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MESSAGE FROM THE COURSE AND PROGRAM COMMITTEE CO-CHAIRS

Dear Colleagues,

On behalf of the American Clinical Neurophysiology Society (ACNS) Council, we are thrilled to invite you to attend the 2019 Annual Meeting & Courses, taking place February 6-10, 2019 at the Caesar’s Palace in Las Vegas, Nevada.

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. Experts in the field will give presentations of significant value for all healthcare professionals who utilize clinical neurophysiology.

This year, the Annual Courses include expanded offerings in peripheral neurophysiology. Also, the courses are organized along tracks that should minimize conflicts for most attendees. As was done in 2017, and due to the continued success and interest in Neurophysiologic Intraoperative Monitoring (NIOM), the course will remain in the two full-day format to accommodate the degree of interest and growth within this rapidly expanding field of clinical neurophysiology. The course directors are working hard to provide attendees with an informative and educational series of presentations.

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.

Following the success of previous year’s Joint International Symposia, we are pleased to announce the inclusion of many sessions co-organized by our colleagues outside the US. We are honored to welcome representatives from the Brazilian Society of Clinical Neurophysiology, the Mexican Society of Clinical Neurophysiology, the Canadian Society of Clinical Neurophysiology, the Columbian Society of Clinical Neurophysiology and the German Society of Clinical Neurophysiology. We hope you will take advantage of this 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. The annual Neurophys Bowl provides a great night of “edu-tainment” for participants and attendees to test their knowledge in various fields of Clinical Neurophysiology. Additionally, attendees can socialize and network with exhibitors, colleagues and friends during the Welcome Reception on Friday, February 8 in the Exhibit Hall.

The 2019 Annual Meeting & Courses will provide an opportunity for education, networking and interaction with the latest technology for attendees in various fields of clinical neurophysiology. We hope to see you in Las Vegas!

Sincerely,

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

Courtney J. Wusthoff, MD, FACP
Course Committee Co-Chairs

Saurabh R. Sinha, MD, PhD, FACP
Program Committee Co-Chairs

Tammy Tsuchida, MD, PhD, FACP
Program Committee Co-Chairs
About the American Clinical Neurophysiology Society (ACNS)

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.

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.

Officers and Council

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ACNS INFORMATION

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Mayo Clinic / Nemours Clinic-Florida
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Stanford University
GENERAL MEETING INFORMATION

About the Annual Meeting & Courses
This year’s scientific program will feature the latest scientific advances in clinical neurophysiology presented by leading national and international experts in the field. This dynamic program has more choices than ever including the return of the Joint ACNS and International Society symposia, presentations from IFCN Executive Committee members, and speakers who are experts in their field. The parallel sessions will provide simultaneous sessions for interests in EEG, electrodiagnosis and neurophysiologic intraoperative monitoring.

The meeting also features a number of opportunities for networking, including a Professional Development Mentorship Program in which residents and fellow applicants are paired with senior ACNS members and provided an opportunity to connect. The annual Neurophys Bowl is a mainstay of the Annual Meeting program, allowing members and delegates a chance to challenge their knowledge of clinical neurophysiology in a competitive format.

Important Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Advance Registration Open</td>
<td>October 1, 2018</td>
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<tr>
<td>Poster Abstract Submission Open</td>
<td>October 1, 2018</td>
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<tr>
<td>Poster Abstract Submission Deadline</td>
<td>November 15, 2018</td>
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<tr>
<td>Poster Abstract Decision Notification</td>
<td>December 15, 2018</td>
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<tr>
<td>Housing Deadline</td>
<td>January 15, 2019</td>
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<tr>
<td>Advance Registration Deadline</td>
<td>January 15, 2019</td>
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<tr>
<td>Registration Cancellation Deadline</td>
<td>January 20, 2019</td>
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<tr>
<td>Courses Handout Website Open</td>
<td>January 31, 2019</td>
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<tr>
<td>CME Certificate Program Opens (pre-registered delegates)</td>
<td>February 8, 2019</td>
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<tr>
<td>CME Certificate Program Opens (delegates registering onsite)</td>
<td>March 8, 2019</td>
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<tr>
<td>CME Certificate Claim Deadline</td>
<td>April 3, 2019</td>
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<tr>
<td>Courses Handout Website Closes</td>
<td>April 28, 2019</td>
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Las Vegas Visitor Information
Nearest Airport: McCarran International Airport (LAS)
Average February Temperatures: High 64° F, Low 42° F

Headquarters Hotel
Caesar’s Palace
3570 S Las Vegas Blvd
Las Vegas, Nevada 89109
(866) 227-5938

Housing Reservations
A block of rooms has been reserved for ACNS Annual Meeting & Courses delegates at Caesar’s Palace. Reservations will be accepted on a space-available basis, at the standard hotel rate after the housing deadline of January 15, 2019. Please reserve your rooms before the deadline to take advantage of the group rate.

ACNS Group Rate: $221/night single/double occupancy
Group rate will be offered three days prior and three days following the dates of the Room Block, based on availability.

Housing Open: Now Open!
Housing Deadline: January 15, 2019

To make reservations online, visit the ACNS website: http://www.acns.org/meetings/annual-meeting-and-courses/2019-annual-meeting-and-courses/housing--travel.

To make reservations by phone, call (866) 227-5938. If making reservations by phone, don’t forget to mention the ACNS Annual Meeting to receive the group rate!

Registration Procedure
Save on registration fees and avoid long lines onsite when you register before the advance deadline of January 15! Online registration is a fast an easy way to register in advance, however, delegates may also register by completing and mailing or faxing the PDF registration form available online or on page ##.

To register online, go to the ACNS website: http://www.acns.org/meetings/annual-meeting-and-courses/2019-annual-meeting-and-courses/registration. or fill out the paper registration form (found on Pages 19-21) at the back of the program.

