Simon, MD, FACNS

### LOCATION:

Salon 2

### LEARNING OBJECTIVES:

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

1. Design a comprehensive monitoring plan for individual patients, including multimodality intraoperative monitoring techniques (e.g. recordings of sensory and motor evoked potentials, EEG, EMG, and spinal reflex activity) to monitor segments of the nervous system at risk during surgery;
2. Recognize changes in intraoperative neurophysiologic tests which indicate damage to neural structures, and distinguish these from common technical artifacts;
3. Communicate effectively normal and abnormal results to the surgical team, and incorporate results into clinical recommendations that may alter the surgical technique to avoid, limit or reverse injury to neural structures;
4. Apply knowledge about effects of anesthesia on NIOM and designing optimal anesthetic strategies for effective monitoring; and
5. Recognize the medico-legal, billing and regulatory aspects in NIOM.

### AGENDA:

- 9:00am Welcome and Introductions
- 9:05am SEP Monitoring  
*Aatif M. Husain, MD, FACNS*
- 9:45am MEP Monitoring  
*Ronald Emerson, MD, FACNS*
- 10:25am Coffee Break
- 10:40am BAEP Monitoring  
*Alan D. Legatt, MD, PhD, FACNS*
- 11:20am CEA Monitoring  
*Marc R. Nuwer, MD, PhD, FACNS*
- 12:00pm Discussion
- 12:15pm Lunch (not provided. See pg. 6 for a list of nearby restaurants)
- 1:15pm EMG and Nerve Recordings  
*Stanley Skinner, MD, FACNS*
- 1:55pm Anesthesia  
*Adam Schiavi, MD, PhD, MS*
- 2:35pm Technical Troubleshooting  
*Jay Shils, PhD, DABM, FACNS*
- 3:15pm Coffee Break
- 3:30pm Medicolegal Issues  
*Jaime R. Lopez, MD, FACNS*
- 4:10pm Billing Issues  
*Marc R. Nuwer, MD, PhD, FACNS*
- 4:50pm Discussion

9:00am–5:00pm

## 503: Epilepsy Surgery/Stereo EEG - Part I

Course Co-Chairs: Stephan U. Schuele, MD, MPH, FACNS and Giridhar Kalamangalam, MD, DPhil, FACNS

### LOCATION:

Salon 4

### LEARNING OBJECTIVES:

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

1. Identify patients from noninvasive evaluations who merit intracranial EEG evaluation;
2. Decide which type of intracranial EEG recordings, if any, are most appropriate for a given patient;
3. Approach common and challenging surgical epilepsy syndromes using invasive EEG recordings;
4. Describe approaches to surgical resection and anticipate outcome; and
5. Outline knowledge of invasive stimulation therapy for intractable epilepsy.

### AGENDA:

- 9:00am Welcome and Overview  
*Giridhar Kalamangalam, MD, DPhil, FACNS*
- 9:05am Understanding the Noninvasive Data  
*Stephan U. Schuele, MD, MPH, FACNS*
- 9:30am Seizure Semiology: General Principle  
*Patrick Chauvel, MD*
- 10:15am Coffee Break
- 10:30am Intracranial EEG: Physics and Physiology  
*Jean Gotman, PhD, FACNS*
- 11:00am Implant Strategy  
*Giridhar Kalamangalam, MD, DPhil, FACNS*
- 11:30am Neuropsychology for the Surgical Epileptologist  
*Daniel Drane, PhD*
- 12:00pm Stimulation Mapping  
*Birgit Frauscher, MD*
- 12:30pm Lunch Break (not provided. See pg. 6 for a list of nearby restaurants)
- 1:00pm PVNH & Complex Lesional Epilepsy  
*Francois Dubeau, MD*
- 1:30pm Surgical Strategy in Adults  
*Nitin Tandon, MD*
- 2:00pm Neuromodulation  
*Lawrence J. Hirsch, MD, FACNS*
- 2:30pm Coffee Break
- 2:45pm Pediatric Surgical Workup and SEEG  
*Deepak Lachhwani, MD*
- 3:15pm Surgical Strategy in Pediatric Epilepsy  
*Scellig S.D. Stone, PhD, MD*
- 3:45pm Was It All Worth It? Epilepsy Surgery Outcome  
*Lara E. Jehi, MD*
- 4:15pm Summary Comments  
*Stephan U. Schuele, MD, MPH, FACNS*
- 4:30pm Discussion

# ANNUAL COURSES AGENDA

**7:00–8:30am**

## **601: Evoked Potentials**

*Course Co-Chairs: Elayna Rubens, MD, FACNS and Viet Nguyen, MD, FACNS*

### **LOCATION:**

Salon 2

### **LEARNING OBJECTIVES:**

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

1. Identify appropriate clinical applications of evoked potential testing;
2. Interpret accurately visual, brainstem auditory, and somatosensory evoked potentials; and
3. Correlate evoked potential results and clinical information to inform neurologic diagnosis and prognostication.

### **AGENDA:**

- 7:00am Brainstem Auditory Evoked Potentials (BAEPs)  
*Alan D. Legatt, MD, PhD, FACNS*
- 7:30am Visual Evoked Potentials (VEPs)  
*Aatif M. Husain, MD, FACNS*
- 8:00am Somatosensory Evoked Potentials (SEPs)  
*Elayna Rubens, MD*

**7:00–8:30am**

## **602: Neonatal EEG Workshop: Year of the Premie**

*Course Chair: Shavonne L. Massey, MD*

### **LOCATION:**

Salon 3

### **LEARNING OBJECTIVES:**

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

1. Explain how the growing incidence of surviving premature neonates impacts neurologic insults and neuromonitoring indications in the neonatal intensive care unit;
2. Discuss the temporal progression of neonatal EEG background features and graphoelements from earliest stages of viability through term;
3. Describe the interpretation of epileptiform activity in the premature neonatal EEG; and
4. Identify the incidence of seizures in premature neonates and describe the proper practices to detect and manage seizures in the preterm neonate.

### **AGENDA:**

- 7:00am Introduction 'Year of the Premie'  
*Shavonne L. Massey, MD*
- 7:10am Ontogeny of the Neonatal EEG  
*Mark Scher, MD*
- 7:35am Interictal and Ictal Patterns in Premature Neonates  
*Ronit Pressler, MD*
- 8:00am Seizure Management  
*Courtney J. Wusthoff, MD, FACNS*

**7:00–8:30am**

## **603: Epilepsy Surgery/Invasive EEG Course Part 2 - sEEG/Case-Based Discussion**

*Course Co-Chairs: Stephan U. Schuele, MD, MPH, FACNS and Giridhar Kalamangalam, MD, DPhil, FACNS*

This course will feature real life case-based discussion and illustration of practical management decisions.

### **LOCATION:**

Salon 4

### **LEARNING OBJECTIVES:**

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

1. Demonstrate the principles underlying practical stereo-EEG planning;
2. Interpret the results; and
3. Identify the pitfalls, caveats and complications of sEEG-based epilepsy surgery.

**9:00am–12:00pm**

## **611: Intensive Care Unit EEG Monitoring (ICU EEG) - Part II**

*Course Co-Chairs: Elizabeth Gerard, MD, FACNS and Courtney J. Wusthoff, MD, FACNS*

### **LOCATION:**

Salon 3

### **LEARNING OBJECTIVES:**

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

1. Discuss current guidelines and evaluate various practice models for ICU EEG; monitoring to improve patient care for both adults and children;
2. Apply the standard ACNS terminology to ICU EEG recordings, to improve standardization of ICU EEG reports and communication between providers;
3. Recognize controversial EEG patterns in ICU patients with altered mental status, and formulate a rational plan for treatment based on these EEG patterns; and
4. Use QEEG to efficiently enhance ICU EEG interpretation.

### **AGENDA:**

- 9:00am Welcome  
*Elizabeth Gerard, MD, FACNS and Courtney J. Wusthoff, MD, FACNS*
- 9:05am Principles of Quantitative EEG Trends  
*Cecil D. Hahn, MD, MPH, FRCPC, FACNS*
- 9:25am Discussion
- 9:35am qEEG for Seizure Detection  
*Hiba A. Haider, MD, FACNS*
- 9:55am Discussion
- 10:05am aEEG in Neonates  
*Courtney J. Wusthoff, MD, FACNS*
- 10:25am Discussion
- 10:35am Coffee Break
- 10:45am Role of qEEG in Prognosis and Ischemia Monitoring  
*M. Brandon Westover, MD, PhD, FACNS*
- 11:10am Discussion
- 11:20am qEEG Cases: Adult  
*Susan T. Herman, MD, FACNS*
- 11:40am qEEG Cases: Peds  
*Courtney J. Wusthoff, MD and Cecil D. Hahn, MD, MPH, FRCPC, FACNS*

Thursday,  
February 6, 2020

# ANNUAL COURSES AGENDA

9:00am–3:00pm

## 612: Neurophysiologic Intraoperative Monitoring (NIOM) - Part II

Course Co-Chairs: *Eva K. Ritzl, MD, FACNS and Mirela V. Simon, MD, FACNS*

### LOCATION:

Salon 2

### LEARNING OBJECTIVES:

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

1. Design a comprehensive monitoring plan for individual patients, including multimodality intraoperative monitoring techniques (e.g. recordings of sensory and motor evoked potentials, EEG, EMG, and spinal reflex activity) to monitor segments of the nervous system at risk during surgery;
2. Recognize changes in intraoperative neurophysiologic tests which indicate damage to neural structures, and distinguish these from common technical artifacts;
3. Communicate effectively normal and abnormal results to the surgical team, and incorporate results into clinical recommendations that may alter the surgical technique to avoid, limit or reverse injury to neural structures;
4. Apply knowledge about effects of anesthesia on NIOM and designing optimal anesthetic strategies for effective monitoring; and
5. Recognize the medico-legal, billing and regulatory aspects in NIOM.

### AGENDA:

- 9:00am Welcome and Introductions
- 9:05am VEP Monitoring  
*Parthasarathy Thirumala, MD, FACNS*
- 9:45am Monitoring for Brachial Plexus and Nerve Repair Surgery  
*Gloria M. Galloway, MD, MBA, FACNS*
- 10:25am Coffee Break
- 10:40am Monitoring for Spinal Cord Tumor Surgery  
*Eva K. Ritzl, MD, FACNS*
- 11:10am Monitoring for Spinal Column Surgery  
*Ronald Emerson, MD, FACNS*
- 11:50am Discussion
- 12:00pm Lunch Break (not provided. See pg.6 for a list of nearby restaurants)
- 1:00pm Corticobulbar MEP Monitoring with Cases and Brainstem Reflexes  
*Sedat Ulkatan, MD*
- 1:35pm Functional Mapping of the Brain  
*Mirela V. Simon, MD, FACNS*
- 2:10pm Monitoring for Vascular Surgery  
*Leslie H. Lee, MD, FACNS*
- 2:45pm Discussion

9:00am–5:00pm

## 613: Electromyography (EMG)/Peripheral

Course Co-Chairs: *Devon I. Rubin, MD, FACNS and Ruple S. Laughlin, MD, FAAN*

### LOCATION:

Salon 4

### LEARNING OBJECTIVES:

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

1. Recognize the basic concepts of nerve conduction studies, the abnormalities that occur in different types of disorders, and the pitfalls that may occur during the performance of the studies;
2. Recognize normal and abnormal spontaneous and voluntary EMG waveforms and understand the significance of abnormal findings;
3. Explain the NCS techniques to perform reliable studies and avoid pitfalls;
4. Determine an appropriate EDX approach to patients with peripheral neuropathies, neuromuscular junction disorders, and myopathies; and
5. Summarize the techniques of repetitive nerve stimulation and unusual nerve conduction studies.

### AGENDA:

- 9:00am Basic Concepts of Nerve Conduction Studies and Patterns of Abnormalities  
*Ruple Laughlin, MD*
  - 9:45am Pitfalls of Nerve Conduction Studies  
*Devon I. Rubin, MD, FACNS*
  - 10:30am Coffee Break
  - 10:45 am NCS Demonstration: Basic Techniques and Pitfalls  
*Ruple Laughlin, MD and Devon I. Rubin, MD, FACNS*
  - 12:00pm Lunch Break (not provided. See pg.6 for a list of nearby restaurants)
  - 1:00pm EMG Waveforms – Recognition and Interpretation of Normal and Abnormal Waveforms  
*Devon I. Rubin, MD, FACNS*
  - 2:00pm EDX Approach to Peripheral Neuropathies  
*Rocio Vazquez do Campo, MD*
  - 2:30pm EDX Approach to Neuromuscular Junction Disorders  
*Hans Katzberg, MD, MSc, FRCP(c)*
  - 3:15pm EDX Approach to Myopathies  
*Priya Dhawan, MD*
  - 3:45pm Coffee Break
  - 4:00pm NCS Demonstration Advanced Techniques, Including Repetitive Stimulation, Unusual NCS, and Cranial Nerve Studies  
*Ruple Laughlin, MD and Devon I. Rubin, MD, FACNS*
- This course is supported by in-kind donation of equipment by Cadwell Industries, Inc.

Thursday,  
February 6, 2020



# ANNUAL COURSES AGENDA

**12:30–3:00pm**

## **621: CNP Directors Symposium: Navigating the CNP Fellowship Landscape in the Era of Neuromuscular and Epilepsy Fellowships**

*Course Co-Chairs: Lynn Liu, MD, FACNS and Ioannis Karakis, MD, PhD, MSc*

### **LOCATION:**

Salon 5

### **AGENDA:**

- 12:30pm Welcome and Lunch  
*Lynn Liu, MD, FACNS and Ioannis Karakis, MD, PhD, MSc*
- 1:00pm The Impact of ACGME Epilepsy and Neuromuscular Fellowship Accreditation on CNP Positions and ABNP Board Examinations  
*Lynn Liu, MD, FACNS and Ioannis Karakis, MD, PhD, MSc*
- 1:15pm Navigating the CNP/EEG Fellowship Landscape in the Era of Epilepsy Fellowship  
*Jennifer Hopp, MD*
- 1:50pm Navigating the CNP/EMG Fellowship Landscape in the Era of Neuromuscular Fellowship  
*Eric Logigian, MD*
- 2:25pm Navigating the Mixed CNP Fellowship Landscape and Incorporating Other CNP Modalities (Sleep, IOM, Autonomic, etc)  
*Saurabh R. Sinha, MD, PhD, FACNS*

**1:00–3:00pm**

## **631: Video EEG Basic**

*Course Co-Chairs: William O. Tatum, DO, FACNS and Phillip Pearl, MD, FACNS*

### **LOCATION:**

Salon 3

### **LEARNING OBJECTIVES:**

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

1. Recognize the indications for diagnostic video-EEG monitoring;
2. Discuss the differential diagnosis in patients suspected of epilepsy;
3. Explain the impact of video-EEG monitoring to classify and quantify seizures in patients with focal and generalized seizures/epilepsy syndromes; and
4. Recognize the impact of scalp EEG to characterize seizure type and epilepsy syndromes for the purposes of surgery.

### **AGENDA:**

- 1:00pm The Approach to Video-EEG Monitoring in the Differential Diagnosis of Patients with Recurrent Spells (epileptic vs nonepileptic). - Indications  
*William O. Tatum, DO, FACNS*
- 1:25pm Interpreting Semiological Signs During Video-EEG Monitoring Suggesting Focal and Generalized Seizure Onset (focal vs generalized). - Technique  
*Michael Sperling, MD, FACNS*
- 1:50pm Ontogeny of Semiology: Transitional Signs from Pediatrics to Adulthood  
*Luca Bartolini, MD*
- 2:15pm Classification of Epilepsy Syndromes for Treatment - Utility  
*Phillip Pearl, MD, FACNS*
- 2:40pm Discussion

**3:30–5:30pm**

## **642: Autonomic Neurophysiology**

*Course Co-Chairs: Claus Reinsberger, MD, PhD, FACNS and Jeffrey Liou, DO*

### **LOCATION:**

Salon 3

### **LEARNING OBJECTIVES:**

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

1. Recognize the clinical features and patterns on autonomic testing in systemic and primary neurological disorders affecting central and peripheral autonomic pathways with their underlying anatomy and physiology; and
2. Summarize an approach to the diagnostic evaluation and management of disorders of the autonomic nervous system.

### **AGENDA:**

- 3:30pm Introduction, Anatomy & Physiology of the Autonomic Nervous System  
*Claus Reinsberger, MD, PhD, FACNS*
- 3:45pm Autonomic Testing  
*Jeffrey Liou, DO*
- 4:15pm Neurological Disorders with Central Autonomic Failure  
*Alexandra Hovaguimian, MD*
- 4:45pm Peripheral Autonomic Failure  
*Peter Novak, MD, PhD*
- 5:15pm Discussion

**3:30–5:30pm**

## **641: CPT Coding Changes: EEG Monitoring and Neurostimulation**

*Course Chair: Marc R. Nuwer, MD, PhD, FACNS*

### **LOCATION:**

Salon 2

### **LEARNING OBJECTIVES:**

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

1. Explain the new 2020 CPT codes for EMU video-EEG monitoring;
2. Explain the new 2020 CPT codes for ICU EEG monitoring;
3. Explain the new 2020 CPT codes for ambulatory EEG monitoring;
4. Explain the new 2019 CPT codes VNS, RNS, and DBS;
5. Identify the associated coding instructions for using those codes; and
6. Describe how to apply those codes to their typical services.

### **AGENDA:**

- 3:30pm RUC Process to Value New Codes  
*Eva K. Ritzl, MD, FACNS*
- 3:50pm Neurostimulation Codes for VNS and RNS  
*Jonathan C. Edwards, MD, MBA, FACNS*
- 4:15pm 2020 New CPT Codes for Video-EEG and EEG Monitoring  
*Marc R. Nuwer, MD, PhD, FACNS*
- 5:00pm Discussion

## **5:45–7:45pm Mentor Program Meet and Greet & Career Development Panel**

### **LOCATION:**

Salon 3

Thursday,  
February 6, 2020

# ANNUAL COURSES AGENDA

**7:00–10:00am**

## **701: Basic EEG**

Course Co-Chairs: Ioannis Karakis, MD, PhD, MSc, FACNS and Jay S. Pathmanathan, MD, PhD

### **LOCATION:**

Chamber 1, Mayor Suite Level

### **LEARNING OBJECTIVES:**

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

1. Explain the basics in electroencephalography (EEG);
2. It will include the fundamental tenets of signal generation, technical considerations of signal acquisition, types of EEG recordings and reporting standards;
2. Normal EEG examples and their variants across various age groups will be presented and contrasted with artifacts; and
3. Discuss both non epileptiform and epileptiform abnormalities that are demonstrated and their relationship with underlying neurologic disorders.

### **AGENDA:**

- |        |  |
|--------|--|
| 7:00am | Normal Adult EEG<br><i>Selim R. Benbadis, MD, FACNS</i>                    |
| 7:30am | Normal Neonatal and Pediatric EEG<br><i>Tammy Tsuchida, MD, PhD, FACNS</i> |
| 8:00am | Normal EEG Variants<br><i>Meriem Bensalem-Owen, MD, FACNS</i>              |
| 8:30am | Artifacts<br><i>Ioannis Karakis, MD, PhD, MSc, FACNS</i>                   |
| 9:00am | Non Epileptiform Abnormalities<br><i>Hiba A. Haider, MD, FACNS</i>         |
| 9:30am | Epileptiform Abnormalities<br><i>Jay S. Pathmanathan, MD, PhD</i>          |

**7:00–10:00am**

## **702: Neuromodulation/Stimulation in Human Brain**

Course Co-Chairs: Gregory Worrell, MD and Alexander Rotenberg, MD, PhD

### **LOCATION:**

Salon 3

### **LEARNING OBJECTIVES:**

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

1. Comprehend some of the physics of electrical and magnetic brain stimulation;
2. Recognize currently available brain stimulation devices; and
3. Identify the clinical evidence for brain stimulation for epilepsy.

### **AGENDA:**

- |        |   |
|--------|---|
| 7:00am | Introduction: Electrical Stimulation of Brain<br><i>Greg Worrell, MD, PhD</i>                   |
| 7:05am | Introduction: Non-Invasive Approaches<br><i>Alexander Rotenberg, MD, PhD</i>                    |
| 7:10am | TMS in Clinical Practice<br><i>Melissa Tsuboyama, MD</i>  |
| 7:30am | Early Stage Clinical Transcranial Electrical Stimulation<br><i>Emiliano Santarnecchi, PhD</i>   |
| 8:00am | Translational Brain Stimulation and Drug-Device Coupling<br><i>Alexander Rotenberg, MD, PhD</i> |
| 8:30am | Invasive Stimulation Approaches DBS for Epilepsy<br><i>Robert Fisher, MD, PhD</i>               |
| 9:00am | RNS for Epilepsy<br><i>Brian Lundstrom, MD, PhD</i>   |
| 9:30am | Next Generation Devices<br><i>Tim Denison, PhD</i>  |

Friday,  
February 7, 2020

# ANNUAL COURSES AGENDA

**7:00–10:00am**

## **703: Ultrasound Workshop**

*Course Co-Chairs: Ana Lucila Moreira, MD and Aatif M. Husain, MD, FACNS*

### **LOCATION:**

Salon 2

### **LEARNING OBJECTIVES:**

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

### **AGENDA:**

- 7:00am Basics on Ultrasound Image and Artifacts  
*Ana Lucila Moreira, MD*
- 7:20am Nerve Ultrasound: Upper Limb  
*Devon I. Rubin, MD, FACNS*
- 7:40am Nerve Ultrasound: Lower Limb  
*Ana Lucila Moreira, MD*
- 8:00am The Contribution of Ultrasound to ENMG: Making It Easier to Evaluate the Diaphragm  
*Ruple S. Laughlin, MD, FAAN*
- 8:20am Discussion
- 8:30am Demonstration Stations, (30 Minutes Each - Rotation)  
Median Nerve and Ulnar Nerve  
*Devon I. Rubin, MD, FACNS*  
Diaphragm  
*Ruple S. Laughlin, MD, FAAN*  
Radial Nerve and US Lower Limb  
*Ana Lucila Moreira, MD*

**8:00–10:00am**

## **704: Video EEG Advanced**

*Course Co-Chairs: William O. Tatum, DO, FACNS and Phillip Pearl, MD, FACNS*

### **LOCATION:**

Chamber 3, Mayor Suite Level

### **LEARNING OBJECTIVES:**

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

1. Determine the predictive value of scalp-based video-EEG in patients with seizures;
2. Identify how to use invasive EEG to predict the surgical outcome based upon data obtained during video-EEG monitoring; and
3. Apply information from the lecture to appropriately localize the epileptogenic zone using video-EEG in pediatric patients.

### **AGENDA:**

- 8:00am Localizing the Epileptogenic Zone Using Scalp-based Video-EEG Monitoring  
*William O. Tatum, DO, FACNS*
- 8:35am Comparing the Techniques Using EEG During Intracranial Video-EEG Monitoring  
*Imad Najm, MD*
- 9:10am Localizing the Epileptogenic Zone in Pediatric Patients with Video-EEG Monitoring  
*Phillip Pearl, MD, FACNS*
- 9:45am Discussion

Friday,  
February 7, 2020

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 10:30–11:30am General Session

### LOCATION:

Salons 4 & 5

*Directors: Nicholas S. Abend, MD, MSCE, FACNS; Leslie Lee, MD, FACNS*

10:30am Welcome

10:35am Ernst Rodin Distinguished Fellowship Award Presentation

10:40am Young Investigator Travel Award Recognition

10:45am Presidential Address: Seizures During Critical Illness: Consequence or Cause of Brain Injury?

*Cecil D. Hahn, MD, MPH, FACNS*

## 11:30am–1:00pm Lunch Break

### Exhibit Hall Open

#### LOCATION:

Crescent City Ballroom

*Complimentary boxed lunch will be provided for attendees in the Exhibit Hall.*

### Product Theater

#### Presented by: Ceribell

#### LOCATION:

Conti Room

*See page 49 for complete information.*

## 1:00–2:30pm Concurrent Sessions

### 711: Continuous EEG Findings in Refractory Status Epilepticus

*Session Director: Teneille Gofton, MD, MSc, FRCPC, CSCN(EEG)*

#### LOCATION:

Salons 4 & 5

#### LEARNING OBJECTIVES:

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

1. Recognize and interpret cEEG findings specific to critically ill adult and pediatric patients with RSE;
2. Analyze etiology-specific cEEG patterns and quantitative EEG in RSE; and
3. Describe an approach to weaning continuous and intermittent anticonvulsant medications based on EEG findings in critically ill patients with RSE throughout the illness trajectory.