All registrations will be confirmed by email. If you do not receive a confirmation within two weeks of submission, please contact the ACNS Executive Office at (414) 918-9803 or info@acns.org.
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 (ACME), 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). 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.
CONTINUING MEDICAL EDUCATION (CME) INFORMATION

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.

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.

Annual Courses Learning Objectives
At the end 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 end 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 18.75 AMA PRA Category I Credit(s)™. 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)™.

Epilepsy Surgery/Invasive EEG Course Part I
6.5 AMA PRA Category I Credit(s)™

Central EEG Technical
1.5 AMA PRA Category I Credit(s)™

Neurophysiologic Intraoperative Monitoring (NIOM) Part I
6.5 AMA PRA Category I Credit(s)™

Intensive Care Unit EEG Monitoring (ICU EEG) Part I
7 AMA PRA Category I Credit(s)™

Video-EEG Part I
2 AMA PRA Category I Credit(s)™

Central EEG Technical
1.5 AMA PRA Category I Credit(s)™

EMG/Peripheral Nervous System
5 AMA PRA Category I Credit(s)™

EMG Demo
2 AMA PRA Category I Credit(s)™

Epilepsy Surgery/Invasive EEG Course Part II
1.5 AMA PRA Category I Credit(s)™

Neurophysiologic Intraoperative Monitoring (NIOM) Part II
6.5 AMA PRA Category I Credit(s)™

Intensive Care Unit EEG Monitoring (ICU EEG) Part II
3 AMA PRA Category I Credit(s)™
CONTINUING MEDICAL EDUCATION (CME) INFORMATION

Autonomic Neurophysiology
1.5 AMA PRA Category I Credit(s)™

5th Annual CNP Program Director’s Symposium
2 AMA PRA Category I Credit(s)™

Basic EEG
AMA PRA Category I Credit(s)™

Video-EEG Part II
1.5 AMA PRA Category I Credit(s)™

Evoked Potentials
1.5 AMA PRA Category I Credit(s)™

Neonatal EEG
1.5 AMA PRA Category I Credit(s)™

Neuromodulation/Stimulation
3 AMA PRA Category I Credit(s)™

*These credit counts are estimates and subject to change as agendas are confirmed.
CALL FOR POSTER ABSTRACTS

Submission Dates
Poster abstract submission will open on October 1, 2018. All abstracts must be submitted online by Thursday, November 15, 2018 at 11:59pm ET. No exceptions will be made.

Online Abstract Submission
Poster abstracts must be submitted through the ACNS Session Management website (https://www.conferenceharvester.com/harvester2/login.asp?EventKey=MTCBASXX). Complete instructions for submission are available online. Abstracts that have been mailed, emailed or faxed will not be accepted. Anyone may submit a poster abstract to ACNS. Membership in ACNS is not required for poster abstract submission.

Abstract Review
All abstracts submitted will be reviewed, evaluated for scholarly and relevant content, and graded in blinded fashion by the ACNS Program Committee. The review process takes approximately four weeks, and acceptance notification will be made by email no later than December 15, 2018.

Abstract Categories
Abstracts submitted to the 2019 ACNS Annual Meeting must fit into one of the following categories to be considered for presentation:

- Autonomic Function and its Disorders
- Basic Neurophysiology
- Critical Care Monitoring
- Deep Brain and Cortical Stimulation
- Digital/Quantitative EEG and Topography
- EEG
- EMG/NCV Testing
- Epilepsy: Clinical
- Epilepsy: Pathophysiology
- Evoked Potentials
- Functional Imaging
- Intraoperative Monitoring
- Magnetoencephalography
- Peripheral Neuropathy/Neuromuscular
- Sensory/Motor Physiology
- Sleep
- Video-EEG Monitoring for Epilepsy

Abstract Types
Two types of poster abstracts submissions will be accepted: Poster Abstract Regular Submission or Poster Abstract Case Report Submission. Both types of submissions will follow the same review process. Abstract tiles are limited to 60 characters and 200 words for the additional required fields listed below for each submission type:

- Poster Abstract Regular Submission
  - Introduction
  - Methods
  - Results
  - Conclusion

- Poster Abstract Case Report Submission
  - Introduction
  - Case Report/Case History
  - Conclusion

Previous Publication or Presentation
Abstracts which have been published in journals, meeting proceedings, or other publication, as well as those presented at meetings prior to the ACNS meeting are eligible and welcome for submission. All poster abstracts presented at the Annual Meeting will be published in the Journal of Clinical Neurophysiology.

Author Attendance Requirement
By submitting an abstract to 2019 ACNS Annual Meeting, abstract authors are agreeing that at least one author will attend the meeting and will be available to present on the date and time assigned by the Program Committee. Authors will be notified of presentation dates and times at the time of notification of acceptance and are expected to make appropriate travel arrangements to ensure that at least one of the abstract’s authors will be in attendance. In addition, presenting authors are expected to register to attend the meeting by the deadline set forth in their acceptance notification. Abstracts for which an author is not pre-registered by the dates set forth will automatically be withdrawn from the program. Poster setup is tentatively scheduled for Thursday, February 7 and displayed Friday, February 8 – Saturday, February 9, 2019.

Poster Cancellation Policy
At least one author or co-author on all posters is expected to register to attend the meeting for which they are accepted by the deadlines set forth in their acceptance notification. If this author cancels their registration prior to the meeting, the poster may be withdrawn from the program.
CALL FOR POSTER ABSTRACTS

Young Investigator Travel Award
Several young physician investigators will be awarded travel fellowships of $1,000 each. These fellowships are determined based upon the ranking of the applicant's abstract by the Program Committee.

Eligibility Criteria
Applicant must be: (1) a current ACNS member or apply for membership concurrent with application for Travel Award; (2) a resident, fellow, or junior faculty within two years of completion of fellowship training; and (3) be the first author of an abstract submitted to the Annual Meeting. Applicant must meet the entire aforementioned criteria in order to be considered for the Young Investigator Travel Award. Prior recipients of Travel Fellowships are not eligible for additional Travel Fellowship awards.