#### AGENDA:

1:00pm Continuous EEG Findings in Adult and Pediatric Patients with Refractory Status Epilepticus.

*Sarah E. Schmitt, MD, FACNS*

1:30pm Applying Quantitative EEG to the Monitoring of Patients with Refractory Status Epilepticus

*Nicolas Gaspard, MD, PhD*

2:00pm Implications of cEEG Findings for Medication Prescribing and Weaning in Refractory Status Epilepticus

*Derek B. Debicki, MD, PhD*

### 712: High Density EEG and Electrical Source Imaging in Clinical Practice

*Session Directors: Susan T. Herman, MD, FACNS and Catherine J. Chu, MD, MMSc*

#### LOCATION:

Salon 3

#### LEARNING OBJECTIVES:

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

1. Describe the indications, methods, and potential limitations for HD EEG acquisition and electrical source imaging;
2. Identify patients in whom HD EEG and ESI may aid in localization of the epileptogenic zone; and
3. Understand and incorporate the results of HD EEG and source localization techniques into epilepsy presurgical evaluations.

#### AGENDA:

1:00pm Clinical Indications for HD EEG and ESI

*Susan T. Herman, MD, FACNS*

1:20pm Electrical Source Imaging Techniques

*Matti Hamalainen, PhD*

1:40pm Validating HD EEG Results

*Brian Lundstrom, MD, PhD*

2:05pm Steps and Barriers to Setting Up an HD EEG / ESI Lab

*Adriana Bermeo-Ovalle, MD, FACNS*

### 713: Mastering EMG Motor Unit Potential Analysis: Learning the Skill of Deliberate Practice

*Session Director: Devon I. Rubin, MD, FACNS*

#### LOCATION:

Chamber 1, Mayor Suite Level

#### LEARNING OBJECTIVES:

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

1. Describe the changes in MUPs that occur in neuromuscular diseases;
2. Recognize firing rates of MUPs with accuracy; and
3. Recognize changes in MUP stability, phases, recruitment, and size.

#### AGENDA:

1:00pm Overview of Skills to Master MUP Analysis

*Devon I. Rubin, MD, FACNS*

1:15pm Interpretation of Individual MUP Parameters

*Devon I. Rubin, MD, FACNS*

2:15pm Putting It All Together: Analyzing Unknown MUPs

*Devon I. Rubin, MD, FACNS*

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 714: Update on Non-Invasive Presurgical Functional Mapping Methods in Children

Session Director: James W. Wheless, MD

### LOCATION:

Chamber 3, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. Describe the neurophysiology and technical principles of magnetoencephalography (MEG), functional magnetic resonance imaging (fMRI), and transcranial magnetic stimulation (TMS);
2. Discuss the advantages and disadvantages of each modality; and
3. Recognize the complementary utility of the combined non-invasive modalities in the context of presurgical mapping as it applies to pediatric cohorts.

### AGENDA:

- 1:00pm Introduction to Non-Invasive Presurgical Functional Mapping Methods in Children  
*James W. Wheless, MD*
- 1:15pm MEG: Background and Clinical Utility in Pediatric Clinical Populations  
*Roosbeh Rezaie, PhD*
- 1:35pm fMRI: Background and Clinical Utility in Pediatric Clinical Populations  
*Asim Choudhri, MD*
- 1:55pm TMS: Background and Clinical Utility in Pediatric Clinical Populations  
*Shalini Narayana, PhD*

## 715: Wearables Against Death – SUDEP, Sleep, and Nocturnal Seizures

Session Director: Marcus C. Ng, MD, FRCPC, CSCN, FACNS

### LOCATION:

Salon 2

### LEARNING OBJECTIVES:

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

1. Identify the relation between SUDEP, breathing, and body position;
2. Describe the potential relation between SUDEP, dysautonomia, REM sleep, and muscle tone; and
3. Explain the current role and state of wearable device development in the recognition and prevention of SUDEP.

### AGENDA:

- 1:00pm SUDEP and Breathing  
*Milena Pavlova, MD*
- 1:30pm SUDEP, REM Sleep and Muscle Tone  
*Marcus C. Ng, MD, FRCPC, CSCN, FACNS*
- 2:00pm SUDEP and Wearable Devices  
*Rani Sarkis, MD, MSc, FACNS*

## 2:30–2:45pm Coffee Break

### LOCATION:

Crescent City Ballroom

## 2:45–4:15pm Concurrent Sessions

### 721: Continuous EEG of Hypoxic-Ischemic Brain Injury in The Era of Targeted Temperature Management

Session Directors: Edilberto Amorim De Cerqueira Filho, MD and Jong Woo Lee, MD, PhD, FACNS

### LOCATION:

Salons 4 & 5

### LEARNING OBJECTIVES:

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

1. Identify biochemical and histopathological correlates of EEG in patients with hypoxic-ischemic brain injury;
2. Learn the basis of an electroclinical assessment of myoclonus in hypoxic-ischemic brain injury; and
3. Describe the interaction between continuous EEG and MRI findings in patients undergoing TTM, and how to combine continuous EEG findings with neuroimaging studies, particularly MRI, in hypoxic-ischemic brain injury.

### AGENDA:

- 2:45pm Biochemical and Histopathological Correlates of EEG  
*Michel van Putten, MD, MSc, PhD*
- 3:15pm Electroclinical Assessment of Myoclonus and Myoclonus Status Epilepticus  
*Monica Dhakar, MD, MS*
- 3:45pm Neuroimaging Correlates to Continuous EEG Monitoring: CCEMRC Collaborative Study  
*Edilberto Amorim, MD*

### 722: Controversies in Neonatal Seizures ACNS/British Society for Clinical Neurophysiology Joint Symposium

Session Directors: Ronit Pressler, PhD, MD and Tammy Tsuchida, MD, PhD, FACNS

### LOCATION:

Salon 2

### LEARNING OBJECTIVES:

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

1. Recognize the clinical spectrum of neonatal seizures;
2. Identify the electrographic pattern of neonatal seizures; and
3. Explain the value of a seizure classification and its implication for clinical management.

### AGENDA:

- 2:45pm EEG Characteristics and Minimum Seizure Duration in Neonatal Seizures  
*Tammy Tsuchida, MD, PhD, FACNS*
- 3:15pm Value of Automatic Seizure Detection in the NICU  
*Geraldine Boylan, MD*
- 3:45pm Role of Semiology and Classification in the Management of Neonatal Seizures  
*Ronit Pressler, PhD, MD*



Friday,  
February 7, 2020

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 724: Complex Systems, Epilepsy and EEG

Session Director: Giridhar Kalamangalam, MD, PhD, FACNS

### LOCATION:

Salon 3

### LEARNING OBJECTIVES:

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

1. Recognize the importance of complex systems science to the defining phenomena of epilepsy;
2. Develop an appreciation of the promise and limitations of the approaches discussed; and
3. Explain the concepts presented to their own areas of research.

### AGENDA:

- 9:00am Complexity Science, Epilepsy and Cognition  
*Rodney Scott, MD, PhD*
- 9:30am From Complex to Simple and Back: State Changes in the EEG  
*Giridhar Kalamangalam, MD, DPhil, FACNS*
- 10:00am The Promise of Complex Systems Science in Clinical Epilepsy  
*Matthew Mahoney, PhD*

## 723: Inpatient Weakness: Clinical and EDX Approach

Session Director: Ruple S. Laughlin, MD, FAAN

### LOCATION:

Chamber 1, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. Describe EDX features supporting a neuromuscular transmission disorder;
2. Identify the risk factors, clinical and electrodiagnostic features of ICU-acquired weakness; and
3. Define clinical features and electrodiagnostic hallmarks of Guillian Barre syndrome and other acute inflammatory polyradiculoneuropathies.

### AGENDA:

- 2:45pm Failure to Ween: Clinical and EDX Findings in Neuromuscular Junction Disorders  
*Ruple S. Laughlin, MD, FAAN*
- 3:15pm Acute Inflammatory Polyradiculoneuropathies: Characteristic Findings and EDX Hallmark  
*Cory J. Kogelschatz, MD*
- 3:45pm ICU-Acquired Weakness: Clinical and Electrodiagnostic Features  
*Brent Goodman, MD*

## 4:30–6:00pm Concurrent Sessions

### 732: Nonconvulsive Status Epilepticus: Diagnostic Approach in Adults and Children ACNS/Austrian Society for Clinical Neurophysiology Joint Symposium



Session Directors: Markus Leitinger, MD and Eugen Trinka, MD, MSc, FRCP

### LOCATION:

Salons 4 & 5

### LEARNING OBJECTIVES:

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

1. Identify NCSE and its mimics in adults and children in neurophysiology lab and ICU-EEG monitoring.

### AGENDA:

- 4:30pm Diagnostic Criteria of Non-Convulsive Status Epilepticus (NCSE)  
*Markus Leitinger, MD*
- 5:00pm Mimics and the Borderland of NCSE  
*Eugen Trinka, MD, MSc, FRCP*
- 5:30pm NCSE - Pediatric Diagnosis and Management  
*Nicholas S. Abend, MD MSCE, FACNS*

### 731: It's Not All Child's Play: Presurgical Functional Mapping in Children Using Transcranial Magnetic Stimulation

Session Director: Alexander Rotenberg, MD, PhD

### LOCATION:

Chamber 1, Mayor Suite Level

### LEARNING OBJECTIVES:

At the conclusion of the session, participants should be:

1. Explain the fundamentals of TMS methodology;
2. Describe the challenges and advantages of performing TMS in children with neurological disorders; and
3. Explain the advances in the use of TMS as a non-invasive functional mapping tool in children.

### AGENDA:

- 4:35pm Fundamentals of TMS and Motor Mapping Protocols  
*Alexander Rotenberg, MD, PhD*
- 5:00pm TMS Language Mapping in Children: Challenges and Opportunities  
*Shalini Narayana, PhD*
- 5:25pm Clinical Utility of TMS and Its Integration with Other Noninvasive and Invasive Functional Mapping Modalities  
*James W. Wheless, MD*



# ANNUAL MEETING SCIENTIFIC PROGRAM

## 733: Selective Dorsal Rhizotomy: Making the Cut

Session Director: *Monica P. Islam, MD, FACNS*

### LOCATION:

Chamber 3, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. Design a comprehensive monitoring plan for patients undergoing selective dorsal rhizotomy;
2. Identify appropriate candidates for selective dorsal rhizotomy based on clinical history, physical exam and expected outcomes; and
3. Communicate patterns of EMG involvement to identify the spinal level and guide nerve rootlet sectioning.

### AGENDA:

- 4:30pm Selective Dorsal Rhizotomy: A Set-Up for Success  
*Monica P. Islam, MD, FACNS*
- 5:00pm Conus Rhizotomy: Why is it Better?  
*Jeffrey R. Leonard, MD*
- 5:30pm Selective Dorsal Rhizotomy: Making the Grade  
*Jennifer L. McKinney, MD, FACNS*

## 734: The Business of Clinical Neurophysiology

Session Directors: *Matthew Luedke, MD and Suzette LaRoche, MD, FACNS*

### LOCATION:

Salon 2

### LEARNING OBJECTIVES:

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

1. Recognize common business and administrative terms to more effectively understand and advocate with bureaucracies in healthcare;
2. Explain common quality management tools, discuss their relative benefits, and be able to identify critical quality measures for improving patient care; and
3. Identify the value of burnout prevention from a business perspective and identify strategies to advocate for provider resiliency with healthcare administrative bureaucracies.

### AGENDA:

- 4:30pm Business Lingo for the Clinical Neurophysiologist  
*Calvin Gardner, BS, MBA*
- 5:00pm Quality Measures for Clinical Neurophysiology  
*Matthew Luedke, MD*
- 5:30pm The Value Proposition for Preventing Burnout  
*Cormac O'Donovan, MD, FACNS*

## 735: The Postictal State: Clinical Neurophysiology and Implications

Session Directors: *Elson So, MD, FACNS and Lisa Bateman, MD*

### LOCATION:

Salon 3

### LEARNING OBJECTIVES:

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

1. Use postictal clinical and EEG features to help localize the seizure focus for epilepsy surgery;
2. Recognize the diagnostic and therapeutic implications in distinguishing between ictal and postictal states; and
3. Know the potential for psychosis, depression or sudden death to occur during the postictal state.

### AGENDA:

- 4:35pm Boundaries of the Postictal State: Implications for Seizure Management  
*Lisa Bateman, MD*
- 5:00pm Postictal Semiology and EEG: Role in Seizure Focus Identification  
*Amy Crepeau, MD*
- 5:25pm Morbidities in the Postictal State: Recognition and Management  
*Elson So, MD, FACNS*

## 6:15–7:30pm General Session

### LOCATION:

Salons 4 & 5

- 6:15pm Cosimo Ajmone-Marsan Award Presentation  
*Aatif M. Husain, MD, FACNS*
- 6:20pm Jasper Award Presentation  
*Saurabh R. Sinha, MD, PhD, FACNS*
- 6:25pm Jasper Award Lecture: Stimulation  
*Ronald Lesser, MD, FACNS*
- 6:50pm Gloor Award Presentation  
*Stephan U. Schuele, MD, MPH, FACNS*
- 6:55pm Gloor Award Lecture: What's the Pattern?  
*Richard C. Burgess, MD, PhD, FACNS*

## 7:30–9:00pm Welcome Reception

### LOCATION:

Crescent City Ballroom

See page 9 for details.



Friday,  
February 7, 2020



# ANNUAL MEETING SCIENTIFIC PROGRAM

## 9:00–10:30am Concurrent Sessions - Special Interest Groups

### 801: Clinical Neurophysiology Resident and Fellow Special Interest Group

Session Director: *Andrea Hakimi, DO, FACNS, FAES*

#### LOCATION:

Chamber 1, Mayor Suite Level

#### LEARNING OBJECTIVES:

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

1. Describe selected clinical neurophysiology cases or quality improvement projects completed by trainees;
2. Engage in an informal discussion of the selected cases or projects; and
3. Discuss his or her opinion regarding different approaches to each case or project with emphasis on learning points.

#### AGENDA:

9:00am SIG Introduction

*Andrea Hakimi, DO, FACNS, FAES*

9:05am Case Presentations

Location of Nodular Heterotopia is Related to Epileptogenicity

*Presenter: Sarah Durica, MD*

EEG Findings in Patients on CAR-T Therapy with CAR-T-cell Related Encephalopathy Syndrome (CRES): A Case Series

*Presenter: Keerthana Akkineni, MD*

Zip Seizures in Neonates: A Case Series

*Presenter: Alexa M. King, MD*

Congenital Myasthenic Syndrome: The Great Imitator

*Presenter: Cecilia Kelly, MD*

### 802: How Slow Can the Brain Go? Investigating the Dynamics of Slow Oscillations Following Acquired Brain Injuries

Session Directors: *Rejean Guerriero, DO and Stuart Tomko, MD*

#### LOCATION:

Salon 2

#### LEARNING OBJECTIVES:

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

1. Define slow brain activity;
2. Describe the slow wave components of spreading depolarizations; and
3. Describe physiologic factors that underlie infra- and ultra-slow potentials.

#### AGENDA:

2:45pm Infralow Activity in Postanoxic Encephalopathy

*Michel van Putten, MD, MSc, PhD*

3:15pm No Lower Limit: The Slow and Infinitely Slow Waves that Mediate Secondary Injury and Death of Cerebral Cortex

*Jed Hartings, PhD*

3:45pm Bilevel Spectral Analysis Reveals Millihertz Oscillatory Modulation in the EEG of Young Children

*ShiNung Ching, PhD, MASc*

### 803: Comprehensive Introduction to Clinical Neuromodulation

Session Director: *Jay Shils, PhD, DABM, FACNS*

#### LOCATION:

Salons 4 & 5

#### LEARNING OBJECTIVES:

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

1. Discuss the various theories behind DBS and SCS mechanisms of action;
2. Describe the potential complications from applying electricity to neural tissue; and
3. Describe the difference between open and closed loop neuromodulation systems as well as safety.

#### AGENDA:

9:00am Theory of Neural Stimulation

*Jay Shils, PhD, DABM, FACNS*

9:30am Computational Models of Neuromodulation Systems

*Jeff Arle, MD, PhD*

10:00am Theory to Practice

*Mark Stecker, MD, PhD, FACNS*

### 804: High Density EEG SIG: The High Density EEG Research Consortium

Session Directors: *Susan T. Herman, MD, FACNS, and Catherine J. Chu, MD, MMSc*

#### LOCATION:

Chamber 3, Mayor Suite Level

#### LEARNING OBJECTIVES:

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

1. Describe the indications, methods, and potential limitations for HD EEG acquisition and electrical source imaging;
2. Identify patients in whom HD EEG and ESI may aid in localization of the epileptogenic zone; and
3. Incorporate the results of HD EEG and source localization techniques into epilepsy presurgical evaluations.

In this session, several consortium members will highlight their recent research findings and improvements in clinical practice.

*Leonardo Bonilha, MD, PhD*

*June Yoshii-Contreras, MD*

*Travis Stoub, PhD*

*Benjamin Brinkmann, PhD*

*Michael Stein, MD*

*Jurriaan Peters, MD, PhD*

*Walter Heine, MD, PhD*

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 805: Staffing Models for Continuous Visual Surveillance in EMU and ICU Monitoring Units

Session Director: Olga Selioutski, DO, FACNS, FAES

### LOCATION:

Salon 3

### LEARNING OBJECTIVES:

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

1. Describe the need and define challenges in establishing continuous live monitoring for the ICU and EMU patients;
2. Identify opportunities to develop on-site training programs to engage technologists, RNs, APPs in event recognition and EEG interpretation; and
3. Conduct quality measures and outcome analysis of continuous visual surveillance.

### AGENDA:

- 9:00am Visual EEG Surveillance and Timely Event Reporting. Is It a Necessity or a Luxury?  
*Christa Swisher, MD, FACNS*
- 9:25am Training Technologists, RNs and APPs on Use of QEEG  
*Susan T. Herman, MD, FACNS*
- 9:50am Visual EEG Surveillance and Timely Event Reporting. Administrative Challenges  
*Sarah E. Schmitt, MD, FACNS*
- 10:15am Panel Discussion  
*Christa Swisher, MD, FACNS, Susan T. Herman, MD, FACNS, Sarah E. Schmitt, MD, FACNS and Suzette LaRoche, MD, FACNS*

## 10:30–11:00am Coffee Break

## 11:00am–12:30pm Concurrent Sessions

### 812: IOM in Vascular Procedures ACNS/ Spanish Society of Clinical Neurophysiology Joint Symposium

Session Directors: Victoria Eugenia Fernandez Sanchez, MD, PhD; and Leslie Lee, MD, FACNS

### LOCATION:

Chamber 1, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. Discuss the technical and clinical challenges when performing IOM during these types of surgeries;
2. Review the clinical data available for the use of IOM in patients with vascular conditions; and
3. Describe useful strategies to improve the quality of IOM.

### AGENDA:

- 11:00am IOM in Carotid Endarterectomies  
*Ma Moreno Galera, MD*
- 11:30am IOM in Intracranial Vascular Procedures  
*Jaime R. Lopez, MD, FACNS*
- 12:00pm IOM in Thoracoabdominal Aneurysms  
*Guillermo Martin Palomeque, MD*



## 813: Myoclonus: The Road Less Traveled

Session Director: Jayant Acharya, MD, DM, FACNS, FAES, FAAN

### LOCATION:

Salon 2

### LEARNING OBJECTIVES:

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

1. Describe clinical neurophysiological methods to diagnose different types of myoclonus;
2. Discuss the neurophysiological features of juvenile and progressive myoclonic epilepsies; and
3. Describe the clinical and EEG correlates of post-anoxic myoclonus.

### AGENDA:

- 11:00am Neurophysiological Evaluation of Myoclonus  
*Mark Hallett, MD, DM, FACNS*
- 11:30am Neurophysiology of Juvenile and Progressive Myoclonic Epilepsy  
*Jayant Acharya, MD, DM, FACNS, FAES, FAAN*
- 12:00pm The Spectrum of Post-Anoxic Myoclonus  
*Peter Kaplan, MB, BS, FRCP, FACNS*

## 811: Presurgical Language Localization with Stereo-EEG: Challenges and Opportunities

Session Director: Ravindra Arya, MD, DM

### LOCATION:

Salons 4 & 5

### LEARNING OBJECTIVES:

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

1. Discuss various approaches to pre-surgical language mapping with stereo-EEG;
2. Describe technical aspects of signal acquisition with stereo-EEG for language mapping; and
3. Describe the challenges involved in analysis and visualization of brain language networks with stereo-EEG.

### AGENDA:

- 11:00am Technical Aspects of Signal Acquisition and Planning of Stereo-EEG for Language Mapping  
*Eishi Asano, MD, PhD*
- 11:20am Analysis and Visualization of Functional Networks in Human Brain: Translating the Methodology from Subdural to Stereo Electrodes  
*Nathan Crone, MD*
- 11:40am Approaches to Pre-Surgical Language Mapping with Stereo-EEG and Their Diagnostic Performance  
*Ravindra Arya, MD, DM*

Saturday,  
February 8, 2020

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 814: Quantitative Electroencephalography: Applications in Pediatric Neurocritical Care

Session Director: Arnold Sansevere, MD

### LOCATION:

Salon 3

### LEARNING OBJECTIVES:

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

1. Integrate quantitative EEG with clinical care in the pediatric intensive care unit;
2. Apply quantitative EEG in context of multimodal neuromonitoring with special focus on young children and infants; and
3. Demonstrate methods of training bedside clinicians with limited neurophysiology experience for preliminary real-time analysis of quantitative electroencephalography trends.

### AGENDA:

- 11:05am Beyond Seizures: Integrating EEG with Clinical Care in the Pediatric Intensive Care Unit  
*Rejean Guerriero, DO*
- 11:30am Using Quantitative EEG as Part of Multimodality Neuromonitoring for Critically Ill Children  
*Brian Appavu, MD*
- 11:55am Training Your Bedside ICU Team for Preliminary Analysis of Quantitative EEG  
*Rishi Lalgudi-Ganesan, MBBS, MD, DM*

## 815: Sleep-Related Epilepsy: Lessons from the Sleep Laboratory

Session Director: Steve A. Gibbs, MD, MSc, FRCPC

### LOCATION:

Chamber 3, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. Summarize the influence of sleep states and the circadian rhythm on epileptic activity and seizure onset;
2. Identify clinical and electrophysiological features relevant to sleep-related hypermotor epilepsy (SHE) during video-EEG monitoring; and
3. Discuss the rationale for the use of stereo-EEG in specific drug-resistant sleep-related epilepsies to improve post-operative outcome.

### AGENDA:

- 11:00am Seizures in the Sleep Laboratory  
*Marcus C. Ng, MD, FRCPC, CSCN, FACNS*
- 11:30am Clinical and EEG Features of Sleep-Related Hypermotor Epilepsy  
*Steve A. Gibbs, MD, MSc, FRCPC*
- 11:55am The Use of Stereo-EEG in Drug-Resistant Sleep Related Epilepsy  
*Lino Nobili, MD, PhD*

## 12:30–2:00pm Lunch Break

### Exhibit Hall Open

#### LOCATION:

Crescent City Ballroom

Complimentary boxed lunch will be provided for attendees in the Exhibit Hall.

### Product Theater

Presented by: Brain Sentinel

#### LOCATION:

Conti Room

See page 49 for complete information.

## 2:00–3:30pm Concurrent Sessions

### 821: Advanced Autonomic Testing

Session Director: Peter Novak, MD, PhD

#### LOCATION:

Chamber 3, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. Demonstrate the basic autonomic testing (deep breathing, Valsalva maneuver, tilt test, sudomotor testing and skin biopsy);
2. Identify common orthostatic syndromes; and
3. Recognize utility and limitations of autonomic testing.

### AGENDA:

- 2:00pm Basic Autonomic Tests  
*Thomas C. Chelimsky, MD*
- 2:30pm Testing of Central Autonomic Nervous System  
*Max J. Hilz, MD*
- 3:00pm Update of Orthostatic Intolerance Syndromes, Grading of Dysautonomia and Inflammatory Small Fiber Neuropathies  
*Peter Novak, MD, PhD*

### 822: Approach to Surgery for Low Grade Glioma: Is an Epilepsy Evaluation Necessary?

Session Director: Jessica Templer, MD

#### LOCATION:

Chamber 1, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. List surgical options with patients presenting with a first time seizure in the setting of a low grade glioma;
2. Identify patients who would benefit from an epilepsy evaluation prior to resection; and
3. Summarize the role of ECOG in low grade gliomas.