Selection
Awardees will be chosen based on the quality of submitted abstracts, as ranked by the ACNS Program Committee. A total of six travel fellowships will be awarded for the ACNS 2019 Annual Meeting. Additional travel awards may be awarded if funding is available.

Award
Awardees will receive complimentary registration for the meeting and reimbursement of travel funds up to $1,000, upon provision of an expense voucher, and original receipts. Awardees will be recognized at an award ceremony during the Annual Meeting. Awards are one-time only.

Procedures
Upon close of abstract submission, the ACNS Program Committee will review, evaluate, and rank abstracts, including all candidates for consideration to receive a travel award. The Program Committee Co-Chairs will select the final six awardees based on the collective rankings from the Program Committee. ACNS will notify awardees of decision no later than December 1, 2018. Awardees will then be expected to accept invitation by the deadlines set forth in their acceptance notifications, as well as register for the Annual Meeting, and secure travel arrangements. Upon provision of an expense voucher, including original receipts, reimbursement will be provided to award recipients, no later than 30 days after the Annual Meeting.

Cancellation Policy
Award recipients are expected to register to attend the Annual Meeting by the deadlines set forth in their acceptance notification. If an award recipient cancels their registration prior to the meeting, the Travel Award may be withdrawn from the individual and designated to another candidate.
# ANNUAL COURSES

**Wednesday, February 6, 2019**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 9:00am-5:00pm | **Neurophysiologic Intraoperative Monitoring (NIOM) Part I**  
***Co-Directors: Aatif M. Husain, MD, FACNS and Mirela V. Simon, MD, MSc, FACNS*** |
| 9:00am  | Welcome and Introductions                                                |
| 9:05am  | SEP Monitoring                                                          |
| 9:45am  | MEP Monitoring                                                           |
| 10:25am | Break                                                                    |
| 10:40am | BAEP Monitoring                                                          |
| 11:20am | EEG Monitoring                                                           |
| 12:00pm | Discussion                                                               |
| 12:15pm | Lunch                                                                    |
| 1:15pm  | EMG and Nerve Recordings                                                 |
| 1:55pm  | Anesthesia                                                               |
| 2:35pm  | Error Avoidance in the OR: Technical and Non-technical Issues            |
| 3:15pm  | Break                                                                    |
| 3:30pm  | Medicolegal Issues                                                       |
| 4:10pm  | Billing Issues                                                           |
| 4:50pm  | Discussion                                                               |
| 9:00am-5:00pm | **Epilepsy Surgery/Invasive EEG Course Part I**  
***Co-Directors: Stephan U. Schuele, MD, MPH, FACNS and Giridhar Kalamangalam, MD, DPhil, FACNS*** |
| 9:00    | Introduction and Overview                                                |
| 9:05am  | Noninvasive and Invasive Evaluations                                     |
| 9:40am  | Epileptogenic Zone Defined by Invasive EEG                              |
| 10:15am | Break                                                                    |
| 10:30am | Intracranial EEG: Physiologic and Abnormal Patterns                      |
| 11:00am | Temporal Lobe                                                            |
| 11:30am | Extratemporal Lobe                                                       |
| 12:00pm | Lunch                                                                    |
| 1:00pm  | Role of Source Imaging                                                   |
| 1:30pm  | HFO and Epilepsy Surgery                                                 |
| 2:00pm  | PMG and PVNH                                                             |
| 2:30pm  | Insular Epilepsy                                                         |
| 3:00pm  | Break                                                                    |
| 3:15pm  | Epilepsy Surgery. Implantation and Resection                            |
| 3:45pm  | Laserablation: Outcome                                                   |
| 4:15pm  | Indication for RNS and DBS                                                |
| 9:00am-5:00pm | **Intensive Care Unit EEG Monitoring (ICU EEG) Part I**  
***Co-Directors: Jong Woo Lee, MD, PhD, FACNS & Courtney J. Wusthoff, MD, FACNS*** |
| 9:00am  | Overview of ICU EEG Monitoring in Neonates, Children and Adults          |
| 9:40am  | Guidelines and Logistics of ICU EEG Monitoring                           |
| 10:30am | cEEG Interpretation: Background, Reactivity, Artifacts, and ACNS Terminology |
| 11:30am | Treatment of Nonconvulsive Seizures and Status Epilepticus               |
| 12:00pm | Lunch                                                                    |
| 1:00pm  | CEEG of Anoxic Brain Injury and Targeted Temperature Management          |
| 1:30pm  | EEG of NORSE, FIRES, and Autoimmune Disorders                            |
| 2:00pm  | ICU EEG Reading Session: Adult Cases                                     |
| 2:30pm  | cEEG Interpretation: Neonates                                            |
| 3:10pm  | ICU EEG Reading Session: Neonatal and Pediatric Cases                    |
| 3:40pm  | EEG in Toxic Metabolic Encephalopathy                                   |
| 4:10pm  | Finances, Billing and Coding                                             |
| 4:50pm  | Panel Q&A                                                                |
## ANNUAL COURSES

### Thursday, February 7, 2019

**7:00-8:30am**

**Epilepsy Surgery/Invasive EEG Course Part II: SEEG**
*Co-Directors: Stephan U. Schuele, MD, MPH, FACNS and Giridhar P. Kalamangalam, MD, DPhil, FACNS*

- **7:00am** Intracranial EEG: Physics and Physiology:
  *Jean Gotman, PhD, FACNS*
- **7:25am** Planning Placements
  *Giridhar P. Kalamangalam, MD, DPhil, FACNS*
- **7:45am** Data Interpretation and Mapping
  *Stephan U. Schuele, MD, MPH, FACNS*
- **8:05am** Surgical Aspects and Resection Strategy
  *Nitin Tandon, MD*
- **8:25am** Panel Discussion