### AGENDA:

- 2:00pm The Brain Tumor Surgeon Perspective  
*Matthew Tate, MD, PhD*
- 2:20pm The Epileptologist Perspective  
*Jessica Templer, MD*
- 2:40pm Resection: ECOG is Necessary  
*Doug Nordli, MD, FACNS*
- 3:00pm Resection: ECOG is Not Necessary  
*William O. Tatum IV, DO, FACNS*

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 823: Long-term Video EEG Monitoring: In the EMU, ICU and at Home

Session Director: *Stephan U. Schuele, MD, MPH, FACNS*

### LOCATION:

Salons 4 & 5

### LEARNING OBJECTIVES:

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

1. Explain the differences in indication for video EEG monitoring;
2. Discuss best practices for patient monitoring; and
3. Discuss best practices for monitoring and reviewing multi-day EEG recordings.

### AGENDA:

- 2:00pm EMU Monitoring  
*Susan Agostini, REEG, CLTM*
- 2:30pm ICU Monitoring  
*Jay Gavvala, MD, MSCI*
- 3:00pm Ambulatory Monitoring  
*Stephan U. Schuele, MD, MPH, FACNS*

## 824: Neuromodulation in Refractory Epilepsy

### ACNS/Mexican Clinical Neurophysiology

### Society Joint Symposium



Session Directors: *Daniel San Juan de Orta, MD, FACNS* and *Gregory Worrell, MD*

### LOCATION:

Salon 3

### LEARNING OBJECTIVES:

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

1. Recall some of the physics of electrical and magnetic brain stimulation;
2. Recognize currently available brain stimulation devices; and
3. Recognize the clinical evidence for brain stimulation for epilepsy.

### AGENDA:

- 2:00pm Emerging Applications of Electrical Brain Stimulation in Brain and Mind  
*Gregory Worrell, MD*
- 2:30pm Update in Deep Brain Stimulation in Epilepsy  
*Ana Luisa Velasco, MD, PhD*
- 3:00pm Transcranial Direct Current Stimulation in Epilepsy  
*Daniel San Juan de Orta, MD, FACNS*

## 825: Prediction Analytics for Forecasting Seizure Risk in Critically Ill Patients

Session Director: *France W. Fung, MD*

### LOCATION:

Salon 2

### LEARNING OBJECTIVES:

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

1. Identify the clinical and EEG risk factors that portend increased risk for seizures and understand how they influence risk of seizure development over time;
2. Describe the panels of QEEG trends for seizure detection and understand the benefits and limitations to using them to facilitate interpretation of prolonged conventional EEG in the ICU setting; and
3. Assess the sensitivity and specificity of limited-channel EEG for detecting relevant pathological EEG features and seizures in select populations of critically ill patients, including neonates.

### AGENDA:

- 2:00pm EEG Risk Factors for Seizures in the Critically Ill  
*Aaron Struck, MD*
- 2:30pm Sensitivity of Quantitative EEG Tools for Seizure Detection in Critically Ill Patients  
*Hiba A. Haider, MD, FACNS*
- 3:00pm Enhancing Feasibility of EEG Monitoring in Critically Ill Pediatric Patients  
*France W. Fung, MD*

Saturday,  
February 8, 2020

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 3:30pm Break

## 3:45–5:15pm Concurrent Sessions

### 831: Clinical Neurophysiology of Repetitive Head Impacts

Session Directors: *Claus Reinsberger, MD, PhD, FACNS* and *Jonathan C. Edwards, MD, MBA, FACNS*

#### LOCATION:

Salon 2

#### LEARNING OBJECTIVES:

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

1. Recognize structural brain changes induced by repetitive head impacts;
2. Explain the role of EEG recordings in the assessment of repetitive head impacts; and
3. Explain the alteration and possible reparative mechanisms of sleep in the setting of repetitive head impacts.

#### AGENDA:

- 3:45pm Alterations of Brain Structure by Repetitive Head Impacts - Truth or Myth?  
*Inga Koerte, MD*
- 4:15pm The EEG of Repetitive Health Impacts  
*Claus Reinsberger, MD, PhD, FACNS*
- 4:45pm Alteration of Sleep by Repetitive Head Impacts  
*Jeffrey Liou, DO*

### 832: How Deep in the Brain Can You See with EEG, MEG and EEG-fMRI? ACNS/ Canadian Society for Clinical Neurophysiology Joint Symposium

Session Director: *Eishi Asano, MD, PhD*

#### LOCATION:

Salons 4 & 5

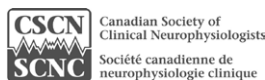
#### LEARNING OBJECTIVES:

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

1. Recognize some of the limitations of EEG-based source localization methods;
2. Recognize some of the limitations of MEG-based source localization methods; and
3. Explain the principles, advantages and limitations of EEG-fMRI to localize epileptogenic regions.

#### AGENDA:

- 3:45pm How Deep in the Brain Can You See with EEG?  
*Richard Wennberg, MD, MSc, PhD*
- 4:15pm How Deep in the Brain Can You See with MEG?  
*Christophe Grova, PhD*
- 4:45pm How Deep in the Brain Can You See with EEG-fMRI?  
*Jean Gotman, PhD, FACNS*



### 833: My Patient's Dizzy, Now What?: Autonomic Neurophysiology through Clinical Cases

Session Director: *Mitchell Miglis, MD*

#### LOCATION:

Salon 3

#### LEARNING OBJECTIVES:

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

1. Interpret the results of autonomic cardiovascular reflex testing including heart rate variability with deep breathing, Valsalva maneuver and head up tilt testing in the setting of clinical cases;
2. Define typical presentations of disorders of autonomic hyperactivity and autonomic failure; and
3. Recognize patterns on thermoregulatory sweat testing associated with disorders of central and peripheral autonomic pathways.

#### AGENDA:

- 3:45pm Introduction to Autonomic Testing and Disorders of Autonomic Hyperactivity  
*Mitchell Miglis, MD*
- 4:15pm Disorders of Autonomic Failure and the Utility of Sweat Testing in Clinical Practice  
*Dong-In Sinn, MD*
- 4:45pm Autoimmune Autonomic Syndromes and Future Autonomic Measures  
*Srikanth Muppudi, MD*

### 834: Neuromonitoring in Neonates with Critical Congenital Heart Disease

Session Director: *Janette A. Mailo, MD, PhD*

#### LOCATION:

Chamber 1, Mayor Suite Level

#### LEARNING OBJECTIVES:

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

1. Recognize the use of continuous EEG and quantitative EEG in neuromonitoring of neonates with critical congenital heart disease;
2. Interpret quantitative EEG trend changes and recognize abnormal qEEG activity; and
3. Recognize continuous EEG and quantitative EEG markers associated with new brain injury. Future directions in using real-time non-invasive neuromonitoring will be discussed.

#### AGENDA:

- 3:45pm Continuous EEG Monitoring in Neonates with Critical CHD and ECMO  
*Shavonne L. Massey, MD*
- 4:30pm Neuromonitoring Using Continuous EEG and Quantitative EEG in Critically Ill Neonates  
*James J. Riviello, MD*

# ANNUAL MEETING SCIENTIFIC PROGRAM

## 835: Spanish Symposium: Epilepsia de Inicio Temprano /Early Onset Epilepsies. The Colombian Experience

*Session Directors: Elia Pestana-Knight, MD, FACNS and Adriana Bermeo-Ovalle, MD, FACNS*

### LOCATION:

Chamber 3, Mayor Suite Level

### LEARNING OBJECTIVES:

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

1. Recognize the contribution of prenatal and perinatal infections to the development of early onset epilepsy and the electroclinical presentation of these cases;
2. Identify the electroclinical manifestation of neurometabolic disorders with epilepsy as an early onset feature; and
3. Discuss the strategies available for epilepsy surgery in children with early onset epilepsy in Colombia.

### AGENDA:

- 3:45pm Hallazgos Electro-Clinicos en Ninos Con Epilepsia de Inicio Temprano Debido a Infecciones Perinatales  
*Maria Fernanda Lengua, MD*
- 4:15pm Hallazgos Electro-Clinicos en Ninos con Epilepsia de Inicio Temprano Debido a Condiciones Metabolicas/Findings in Children with Early Onset Epilepsy Due to Pre and Perinatal Infections. The Columbian Experience.  
*Isabel Camacho, MD*
- 4:45pm Cirugia Para Epilepsia de Inicio Temprano/Epilepsy Surgery for Early Onset Epilepsy. The Columbian Experience.  
*Juan Carlos Perez Poveda, MD*

## 5:30–7:00pm General Session

### LOCATION:

Salons 4 & 5

- 5:30pm ACNS Business Meeting  
*This meeting is open to all attendees, but only ACNS Members may vote*
- 6:00pm Schwab Award Presentation  
*Aatif M. Husain, MD, FACNS*
- 6:05pm Schwab Award Lecture: Shock, Listen or Look? The Evolution of Neuromuscular Ultrasound  
*Francis O. Walker, MD, FACNS*
- 6:30pm The Neurology of Voodoo  
*Ann Tilton, MD*

Saturday,  
February 8, 2020



# ANNUAL MEETING SCIENTIFIC PROGRAM

## 8:00–9:30am Concurrent Sessions

### 902: Battle-Lines are Drawn: Is it HD-EEG vs MEG, or EEG with MEG?

Session Director: Anto Bagic, MD, PhD, FACNS, FAES

#### LOCATION:

Salon 4 & 5

#### LEARNING OBJECTIVES:

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

1. Recognize the strengths and weaknesses of MEG and HDEEG when used in presurgical evaluation of DRE;
2. Explain the key practical aspects of individual and combined use of MEG and HDEEG;
3. Identify appropriate expectations from a MEG-EEG report vs. HDEEG report that supports clinical care effectively.

#### AGENDA:

8:00am I Tried, In My Hands, Both Work

Robert Knowlton, MD, MPH

8:30am I Combined Them and Got Best Results

Chris Plummer, MD

9:00am I Know What I Like, but the Data Tells a Story...

Giovanni Pellegrino, MD

### 903: EEG in Epileptic Encephalopathies in Childhood ACNS/Brazilian Clinical Neurophysiology Society Joint Symposium

Session Director: Luís Otávio Caboclo, MD, MSc, PhD

#### LOCATION:

Salon 3

#### LEARNING OBJECTIVES:

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

1. Identify the EEG patterns in epileptic encephalopathies that require immediate treatment.

#### AGENDA:

8:00am Hypsarrhythmia

Luís Otávio Caboclo, MD, MSc, PhD

8:30am ESES - CSWS Spectrum

Rajesh Ramachandran, MD

9:00am Status Epilepticus Encephalopathies in Childhood

Ana Hamad, MD

### 904: SEEG Implantation Strategy in Epileptic Patients: Illustrative Cases

Session Director: Jun Park, MD, FAES

#### LOCATION:

Salon 2

#### LEARNING OBJECTIVES:

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

1. Summarize the concepts of stereoelectroencephalography (SEEG);
2. Describe the indications of SEEG in adults and children; and
3. Apply the technique in selected patients with drug resistant focal epilepsy.

#### AGENDA:

8:00am Illustrative Case

Naiara Garcia-Losarcos, MD

8:30am Illustrative Case

Elia Pestana-Knight, MD, FACNS

9:00am Illustrative Case

Guadalupe Fernandez-Baca, MD

## 8:00–11:30am

### 901: Diversity in Leadership Symposium

Director: Gloria M. Galloway, MD, MBA, FACNS

#### LOCATION:

Chamber 3, Mayor Suite Level

#### LEARNING OBJECTIVES:

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

1. Discuss the current issues involved in gender disparity in leadership and career advancement;
2. Describe measures that can be utilized to overcome or work through challenges encountered in female career advancement; and
3. Demonstrate personal involvement and engagement in committees and task forces and seek out mentoring opportunities to shape the strategy and future of ACNS for everyone.