**7:00-8:30am**

**Evoked Potentials**
*Director: Elayna Rubens, MD, FACNS*
Agenda coming soon!

**7:00-8:30am**

**Central EEG Technical**
*Director: Susan T. Herman, MD, FACNS*
Agenda coming soon!

**9:00am-12:00pm**

**Intensive Care Unit EEG Monitoring (ICU EEG) Part II**
*Co-Directors: Jong Woo Lee, MD, PhD, FACNS & Courtney J. Wusthoff, MD, FACNS*

- **9:00am** Quantitative EEG: Theory and Tools
  *Hiba A. Haider, MD*
- **9:30am** Quantitative EEG for Seizure Detection
  *Cecil D. Hahn, MD, MPH, FACNS*
- **10:00am** Quantitative EEG for Ischemia Detection
  *M. Brandon Westover, MD, PhD, FACNS*
- **10:50am** Multimodal monitoring in Acute Brain Injury
  *Jan Claassen, MD, PhD, FNCS*
- **11:30am** QEEG Cases
  *Emily J. Gilmore, MD and Sahar F. Zafar, MBBS*

**9:00am-5:00pm**

**Neurophysiologic Intraoperative Monitoring (NIOM) Part II**
*Co-Directors: Aatif M. Husain, MD, FACNS and Mirela V. Simon, MD, MSc, FACNS*

- **9:00am** Welcome and Introductions
- **9:05am** VEP Monitoring
  *Aatif M. Husain, MD, FACNS*
- **9:45am** Monitoring for Brachial Plexus and Nerve Repair Surgery
  *Jorge E. Gutierrez, MD, MSc*
- **10:25am** Break
- **10:40am** Monitoring for Spinal Cord Tumor Surgery
  *Eva K. Ritzl, MD, FACNS*

**11:20am** Monitoring for Lower Spinal Column Surgery (Pedicle Screws, MEPs, Dermatomal MEPs and Reflex Monitoring)
*Paulo Andre Kimaid, MD, PhD*

**12:00pm** Discussion

**12:15pm** Lunch

**1:15pm** Corticobulbar MEP Monitoring with Aases (and Brainstem Reflexes?)
*Kyung-Seok Park, MD*

**1:55pm** Cranial Nerve Monitoring
*Jaime R. Lopez, MD, FACNS*

**2:35pm** Monitoring for Vascular Surgery
*Leslie Lee, MD, FACNS*

**3:15pm** Break

**3:30pm** Sensorimotor Mapping and Monitoring for Supratentorial Tumors
*Mirela V. Simon, MD, MSc, FACNS*

**4:10pm** Language Mapping and Electrocorticography
*Ioannis Karakis, MD, PhD, MSc*

**4:50pm** Question and Answer

**9:00am-3:00pm**

**EMG/Peripheral Nervous System**
*Course Directors: Devon Rubin, MD, FACNS and Ruple Laughlin, MD*

- **9:00am** Nerve Conduction Studies – Basics and Pitfalls
  *Ruple S Laughlin, MD*
- **9:45am** EMG Waveform Examples – Spontaneous and Basic Motor Unit Potentials
  *Devon I. Rubin, MD*
- **10:45am** EDX Approach to CTS and Ulnar Neuropathies
  *Cory Kogelschatz, MD*
- **11:30am** EDX Approach to Radiculopathies
  *Paul Barkhaus, MD*
- **1:15pm** EDX Approach to Peripheral Neuropathies
  *Zachary London, MD*
- **2:00pm** EDX Approach to Myopathies
  *Priya Dhawan, MD*

**3:00-5:00pm**

**EMG Demo**
*Course Directors: Devon Rubin, MD, FACNS and Ruple Laughlin, MD*

- **3:00pm** NCS Demonstration: Common, Uncommon, and Pitfalls
  *Devon Rubin, MD, FACNS and Ruple Laughlin, MD*
### ANNUAL COURSES

#### 11:30am-2:00pm

**CNP Director’s Symposium**  
*COURSE DIRECTOR: Jeffrey Britton, MD, FACNS*

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:30am</td>
<td>Lunch</td>
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<tr>
<td>12:00pm</td>
<td>Introduction</td>
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<tr>
<td></td>
<td><em>Jeffrey Britton, MD, FACNS</em></td>
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<tr>
<td>12:05pm</td>
<td>Closing Gaps Identified in ACNS Inservice Exam – Neurophysiology and Instrumentation</td>
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<td><em>Brian Lundstrom, MD, PhD</em></td>
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<tr>
<td>12:30pm</td>
<td>IOM and Evoked Potentials</td>
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<td><em>Matt Hoffmann, DO, PhD</em></td>
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<td>1:00pm</td>
<td>ACGME Revised Core Requirements</td>
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<td><em>Padma Kandula, MD</em></td>
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<td>1:30pm</td>
<td>ACGME Self-Study</td>
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<td><em>Lily Wong-Kisiel, MD</em></td>
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#### 1:30-3:00pm

**Autonomic Neurophysiology**  
*Co-Directors: Claus Reinsberger, MD, PhD, FACNS and Jeffrey Liou, DO*

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>1:30pm</td>
<td>Introduction, Anatomy &amp; Physiology of the Autonomic Nervous System</td>
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<td><em>Claus Reinsberger, MD PhD FACNS</em></td>
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<td>1:45pm</td>
<td>Autonomic Testing</td>
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<td></td>
<td><em>Jeffrey Liou, DO</em></td>
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<td>2:10pm</td>
<td>Neurological Disorders with Central Autonomic Failure</td>
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<td><em>Alexandra Hovaguimian, MD</em></td>
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<tr>
<td>2:35pm</td>
<td>Peripheral Autonomic Failure</td>
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<td><em>Brent Goodman, MD</em></td>
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#### 3:00-5:00pm