#### AGENDA:

8:00am Diversity in Neurology - Solutions Toward a More Integrated Workforce

Roy Hamilton, MD

8:30am Shared Knowledge from Experiences as an Academic Neurologist/Leader

Barbara Jobst, MD, FACNS

9:00am Burnout and Career Satisfaction Among Neurologists

Neil Busis, MD

9:30am Coffee Break

10:00am Roundtable Discussions

Career and Contract Negotiations

Barbara Jobst, MD, FACNS and Sarah E. Schmitt, MD, FACNS

Creating Balance in Work and Life

Gloria M. Galloway, MD, MBA, FACNS, and Neil Busis, MD

Establishing Networks

Susan T. Herman, MD, FACNS, and Suzette LaRoche, MD, FACNS

Planning Promotion

Roy Hamilton, MD

## 9:30–10:00am Coffee Break





# ANNUAL MEETING SCIENTIFIC PROGRAM

## 10:00–11:30am Concurrent Sessions

### 912: Controversies in Neurostimulation and Epilepsy Surgery

Session Director: Dawn Eliashiv, MD, FACNS

#### LOCATION:

Salons 4 & 5

#### LEARNING OBJECTIVES:

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

1. Identify options available for the treatment of insular epilepsy;
2. Examine and summarize options for treatment of bilateral temporal lobe seizures; and
3. Assess the safety and efficacy of ablation versus resection in the surgical management of epilepsy.

#### AGENDA:

- 10:00am Pro: RNS Should be the New Standard of Care with Temporal Lobe Seizures Prior to Resective Epilepsy Surgery  
*David King Stevens, MD*
- 10:15am Con: Resective Epilepsy is Potentially Curative and Should be Our First Aim  
*Jerome Engel, MD, PhD*
- 10:30am Pro: Insular Resection is Feasible  
*Robert Gross, MD, PhD*
- 10:450am Con: Neurostimulation is the Treatment of Choice for Insular Epilepsy  
*Dawn Eliashiv, MD, FACNS*
- 11:00am Pro: MR Guided Ablation Should be the First Treatment for Mesial Temporal Lobe Epilepsy  
*Robert Gross, MD, PhD*
- 11:15am Con: Standard Anteromesial Resection is the Preferred Treatment for MTLE  
*Jerome Engel, MD, PhD*

### 913: Stat EEGs: Use, Abuse, and the Role of New Rapid-EEG Devices

Session Director: Selim R. Benbadis, MD, FACNS

#### LOCATION:

Salon 2

#### LEARNING OBJECTIVES:

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

1. Describe appropriate indications for stat EEGs;
2. Discuss the practical challenges of stat EEGs across various practice settings (academic institutions, community hospitals, etc.); and
3. Recognize the role (and pros and cons) of rapid EEG systems, and how to use CPT code with them.

#### AGENDA:

- 10:00am Use and Abuse of Stat EEG: Indications, Current Use, and Challenges  
*Selim R. Benbadis, MD, FACNS*
- 10:20am The EEG in Non-Convulsive Status Epilepticus  
*Lawrence J. Hirsch, MD, FACNS*
- 10:40am Rapid EEG Devices: Comparative Review of Various Systems  
*Selim R. Benbadis, MD, FACNS*
- 11:00am Update in EEG CPT Codes and How They Apply to These New Rapid-EEG Options  
*Marc R. Nuwer, MD, PhD, FACNS*

### 914: The Neurophysiology of Alzheimer's Disease

Session Directors: Rani Sarkis, MD, MSc and Alice Lam, MD, PhD

#### LOCATION:

Salon 3

#### LEARNING OBJECTIVES:

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

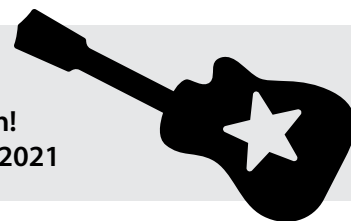
1. Describe the prevalence of subclinical epileptiform abnormalities in Alzheimer's disease, and describe EEG markers of hyperexcitability;
2. Recognize the changes in sleep architecture and physiology in Alzheimer's disease; and
3. Describe the role of TMS in evaluating cortical excitability in Alzheimer's disease.

#### AGENDA:

- 10:00am The Electroclinical Spectrum of Hyperexcitability in Alzheimer's Disease  
*Alice Lam, MD, PhD*
- 10:30am The Neurophysiology of Sleep in Alzheimer's Disease  
*Rani Sarkis, MD, MSc*
- 11:00am Measuring Cortical Hyperexcitability in Alzheimer's Disease with Transcranial Magnetic Stimulation  
*Mouhsin Shafi, MD, PhD*

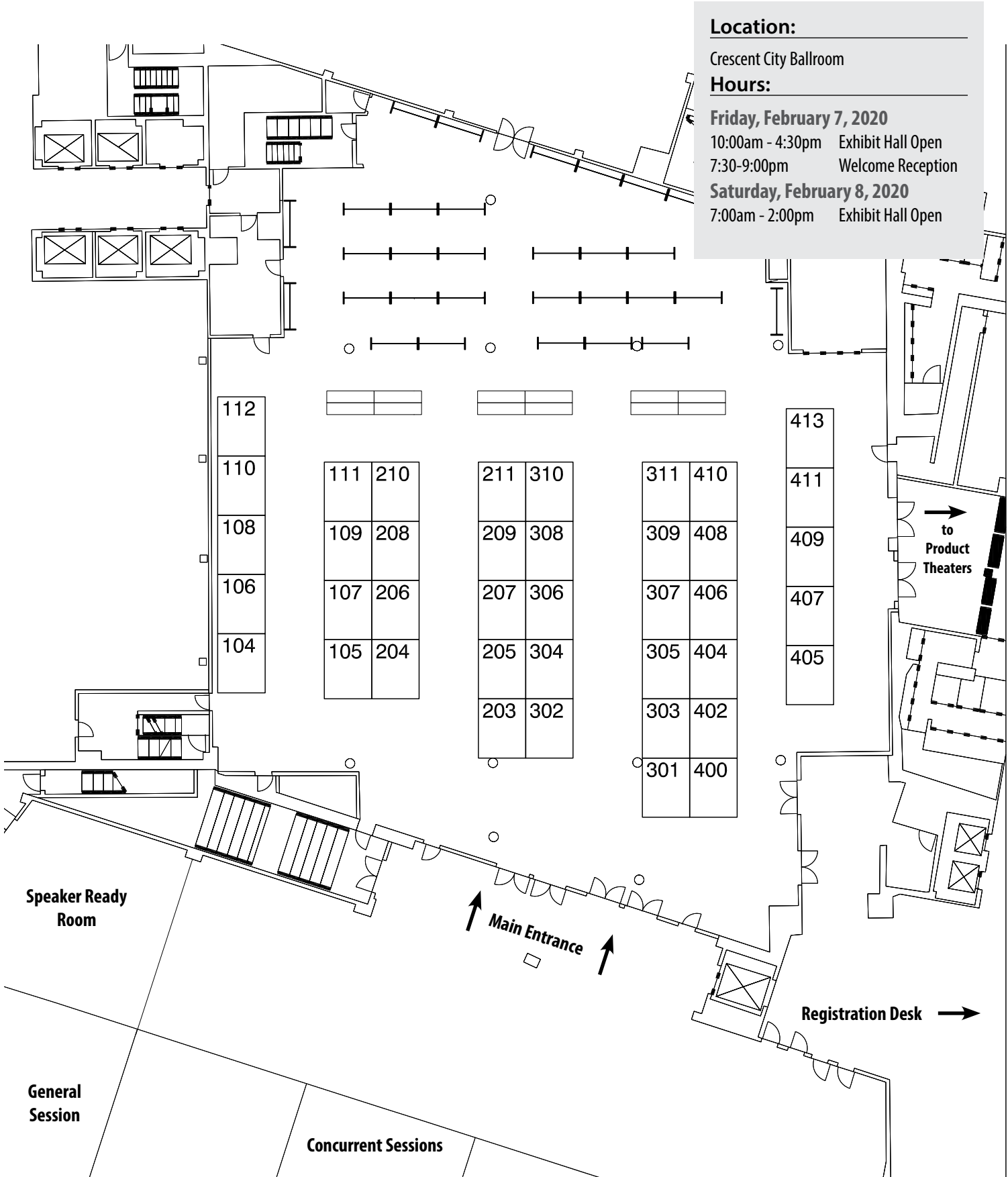
## 11:30am Adjourn

See you in Austin!  
February 10-14, 2021



Sunday,  
February 9, 2020

EXHIBIT HALL & SPONSORED SESSIONS



## EXHIBITORS

### Table A

#### **ASET- The Neurodiagnostic Society**

402 East Bannister Road, Suite A

Kansas City, MO 61131

Phone: 816-931-1120

Website: [www.ASET.org](http://www.ASET.org)

Email: [info@aset.org](mailto:info@aset.org)

ASET – The Neurodiagnostic Society: With a membership base more than 6,000 strong, ASET – The Neurodiagnostic Society is the largest professional association representing Neurodiagnostics. We provide leadership, advocacy and resources that promote professional excellence, patient safety and quality care in Neurodiagnostics. Our vision is to ensure that neurologic health and quality of care is improved globally. Learn more about our educational resources, job descriptions, best practices, publications, upcoming events, career center and shop our online store at ASET.org.

### Table B

#### **ABCN/ABRET**

2908 Greenbriar Dr.

Springfield, IL, 62704, USA

Phone: 217-726-7980

Fax: 217-726-7989

Email: [Janice@abret.org](mailto:Janice@abret.org)

Website: [abcn.org](http://abcn.org); [abret.org](http://abret.org)

The American Board of Clinical Neurophysiology (ABCN) has a long history of promoting excellence in Clinical Neurophysiology and offers examinations with added competency in Epilepsy Monitoring, Neurophysiologic Intraoperative Monitoring, Critical Care EEG, or General Clinical Neurophysiology. International testing is available. Stop by to see the new on-line CNP Self-Assessment program! Coming soon – Pediatric EEG Track.

ABRET Neurodiagnostic Credentialing & Accreditation offers five credentials for technologists and practitioners (R. EEG T.®, R. EPT.®, CNIM®, CLTM®, CAP®) and a Certificate Program, CMEG®. Coming soon – NeuroAnalysis credential. For labs wanting to demonstrate a commitment to standards and quality, laboratory accreditation programs are available, LAB-EEG, LAB-NIOM, and LAB-LTM.

### **#309/311**

#### **Brain Sentinel Diagnostic Services, LLC**

8023 Vantage Dr., Suite 216

San Antonio, TX 78230

Website: <https://speacsystem.com/>

Brain Sentinel is pioneering the use of Surface Electromyography (sEMG) technology to help physicians better understand the events their patients experience. The SPEAC System is an FDA-cleared diagnostic system that continuously records objective, physiological data and event audio over 30 days to aid physicians in characterizing, quantifying, and clarifying patient-reported events.

### **#110**

#### **Cadwell Industries, Inc.**

909 N Kellogg Street

Kennewick, WA, 99336, USA

Phone: 509-735-6481

Fax: 509-783-6503

Email: [info@cadwell.com](mailto:info@cadwell.com)

Website: [www.cadwell.com](http://www.cadwell.com)

Cadwell celebrates 40 years of delivering neurophysiology solutions. In 1979, John Cadwell, BSEE, MD partnered with his brother Carl Cadwell, DDS, to form Cadwell Laboratories in Washington State. Cadwell combines customer input, employee expertise and USA-made components to develop Arc EEG for at-home ambulatory and clinical use, EMU, and LTM; the innovative Sierra Summit EMG/EP/NCS with optional integrated ultrasound; Cascade Surgical Studio IONM and CadX simulator; Easy III in-lab PSG and integrated ApneaTrak HSAT; CadLink Data Management; and neuro consumables. Our sales managers, support teams, and distributors serve physicians and medical centers worldwide. Cadwell: Helping you help others.

### **#305**

#### **Ceribell**

2483 Old Middlefield Way, Suite 120

Mountain View, CA 94043, USA

Technical support: 1-800-763-0183

General inquiries: 1-800-436-0826

Email: [EEG@ceribell.com](mailto:EEG@ceribell.com)

Website: <https://ceribell.com/index.html>

Ceribell is focused on making EEG more accessible, efficient, and cost-effective to improve the diagnosis and treatment of patients at risk for seizures. Now with Clarity, Ceribell offers 24/7 continuous bedside EEG monitoring and alert.