**Video EEG Part I**  
*Co-Directors: William Tatum, DO, PhD, FACNS and Phillip Pearl, MD, FACNS*

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<th>Time</th>
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<tbody>
<tr>
<td>3:00pm</td>
<td>Predicting the Epileptogenic Zone using Scalp-based VEM</td>
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<td></td>
<td><em>William O. Tatum, DO, FACNS</em></td>
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<tr>
<td>3:35pm</td>
<td>Predicting the Epileptogenic Zone with Intracranial VEM</td>
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<td><em>Greg Worrell, MD, FACNS</em></td>
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<tr>
<td>4:15pm</td>
<td>Localizing the Epileptogenic Zone in Pediatric Patients with VEM</td>
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<td><em>Phillip Pearl, MD, FACNS</em></td>
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<td>4:50pm</td>
<td>Q&amp;A</td>
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**Friday, February 8, 2019**

#### 7:00-8:30am

**Neonatal EEG Workshop**  
*COURSE DIRECTOR: Shavonne Massey, MD, MSCE*

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00am</td>
<td>Evolution of the Classification of Neonatal Seizures</td>
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<td><em>Eli Mizrahi, MD</em></td>
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<td>7:30am</td>
<td>Neonatal Seizure Quantification: Novel Methods to Address a Common Dilemma</td>
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<td><em>Eli Mizrahi, MD</em></td>
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<tr>
<td>8:00am</td>
<td>Standardizing Neonatal EEG Background Interpretation: Addressing Issues of Inter-rater Agreement</td>
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<td><em>Shavonne Massey, MD, MSCE</em></td>
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#### 8:30-10:00am

**Video EEG Cases Part II**  
*Co-Directors: William Tatum, DO, PhD, FACNS and Phillip Pearl, MD, FACNS*

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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>8:30am</td>
<td>Video-EEG Cases: Pearl and Pitfalls in Adults</td>
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<tr>
<td></td>
<td><em>William O. Tatum, DO, FACNS</em></td>
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<tr>
<td>9:00am</td>
<td>The Unclassified Patients</td>
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<td><em>Stephan Schuele, MD, FACNS</em></td>
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<td>9:30am</td>
<td>Mystery Pediatric Cases</td>
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<td><em>Phillip Pearl, MD, FACNS</em></td>
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#### 7:00-10:00am

**Neuromodulation/Stimulation**  
*COURSE DIRECTOR: Greg Worrell, MD, FACNS*

Agenda coming soon!

#### 7:00-10:00am

**Basic EEG**  
*Co-Directors: Ioannis Karakis, MD, PhD, MSc and Jay S. Pathmanathan, MD, PhD*

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<tr>
<td>7:00am</td>
<td>Normal Adult EEG</td>
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<td><em>Jay S. Pathmanathan, MD, PhD</em></td>
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<tr>
<td>7:30am</td>
<td>Normal Neonatal and Pediatric EEG</td>
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<td><em>Nicholas Abend, MD, MSCE, FACNS</em></td>
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<tr>
<td>8:00am</td>
<td>Normal EEG Variants</td>
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<td><em>Ioannis Karakis, MD, PhD, MSc</em></td>
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<td>8:30am</td>
<td>Artifacts</td>
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<td><em>Jeffrey Britton, MD, FACNS</em></td>
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<tr>
<td>9:00am</td>
<td>Non Epileptiform Abnormalities</td>
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<td><em>M. Brandon Westover, MD, PhD, FACNS</em></td>
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<tr>
<td>9:30am</td>
<td>Epileptiform Abnormalities</td>
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<td><em>Andreas Alexopoulos, MD, MPH</em></td>
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AWARD RECIPIENTS & LECTURES

2019 Pierre Gloor Award Presentation & Lecture

Peter W. Kaplan, MD, FRCP, FACNS

The Gloor Award is presented annually for outstanding current contributions to clinical neurophysiology research. Dr. Peter Kaplan will be recognized and will deliver the 2019 Gloor Address on Friday, February 8, 2019.

Dr. Kaplan grew up in Geneva, Switzerland. Went to the University of London, England for Medicine Endocrinology Research. He then served his Resident Étranger at the College of Medicine, Paris, France before beginning his residency at Duke University and serving his Fellowship Career at Johns Hopkins University School of Medicine, Baltimore. Dr. Kaplan is Professor of Neurology, Johns Hopkins University School of Medicine.

2019 Herbert H. Jasper Award Presentation & Lecture

Jean Gotman, PhD, 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. Gotman will be recognized during a general session on Saturday, February 9, 2019.

Dr. Jean Gotman received an engineering degree from the University of Paris and a PhD in Neuroscience from McGill University in Montreal. He pioneered the automatic detection of spikes and seizures during long-term EEG monitoring and made his methods widely available through Stellate, a company he created in 1986, which developed and sold all over the world equipment and software for EEG, epilepsy monitoring and polysomnography. He published over 300 peer-reviewed papers and 40 chapters. His research interests include analysis of the EEG, mechanisms of epileptogenesis, seizure generation and spread in humans, High Frequency Oscillations and functional imaging in the diagnosis and study of epilepsy. He received the Research Recognition Award from the American Epilepsy Society, the Pierre Gloor Award of the American Clinical Neurophysiology Society, the Penfield Award of the Canadian League against Epilepsy, was named Ambassador for Epilepsy by the International League against Epilepsy, and gave the Lennox-Lombroso lecture at the American Epilepsy Society. Dr. Gotman is a Professor in the Department of Neurology and Neurosurgery at McGill University.

2019 Robert S. Schwab Award

Michael Aminoff, MD

The Schwab Award is presented annually to an individual who has made significant contributions in the area of clinical neurophysiology. Dr. Aminoff will be recognized and will deliver the 2019 Schwab Lecture on Saturday, February 9, 2019.

Dr. Michael Aminoff is a clinical neurologist and neurophysiologist, clinical investigator, university professor, author, and editor with a special interest in medical history. He was born and educated in England, graduating from University College London in 1962 and as a physician from University College Hospital Medical School in 1965. He subsequently trained in neurology and neurophysiology at The National Hospital (Queen Square) in London, and in 1974 moved to UCSF where he has been Professor of Neurology since 1982. He was Director of the Clinical Neurophysiology Laboratories at UCSF until 2004, when he became Executive Vice Chair of the department of neurology. He also directs the UCSF Parkinson’s Disease Clinic and Research Center, a National Parkinson Foundation Center of Excellence.
Friday, February 8, 2019

7:00-10:00am

Women's Leadership Symposium
Course Director: Gloria M. Galloway, MD, MBA, FACNS
*Women's Leadership Symposium is included in the overall meeting registration rate and does not have a separate registration fee

7:00am  Defining the Problem of Gender Disparity in Medicine: What Does the Data Reveal
Gloria M. Galloway, MD, MBA, FACNS

7:30am  Recruitment and Retention of Female Faculty - What Are The Challenges and What Opportunities are Available?
Linda Boxer

8:00am  Why Does Gender Research Matter?
Sarah E. Schmitt, MD, FACNS

8:30am  Helping Women Find a Voice—Recommendations For Moving Forward
TBD

9:00am Panel discussion

10:00-10:30am - Coffee Break

10:30am-12:15pm - Opening General Session

10:30am  Welcome
Tobias Loddenkemper, MD, FACNS

10:40am  President's Lecture
Peter W. Kaplan, MD, FRCP, FACNS

11:30am  Gloor Award Presentation and Lecture
Sarah E. Schmitt, MD, FACNS

10:30am  Opening General Session

1:30-3:30pm - Concurrent Sessions

The Business Side of Clinical Neurophysiology

1:30pm  I've Just Been Asked to Serve as Medical Director—Now What Do I Do?
Suzette M. LaRoche, MD, FACNS

1:35pm  Building a comprehensive EEG Monitoring Program
Dave Burdette, MD, FACNS

1:40pm  Quality Improvement, Accreditation and Board Certification:
Matt W. Luedke, MD

2:00pm  Work Life Balance: Preventing Provider and Technologist Burnout
Cormac O'Donovan, MD, FACNS

2:20pm  Methods for HD EEG ESI and Lesion-Constrained ESI
Jurriaan Peters, MD, PhD

2:45pm  Identification and Significance of Spike Ripple Events in Scalp HD EEG
Catherine Chu, MD

3:15pm  Beyond the Spike: HD EEG to Map Epileptic Networks and Eloquent Cortex
Leonardo Bonilha, MD, PhD

Current and Future Clinical Practice of High Density EEG and Electrical Source Imaging in Epilepsy

1:30pm  Opportunities for Presurgical Localization Using HD-EEG Source Localization
Robert Knowlton, MD

2:00pm  Methods for HD EEG ESI and Lesion-Constrained ESI
Jurriaan Peters, MD, PhD

2:30pm  Identification and Significance of Spike Ripple Events in Scalp HD EEG
Catherine Chu, MD

3:00pm  Beyond the Spike: HD EEG to Map Epileptic Networks and Eloquent Cortex
Leonardo Bonilha, MD, PhD

Multimodality Monitoring in the EMU

1:30pm — Introduction

1:35pm  Peri-ictal Respiratory Dysfunction — Insights From The EMU
Nuria Lacuey, MD

1:55pm  Respiratory Function Monitoring — Insights From the Lab
George Richerson, MD

2:15pm  Electrocardiographic Monitoring
Maromi Nei, MD

2:35pm  Non-Invasive Blood Pressure Monitoring
Sam Lhatoo, MD

2:55pm  Mapping of Cardiorespiratory Function with Brain Stimulation
William Nobis, MD

Critical Care ECoG: How to Integrate It into Your Practice

1:30pm  Critical Care ECoG: History, Rationale and Evidence
Emily Gilmore, MD

2:00pm  How to Start an ICU ECoG Monitoring Program
Ramini Balu, MD, PhD

2:30pm  ECoG Untangled: Integrating ECoG with Other Multimodality Monitoring
Brandon Foreman, MD, FACNS

3:00pm  ICU Clinical Case Scenarios: How ECoG Adds to Patient Care
Eric Rosenthal, MD
Beyond QEEG: Artificial Intelligence in Clinical Neurophysiology

1:30pm - Introduction
   M. Brandon Westover, MD, PhD, FACNS

1:35pm Standards and Validation of AI Algorithms
   Jon Halford, MD, FACNS

1:50pm Annotating Large Datasets for AI Applications
   Jing Jin, PhD

2:05pm AI for Sedation Monitoring: Monitoring ICU Sedation and Delirium Using Deep Neural Networks
   Haoqi Sun, PhD

2:20pm AI for Predicting Outcome of Coma Following Cardiac Arrest
   Michel van Putten, MD, PhD

2:35pm Sleep Changes Systematically Over the Course of a Lifetime
   M. Brandon Westover, MD, PhD, FACNS

2:50pm AI for Analysis of Sleep
   Jimeng Sun, MD

3:05pm “Routine EEGs” are a Central Part of the Medical Evaluation for Patients with Neurological Disorders
   Siddharth Biswal, MD

3:15pm Panel Discussion

Coffee Break - Visit Exhibitors and Poster Viewing

4:00-5:30pm - Concurrent Sessions

Brachial Plexopathies - Improving Your Diagnostic Skills

4:00pm What a Close Relationship with the Surgeon Teaches You
   Carlos Otto Heise, MD, PhD

4:30pm ENMG Techniques for Evaluation of Brachial Plexopathy
   Devon I. Rubin, MD, FACNS

5:00pm Ultrasound Imaging of Brachial Plexus
   Ana Lucila Moreira, MD

Brain-Computer Interface: The Dawn of a New Era for Patients with Neurological and Motor Deficits

4:00pm Introduction- BCI: A Revolution in Clinical Neurophysiology
   Meriem Bensalem-Owen, MD, FACNS

4:30pm DARPA and Innovations in Neural Interface Technology
   Justin Sanchez, PhD

5:00pm The Quest for Memory Restoration through BCI
   TBD

Clinical Neurophysiology Resident and Fellow Special Interest Group

4:00pm SIG Introduction
   Andrea Hakimi, DO, FACNS, FAES

4:05pm Case Presentations

5:30-5:45pm - Walking Break

5:45-7:00pm - Neurophys Bowl

7:00-8:30pm - Welcome Reception
Join us at the official Welcome Reception of the 2019 Annual Meeting. You will have the chance to connect with colleagues, meet other attendees, view posters, and visit exhibit booths on the opening day of Congress sessions.