### **#203**

#### **Compumedics Neuroscan**

5015 West WT Harris Blvd, Suite E

Charlotte, NC 28269, USA

Phone: 800-814-8890

Website: <https://compumedicsneuroscan.com/>

The Orion LifeSpan magnetoencephalography system from Compumedics Neuroscan is the culmination of a decades-long development, including innovative sensors, sophisticated electronics and the powerful CURRY analysis platform. The company provides proven, trusted technology.

A new generation of MEG detectors gives more precise measurement and localization of brain function than ever before. Advanced high-density EEG is collected simultaneously. It is the only MEG optimized for both pediatric and adult patients, with maximum sensitivity at any age. New technology allows 100% recovery of liquid helium with absolutely no downtime, dramatically reducing operating costs.

Please visit our booth to learn more.

## EXHIBITORS

### #307

#### **Corticare**

5950 La Place Court, Suite #160

Carlsbad, CA, 92008, USA

Phone: 888-482-2334

Email: [info@corticare.com](mailto:info@corticare.com)

Website: [www.corticare.com](http://www.corticare.com)

CortiCare is a provider of tele-health technology and EEG monitoring solutions to neurology and neuro-critical care areas within the hospital. CortiCare's employees have years of experience providing EEG monitoring services. CortiCare works diligently with its clients to establish protocols, practices, and processes which have become an industry standard for continuous EEG monitoring. CortiCare offers immediate monitoring services with registered EEG technologists who are on-call and available for real-time EEG monitoring. We are ready to provide support part-time, full-time or anytime that real-time EEG information is needed to help manage your critical care patients. For more information, please visit [www.corticare.com](http://www.corticare.com).

### #112

#### **Demos Medical by Springer Publishing**

11 W 42nd Street, 15th Floor

New York, NY, 10036, USA

Email: [rfamanila@springerpub.com](mailto:rfamanila@springerpub.com)

Demos Medical, an imprint of Springer Publishing, publishes award-winning medical titles in our core areas of neurology, physical medicine and rehabilitation, and oncology. Please visit our booth to browse our comprehensive product line in clinical neurophysiology.

### #205

#### **DIXI Medical USA Corp.**

11910 Fox Ridge Drive

Plymouth, MI, 48170, USA

Phone: 888-664-3494

Email: [sales@diximedus.com](mailto:sales@diximedus.com)

Website: [www.diximedus.com](http://www.diximedus.com)

Designer and manufacturer of medical devices for functional and stereotactic neurosurgery for the treatment of epilepsy. Since 1975 DIXI Medical has been developing & producing intracranial electrodes. DIXI possesses the skills and resources necessary to design and manufacture invasive and non-invasive medical instruments for neurosurgery.

### #303

#### **Eisai, Inc.**

100 Tice Blvd

Woodcliff Lake, NJ, 07677, USA

Email: [Cindy\\_Tilley@eisai.com](mailto:Cindy_Tilley@eisai.com)

Website: [www.eisai.com/us](http://www.eisai.com/us)

### #304

#### **g.tec Neurotechnology GmbH**

Sierningstasse 14

Schiedlberg, 4521, Austria

Email: [cao@gtec.at](mailto:cao@gtec.at)

Website: [www.gtec.at](http://www.gtec.at)

g.tec developed the first commercially available Brain Computer Interface system in 1999, and in 2018 customers from more than 60 countries are using g.tec devices. There are five g.tec offices worldwide, Graz, Schiedlberg, and Barcelona in Europe; Albany, NY in North America; and Hong Kong in Asia.

g.tec works with all major BCI approaches, such as motor imagery, P300, SSVEP, slow cortical potentials, etc. The company is also an active member in hundreds of national and international research projects and scientific publications.

### #410

#### **IntraNerve Neuroscience**

24 S. Weber Street, Suite 200

Colorado Springs, CO, 80903, USA

Phone: 866-226-8576

Fax: 866-286-0255

Email: [info@intranerve.com](mailto:info@intranerve.com)

Website: [www.intranerve.com](http://www.intranerve.com)

IntraNerve Neuroscience (INN) is Joint Commission accredited in Ambulatory Care – Telehealth. We offer intraoperative neuromonitoring, neurotelemetry/cEEG, and remote physician interpretation. Our Neurologists/Epileptologists, Technologists, and IT support are dedicated to providing care and assistance around the clock, 24/7/365. We partner with facilities like yours across the country to provide high quality, reliable neuroscience services.

### #411

#### **Lifelines Neuro**

900 E Main, Suite 300

Louisville, KY, 40206, USA

Phone: 866-889-6505

Email: [sales@lifelinesneuro.com](mailto:sales@lifelinesneuro.com)

Website: [lifelinesneuro.com](http://lifelinesneuro.com)

Inspired by our users, Lifelines Neuro creates EEG products and solutions that help our customers perform at their best every day, to provide the highest quality patient care. Our platform anticipates users' needs and emerging industry trends to create intuitive products that enable our customers to imagine EEG anywhere.

Our Rendr Platform cloud software connects patients to physicians in real-time, all the time, on any device. Lifelines Neuro Trackit EEG amplifiers and systems are known globally for their exceptional engineering and durability. Our headquarters is in Louisville, KY, with corporate offices in metro St. Louis, MO, London UK and Dublin, IRL.

## EXHIBITORS

**#406**

### **MDocHaus**

485 Mass Avenue  
Cambridge, MA, 02135, USA  
Phone: 866-985-8217  
Email: [pr@mdochaus.com](mailto:pr@mdochaus.com)  
Website: [www.MDocHaus.com](http://www.MDocHaus.com)

**#408**

### **Medpro**

1550 Katy Gap Road  
Katy, TX, 77494, USA  
Website: [medproequipment.co](http://medproequipment.co)

**#105**

### **Megin Oy**

Siltasaarekatu 18-20  
Helsinki, 00530, Finland  
Phone: +358-9-756-2400  
Fax: +358-9-756-24011  
Email: [info@megin.fi](mailto:info@megin.fi)  
Website: [www.megin.fi](http://www.megin.fi)

Megin is the global leader for Magnetoencephalography (MEG) technology, a non-invasive, functional brain mapping solution for the diagnostic workup, treatment strategy and intervention of neurological conditions, including epilepsy. Through innovation and passionate exploration of the endless possibilities with MEG, specialists from close to one hundred sites from around the world have used our MEG technology to study pathological and eloquent areas of the brain in patients diagnosed with neurological disorders.

**#405**

### **MVAP Medical Supplies**

2001 Corporate Center Dr.  
Thousand Oaks, CA, 91320, USA  
Fax: 877-735-7213  
Email: [brenda@mvapmed.com](mailto:brenda@mvapmed.com)  
Website: [www.mvapmed.com](http://www.mvapmed.com)

MVAP Welcomes all ACNS attendees to visit our booth and pick up some sample giveaways.

We pride ourselves in being a One-Stop-Shop Supplier of all EEG, EMG, IOM, Sleep, Cardiology, and Respiratory Supplies.

Our primary focus is for customer satisfaction and we are eager to help our end users find the right products needed for any of their needs!

**#111**

### **Neuroelectrics**

210 Broadway, Suite 201  
Cambridge, MA, 02139, USA  
Phone: 617-682-0770  
Email: [info@neuroelectrics.com](mailto:info@neuroelectrics.com)  
Website: <http://www.neuroelectrics.com>

Neuroelectrics is a creative, high-tech company offering the best in class non-invasive and high definition electrical brain stimulation technology for personalized neuromodulation. By measuring and modifying brain function, we aim to restore brain health, minimize disabilities and create a better life for patients. Our first device (Enobio) is an FDA-approved, completely wireless EEG device for labs, clinics, and more. Our second device (Starstim) is a wireless, hybrid EEG and transcranial electric stimulation (tES) system for research, medical, or home use. With an assortment of wet, dry, and semi-dry electrodes, Enobio and Starstim can be used in nearly any environment for endless investigational, diagnostic, and medical applications.

**#204**

### **NeuroPace, Inc.**

455 N. Bernardo Avenue  
Mountain View, CA 94043  
Website: <https://www.neuropace.com>  
Phone: 650-237-2700  
Fax: 650-237-2701  
Email: [info@neuropace.com](mailto:info@neuropace.com)

About the NeuroPace RNS® System

The RNS System is the world's first and only closed-loop brain-responsive neurostimulation system designed to prevent epileptic seizures at their source. The RNS System treats seizures by continuously monitoring brain waves, detecting unusual activity, and automatically responding with imperceptible electrical pulses before seizures occur. Physicians can program the detection and stimulation parameters of the implanted RNS neurostimulator to personalize therapy for each individual. The RNS® System is an adjunctive therapy for adults with refractory, partial onset seizures with no more than two epileptogenic foci. See important safety information at <http://www.neuropace.com/safety/>

**#207**

### **Neurotech, LLC**

626 W. Moreland Blvd  
Waukesha, WI, 53188, USA  
Phone: 262-754-0898  
Fax: 262-754-0897  
Email: [vwolfe@neurotech EEG.com](mailto:vwolfe@neurotech EEG.com)  
Website: [www.neurotech EEG.com](http://www.neurotech EEG.com)

Neurotech, LLC specializes in EEG services including in-home, long-term, and continuous hospital EEG monitoring. Accredited by the Joint Commission and partnered with many academic facilities, our in-home, long-term EEG monitoring services improves our patients' comfort and provides a cost-effective alternative to a hospital stay. Neurotech cEEG Partners, LLC provides hospitals with continuous EEG monitoring in the ICU and EMU to improve patient safety and outcomes.

## EXHIBITORS

### #306

#### Nexstim

Elimaenkatu 9B  
Helsinki, 05100, Finland  
Phone: +1 608-274-4020  
Fax: +1 608-274-7083  
Email: [info@nexstim.com](mailto:info@nexstim.com)  
Website: <https://www.nexstim.com>

Nexstim has developed SmartFocus™ TMS technology, a non-invasive E-field navigated TMS technology for both therapeutic and diagnostic applications. Nexstim's Navigated Brain Stimulation (NBS) system is FDA-cleared for pre-procedural mapping of speech and motor cortices. Nexstim's Navigated Brain Therapy (NBT) system is FDA-cleared for the treatment of major depressive disorder (MDD).

### #413

#### Next Gen Neuro

3042 S County Road, 475 East  
Plainfield, IN, 46168, USA  
Phone: 833-334-2334  
Email: [info@teamngn.com](mailto:info@teamngn.com)  
Website: [www.teamngn.com](http://www.teamngn.com)

Next Gen Neuro (NGN) is a women and veteran-owned high quality, affordable EEG/cEEG service provider determined to make a difference in our field. Our passion is to seek opportunities to help all patient populations, with a special commitment to the most vulnerable patients and the most challenged areas of neurodiagnostic service coverage. We offer Real-Time Continuous Monitoring, Retrospective Review, Intermittent Clinical and Technical Review, Reading Physicians, and additional services. We can help you and your team navigate the newly implemented 2020 CPT Coding Changes through our Consultation and Management offerings. We are the Next Generation of Partnership in Neurodiagnostic Care.

### #106/108

#### Nihon Kohden America

15353 Barranca Parkway  
Irvine, CA, 92618, USA  
Phone: 949-268-7189  
Fax: 949-271-5319  
Email: [info@nihonkohden.com](mailto:info@nihonkohden.com)  
Website: <http://us.nihonkohden.com/>

Nihon Kohden's Neurology product portfolio includes instrumentation for Epilepsy Monitoring, Electroencephalography, EEG & PSG Ambulatory Recording, Polysomnography, Wireless EEG & PSG, Home Sleep Testing/ PSG, Electromyography, Evoked Potentials, Intra-operative and cEEG ICU monitoring. Nihon Kohden's instrumentation offers the flexibility and expandability needed to meet the changing demands of today's neurodiagnostic field. In the U.S., the company is a trusted source for patient monitoring, sleep assessment, neurology and cardiology instrumentation solutions, and has been recognized for the highest customer satisfaction among U.S. hospitals and health systems for more than 10 consecutive years (MD Buyline). For more information, visit <http://us.nihonkohden.com/>.