Saturday, February 9, 2019

8:00-9:30am - Concurrent Sessions

Decision Making with Neurostimulation

8:00 am Future of Neurostimulation
   Dawn Eliashiv, MD, FACNS

8:30am Responsive Neurostimulation What We Learn From Chronic Recordings
   Lawrence J. Hirsch, MD, FACNS

8:50am VNS Novel Strategies
   Steve Karczki, MD

9:10am DBS Approval at Last
   Robert E. Gross, MD, PhD

Of Dreams & Spells - The Neurophysiological Tools of REM Sleep & Epilepsy

8:00am Physiology & Polysomnography of REM Sleep
   Milena Pavlova, MD

8:30am EEG & Quantitative EEG of REM Sleep in Epilepsy
   Marcus C. Ng, MD, FRCP, CSCN(EEG)

9:00am Neurophysiology of REM Sleep & SUDEP in Epilepsy
   Gordon Buchanan, MD, PhD

Mapping Human Language Networks with Intracranial EEG Spectra

8:00am Introduction
   Ravindra Arya, MD, DM

8:05am Spatiotemporal Mapping of Language Networks at the Bedside with Intracranial EEG in Adults
   Nathan E. Crone, MD

8:25am 3D and 4D Mapping of Speech and Language in Children with Epilepsy
   Eishi Asano, MD, PhD

8:45am Development of Information Sharing in Human Language Neocortex
   Ravindra Arya, MD

9:05am Multimodal Prediction of Post-Operative Language Outcomes
   Abbas Babajani-Feremi, PhD

ANNUAL MEETING PROGRAM
ANNUAL MEETING PROGRAM

Intraoperative Neurophysiologic Monitoring in special situations.
American-Mexican Clinical Neurophysiology Symposium
8:00am IOM in Neuromuscular Diseases
Jaime López, MD
8:30am IOM in Neonates
Erika Rivera, MD
9:00am IOM in Elderly
Daniel San-Juan, MD

Mastering Semi-quantitative Motor Unit Potential Analysis Skills in 90 Minutes!
8:00am Overview of Skills of Semi-Quantitation
Devon I. Rubin, MD, FACNS
8:30am Assessment of MUP Recruitment
Devon I. Rubin, MD, FACNS
9:00am Recognizing MUP Morphologic Changes
Devon I. Rubin, MD, FACNS

9:30-10:00am - Coffee Break - Visit Exhibits and Poster Viewing

10:00-11:00am - General Session
10:00am Young Investigator Travel Award Presentation
10:15am Jasper Award Presentation and Lecture: Developing Tools for Neurophysiology
Jean Gotman, PhD, FACNS

11:00-11:15am - Walking Break

11:15am-12:45pm - Concurrent Sessions
Can Clinical Neurophysiology Improve the Recovery from Sports Induced Injuries?
11:15am Neurophysiological Assessment Tools to Enhance Recovery After Concussion – Between Theory and Evidence
Nicholas Jerome Milano, MD
11:45am New Ways to Approach Recovery After Concussion – Focus On the Vestibular and Autonomic Nervous System
Claus Reinsberger, MD, PhD, FACNS
12:15pm The Role of Sleep in Recovery From Neurological Injuries and Its Relevance to Sports Medicine
TBD

The Diagnostic Challenge of Small Fibre Neuropathy
11:15am Clinical Features of Acquired Small Fiber Neuropathy
Rayaz Malik, MB, ChB, PhD
11:45am Neurophysiological Evaluation of Small Fiber Neuropathy
Jordi Serra, PhD, MS
12:15pm Approach to the Evaluation of Small Fiber Peripheral Neuropathy
Brent Goodman, MD

Wide-band EEG for Epilepsy: Which is Already Established Tool or Still Research Topic?
11:15am HFO is the Established Tool or Still Research Topic?
Jean Gotman, PhD
11:35am DC Shifts are the Established Tool or Still Research Topic?
Akio IKEDA, MD, PhD, FACNS
11:55am Current Situation for MEG Application
Stefan Rampp, MD
12:15pm Scalp-Recorded, Wide-Band EEG
Pradeep Modur, MD, MS

A High-Level Scientific Symposium.
11:15am Setting the Stage. The Potential of the MEP and Its Challenges.
Jonathan A. Norton, PhD
11:30am Activation of the Motor Pathway; How, What and Why?
John Rothwell, PhD
12:00pm Clinical Application of MEps & Where Should TMS fit in Clinical Neurophysiology?
Mark Hallett, MD, FACNS
12:30pm Alarmed by Alarm Criteria? Developing a Scientifically Based Approach to MEPs in the Clinical Setting.
Jonathan A. Norton, PhD

12:45-2:00pm - Lunch - Visit Exhibits and Poster Viewing

1:30-2:00pm - Annual Business Meeting

2:00-3:30pm - Concurrent Sessions
Joint ACNS/IFCN Latin American Chapter: Beyond Traditional Monitoring During Spine Surgery
2:00pm MEps for Lumbar Spine Surgery: Advantages and Pitfalls
Armando Tello, MD, PhD
2:30pm MEps for Tumors of the Lower Spine and Conus
Jorge Gutiérrez, MD, MS
3:00pm MEps for Nerve Root Monitoring
Parastou Shilian, DO, FACNS

Are MEG Practitioners Fulfilling Your Expectations?
2:00pm Thus Spoke the NAEC Centers’ Directors…”
Anto Bagić, MD, PhD, FACNS
2:30pm “Evidence-Supported MEG Indications in Epilepsy”
Andrew Zillgitt, DO
3:00pm “This is What You Should Expect from a MEG Report”
Richard C. Burgess, MD, PhD, FACNS
ANNUAL MEETING PROGRAM