### #211

#### Ochsner Health System

1514 Jefferson Highway  
New Orleans, LA, 70121, USA  
Email: [Katythomas@ochsner.org](mailto:Katythomas@ochsner.org)  
Website: [www.ochsner.org](http://www.ochsner.org)

Ochsner Health System is seeking BC/BE Neurologists for our openings in New Orleans, Baton Rouge, and the North Shore. Both newly trained and experienced physicians are encouraged to apply. The Department of Neurology has a complement of over 40 neurologists system-wide with subspecialty representation in stroke, neurocritical care, interventional neurology, neuromuscular disease, movement disorders, epilepsy, MS, headache, cognitive disorders, sleep, traumatic brain injury and sports medicine. Ochsner is Louisiana's largest non-profit healthcare system. Driven by a mission to Serve, Heal, Lead, Educate and Innovate.

### #308/310

#### Persyst Development Corporation

420 Stevens Avenue Suite 210  
Solana Beach, CA 92075  
Phone: 928-708-0705  
Website: <https://www.persyst.com/>  
Fax: 928-771-1209  
Email: [tradeshows@persyst.com](mailto:tradeshows@persyst.com)

Persyst is the worldwide leader in EEG software. Our software is used daily by thousands of neurologists at hundreds of hospitals around the world. We have pioneered the use of digital signal processing and neural networks in order to remove artifacts and interpret EEG data.

## EXHIBITORS

**#210**

### **PMT Corporation**

1500 Park Rd  
Chanhassen, MN, 55317, USA  
Phone: 952-470-0866  
Fax: 952-470-0865  
Email: [info@pmtcorp.com](mailto:info@pmtcorp.com)  
Website: [www.pmtcorp.com](http://www.pmtcorp.com)

PMT Corporation is the premier supplier of an extensive line of neurosurgical products, offering Cortac, cortical surface electrodes, Depthalon, depth electrodes and sEEG depth electrodes for epilepsy monitoring. PMT also offers high-end neck braces, including halo systems and orthotic vests for cervical, thoracic and lumbar spinal immobilization and microsurgical instruments.

**#104**

### **Rhythmlink International, LLC**

1140 First Street South  
Columbia, SC, 29209, USA  
Phone: 866-633-3754  
Fax: 803-227-1015  
Email: [sales@rhythmlink.com](mailto:sales@rhythmlink.com)  
Website: [www.rhythmlink.com](http://www.rhythmlink.com)

**#400**

### **Ricoh Medical Imaging**

1100 Valencia Avenue  
Tustin, CA, 92780, USA  
Phone: 714-316-4661  
Email: [scott.abelson@ricoh-usa.com](mailto:scott.abelson@ricoh-usa.com)

Ricoh, a 19-billion-dollar global company. We acquired Yokogawa MEG in 2016, and the RICOH MEG received FDA clearance in 2017. For more than 80 years, Ricoh has been driving innovation and continues to invest in R&D to provide innovative tools -- like the RICOH MEG -- to help healthcare professionals and researchers advance research and treatment for neurological disorders.

Ricoh Medical Imaging is dedicated to the advancement of MEG within the neuroscience community. Our strength is the sustainability, reliability, and a collaborative culture with all our customers.

**#301**

### **Rosman Search, Inc**

30799 Pinetree Road, Suite #250  
Pepper Pike, OH, 44124, USA  
Phone: 216-906-8188  
Website: <http://www.rosmansearch.com>  
Email: [bdery@rosmansearch.com](mailto:bdery@rosmansearch.com)  
Fax: 216-803-6672

RosmanSearch is a Neurosurgery, Neurology and APP recruitment firm. We place quality providers with quality practices nationwide. We are the only search firm with dedicated teams specializing in neuroscience. Our mission is to be the best, the most expert, and the one that is known for quality—every time!

**#107**

### **Safe Harbor Billing and Management, LLC**

P.O. Box 134  
McKinney, TX, 75070, USA  
Phone: 972-808-7917  
Fax: 972-808-7917  
Email: [doreen@safeharborbilling.com](mailto:doreen@safeharborbilling.com)  
Website: [safeharborbilling.com](http://safeharborbilling.com)

Safe Harbor Billing and Management is more than just a billing company. We are a full-service billing and management company for specialized services such as out of network billing, intra-operative neuromonitoring (IONM), as well as specialists in billing for PAs, NPs, and on-call physicians. Additional specialized services including Accounts Receivable Recovery and Re-billing services are also available.

**#109**

### **Signal Gear LLC**

27 Sweetwater Drive  
Prosperity, SC, 29127, USA  
Phone: 855-439-4327  
Fax: 800-828-9804  
Email: [team@signalgear.com](mailto:team@signalgear.com)  
Website: [www.signalgear.com](http://www.signalgear.com)

SIGNAL GEAR is a medical device company focused on designing and developing neurodiagnostic accessories. Founded on the premise that passionate, thoughtful study is key to innovation and creativity, we study the scientific literature, the patient and clinical practice. Our goal is to provide the optimal patient product for each specialty, from the clinical office setting to the operating room, by tirelessly testing products in our electrical, mechanical, and clinical test labs. Stop by our booth and introduce yourself. We'd love to meet you and hear about your work!

**#404**

### **SK Life Science, Inc.**

461 From Road, 5th Floor  
Paramus, NJ, 07652, USA  
Phone: 913-901-6845  
Email: [phazel@sklsi.com](mailto:phazel@sklsi.com)

Website: [www.sklifescienceinc.com](http://www.sklifescienceinc.com) SK Life Science, Inc., a subsidiary of SK Biopharmaceuticals, Co., Ltd., is focused on developing and commercializing treatments for disorders of the central nervous system (CNS). Both are a part of the global conglomerate SK Group, the second largest company in Korea. SK life science is located in Paramus, New Jersey.

We have a pipeline of eight compounds in development for the treatment of CNS disorders including epilepsy, Lennox-Gastaut syndrome and attention deficit hyperactivity disorder, among others. The first product the company is planning to commercialize independently is cenobamate (YKP3089), an investigational compound for the potential treatment of partial-onset seizures in adult patients.

For more information, visit SK life science's website at [www.SKLifeScienceInc.com](http://www.SKLifeScienceInc.com) and SK Biopharmaceuticals' website at [www.skbp.com/eng](http://www.skbp.com/eng).



## EXHIBITORS

**#209**

### **SpecialtyCare**

3 Maryland Farms Suite 200  
Brentwood, TN, 37027, USA  
Phone: 615-346-8801  
Email: brittni.dugnaski@specialtycare.net  
Website: www.specialtycareus.com

**#208**

### **Spes Medica USA**

25 Storey Avenue, #118  
Newburyport, MA, 01950, USA  
Phone: 855-773-7872  
Email: usa@spesmedica.com  
Website: www.spesmedica.com

**#402**

### **Stratus**

4545 Fuller Drive, Suite 100  
Irving, TX, 75038, USA  
Phone: 888-982-8492  
Email: contact@stratusneuro.com  
Website: www.stratusneuro.com

**#206**

### **UCSF Health**

3360 Geary Blvd, Suite 301  
San Francisco, 94118, CA  
Phone: 415-353-7703  
Email: cheryl.hardin@ucsf.edu  
Website: jobs.ucsfmedicalcenter.org

At UCSF Health, our mission of innovative patient care, advanced technology and pioneering research is redefining what's possible for the patients we serve – a promise we share with the professionals who make up our team.

Ranked by U.S. News & World Report as seventh in the country – UCSF Health is committed to providing the most rewarding work experience while delivering the best care available anywhere. In an environment that allows for continuous learning and opportunities for professional growth, UCSF Health offers the ideal atmosphere in which to best use your skills and talents.

**Table C**

### **University of Florida Health Shands Hospital**

1329 SW 16th Avenue, Suite 3120  
Gainesville, FL, 32608, USA  
Phone: 352-265-8314  
Fax: 352-733-0016  
Email: ufcep@neurology.ufl.edu  
Website: www.neurology.ufl.edu

The multidisciplinary team at the University of Florida Comprehensive Epilepsy Program (UFCEP) is committed to providing advanced care to people with epilepsy, seizures and sleep disorders. UF Health Shands Hospital is home to state-of-the-art medical, surgical and imaging facilities. An epilepsy monitoring unit is available for both adults and children who require long-term monitoring of their seizures.

**#302**

### **Wolters Kluwer**

P.O. Box 1030  
2400 BA, Alphen aan den Rijn, The Netherlands  
Email: info@wolterskluwer.com  
Website: https://wolterskluwer.com/

Wolters Kluwer is a leading global provider of trusted clinical technology and evidence-based solutions that help healthcare professionals build clinical competency and effective decision-making to improve outcomes. Wolters Kluwer is the proud publisher of the *Journal of Clinical Neurophysiology*, the official journal of the American Clinical Neurophysiology Society.

**#407/409**

### **Zeto, Inc.**

2336 Park Avenue  
Santa Clara, CA, 95050, USA  
Phone: 919-669-7674  
Email: Johnlynch@zetoinc.com  
Website: www.zeto.inc.com

Zeto is transforming the way Routine EEG is performed. Fast, convenient, medical-grade EEG is what we do. Our product is an FDA cleared, zero-prep, easy to wear headset with dry electrodes backed by a cloud platform that offers instant upload, tools for analysis and live viewing from any location. Zeto makes EEG available to facilities that currently do not have access.

## PRODUCT THEATERS

These sessions are supported and programmed by a single supporting company and will feature presentations on topics and technologies selected by the company. Lunch will be provided by ACNS, and is not reportable according to the Sunshine Act. CME credits are NOT available for the Product Theaters.

### Friday, February 7

11:45am-12:45pm – Lunch will be provided

Location: Conti Room

#### **DECIDE Multicenter Clinical Trial: Does Use of Ceribell Rapid Response EEG Impact Clinical Decision Making?**

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**Presented By: Ceribell**

##### **Speakers:**

**Josef Parvizi MD PHD**

Professor of Neurology and Neurological Sciences  
Chief Medical Adviser and Co-Founder of Ceribell

**Paul M. Vespa MD**

Professor of Neurology  
Gary L. Brinderson Family Chair in Neurocritical Care  
Assistant Dean of Critical Care Medicine Research  
David Geffen School of Medicine, UCLA

##### **Description:**

Results from the DECIDE prospective observational multicenter clinical trial will be presented.

Conducted at MGH, UTSW, Wake Forest, Rush Medical Center and UCLA, this 181-patient study confirmed that early access to EEG at the bedside enables clinicians to improve patient management in neurocritical care practice by significantly enhancing the accuracy of their decision making and their confidence in their diagnostic and therapeutic decisions. Without access to early EEG, physicians' confidence in their clinical decision making was low and their accuracy in seizure diagnosis was slightly better than chance level. Early EEG also detected cases of non-convulsive status epilepticus (NCSE) in a significant proportion of patients who were already treated empirically for seizures suggesting that empiric treatment may not be sufficient to treat or prevent NCSE.

Learn about how early access to EEG leads to better management of patients at risk for seizures by:

- More timely seizure diagnosis
- More accurate diagnostic and treatment decisions
- Easy to use EEG device that can be set up in minutes by physicians or APPs.

### Saturday, February 8

12:45-1:45pm-Lunch will be provided

Location: Conti Room

#### **Clinical Utility of Ultra-Long sEMG Monitoring**

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**Presented By: Brain Sentinel, Inc.**

##### **Speakers:**

**Selim R. Benbadis, MD, FAAN, FACNS, FAES**

Professor of Neurology and Director,  
Comprehensive Epilepsy Program  
University of South Florida

**Ro Elgavish, MD, PhD, FAES, FANA**

ABPN Diplomate in Neurology and Epilepsy

##### **Description:**

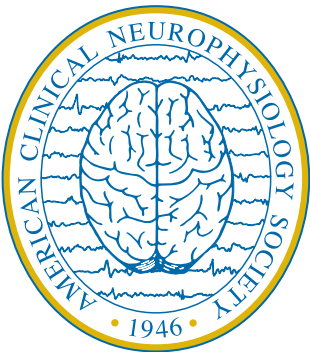
During this program, attendees will learn about:

- Basic introduction of sEMG signatures of GTC seizures
- Differentiating between sEMG recorded during GTC seizures and other motor events
- Identifying patients that may benefit from ultra-long sEMG monitoring
- Real-world examples of the clinical utility of ultra-long sEMG monitoring

Questions will be taken at the end of the presentation.

# AUSTIN

TEXAS



## AMERICAN CLINICAL NEUROPHYSIOLOGY SOCIETY 2021 ANNUAL MEETING & COURSES

# *SAVE* THE *DATE*

— February 10 - 14, 2021 • Hilton Austin —