Electrophysiologic Assessment of Weakness in the ICU
2:00pm  Electrophysiological Testing Approach for Respiratory Failure in the ICU  
         Ruple S. Laughlin, MD
2:30pm  Critical Illness Myopathy: Clinical and Electrophysiological Findings  
         Brent Goodman, MD
3:00pm  Critical Illness Neuropathy: Clinical and Electrophysiological Features  
         Christopher S. Nance, MD

Setting Up for Success in Long-Term Monitoring
2:00pm  The Value of ABRET Credentials & LAB-LTM accreditation  
         Janice Walbert, MS, CAE, FACNS
2:30pm  Expanding the Role of the Neurodiagnostic Technologist in the Long-  
         Term Monitoring Unit  
         Susan Agostini, R. EEG/EP T., CLTM, FASET
3:00pm  New Initiatives in Long-Term Monitoring  
         Erik Padilla, R.EEG/EPT., CNIM, CLTM, MBA

3:30-3:45pm - Walking Break

3:45-5:15pm - Concurrent Sessions
Brainstem and Supratentorial Surgery Monitoring, New Developments and Current Understanding
3:45pm  Brainstem and Spinal Cord Reflexes, Neurophysiology and IOM Perspective.  
         Vedran Deletis, MD, PhD
4:45pm  Supratentorial Brain Tumor Surgery: IOM Update- What is New?  
         Andrea Szelenyi MD, PhD

Advanced Autonomic Testing
3:45pm  Autonomic Testing  
         Thomas Chelimsky, MD
4:15pm  Central Dysautonomia, MD  
         Max J. Hilz, MD
4:45pm  Quantitative Evaluations of Autonomic Failure, Overactivity and Severity Small Fiber Neuropathy  
         Peter Novak, MD, PhD

SEEG Planning Based on Presurgical Evidence - Illustrative Case Discussions, Interactive.
3:45pm  “Guiding Principles in the Use of SEEG”  
         Jun T. Park, MD, FAES
4:05pm  “ Illustrative Cases-Pediatric”  
         Elia M. Pestana-Knight, MD, FACNS
4:25pm  “Illustrative Cases-Adult”  
         Guadalupe Fernandez Baca-Vaca, MD
4:45pm  “Illustrative Cases-Adult/Pediatric”  
         Asim Shahid, MD

Advances in Continuous EEG in Targeted Temperature Management
3:45pm  Machine Learning of Continuous EEG Data  
         Michel Van Putten, MD, PhD
4:15pm  ERP in Anoxic Brain Injury  
         Edilberto Amorim, MD
4:45pm  cEEG, MRI, and Other Biomarkers of Anoxic Brain Injury After TTM  
         Jong Woo Lee, MD, PhD, FACNS

5:15-5:30pm - Walking Break

5:30-7:00pm - General Session
5:30pm  Research Highlights Program  
         The Research Highlights Program is designed to present the best of the best in research in various Clinical Neurophysiology fields.
6:15pm  Schwab Award Presentation and Lecture  
         Michael J. Aminoff, MD

Sunday, February 10, 2019
8:00-9:30am - Concurrent Sessions
Functional Brain Mapping Using Invasive Electrodes
8:00am  Introduction  
         Elson Lee L. So, MD, FACNS
8:10am  FBM with Subdural Grids  
         Elson Lee L. So, MD, FACNS
8:30am  Localization and FBM with SEEG  
         Patrick Chauvel, MD
8:50am  Advanced FBM  
         Antony L. Ritaccio, MD
9:10am  ECOG and FBM  
         Jessica W. Templer, MD

Advances in the Neurophysiologic Assessment of Neuromuscular Junction Disorders
8:00am  Repetitive Nerve Stimulation: Advances, Techniques, and Limitations  
         Devon Rubin, MD, FACNS
8:30am  Update in Single Fiber EMG and Concentric Needle EMG in the Diagnosis of Neuromuscular Junction Disorders  
         Carolina Barnett-Tapia, MD, PhD
9:00am  Advancing Neuropsychiologic Techniques in the Evaluation of Neuromuscular Junction Disorders  
         Hans D. Katzberg, MD, MSc, FRCP
**ANNUAL MEETING PROGRAM**

**Night Moves: Common and Uncommon Parasomnias Clinical Neurophysiologists Need to Know**

8:00am  Value of Video-Polysomnography, Stereo-EEG and Functional Connectivity to Understand NREM Arousal Disorders in Adults  
Madeleine Grigg-Damuberger, MD

8:30am  Uncommon Parasomnias in Infants and Children Sometimes Misdiagnosed as Sleep-Related Epilepsy  
Kathy M. Wolfe, MD

9:00am  Treatable Parasomnias and Sleep-Related Movement Disorders Which Herald Neuropathology in Older Adults  
Nancy Foldvary-Schaefer, DO

**10:00-11:30am - Concurrent Sessions**

**Peripheral Nerve Trauma: From the ER to the OR (Joint ACNS/ Colombian Association of Electrodiagnostic Medicine Symposium)**

10:00am  Pathophysiology of Peripheral Nerve Injury: Sequence of Events and its Electrodiagnostic Correlation  
Jorge Gutierrez, MD, MSc

10:25am  Rehabilitation and Pain Management of Peripheral Nerve Injuries  
Carlos Rangel MD, MBA

10:50am  Surgical Strategy and Role of IONM in the Treatment of Peripheral Nerve Trauma  
Jaime Lopez, MD, FACNS

11:15am  Q&A

**Epileptic Spasms and Hypsarrhythmia: Lessons from Modern Techniques**

10:00am  fMRI and MEG Contribution to the Pathophysiology, Diagnosis and Management of Epileptic Spasms.  
Ana Carolina Coan, MD

10:20am  Slow and Fast Frequency Oscillations in Patients with Epileptic Spasms.  
Eishi Asano, MD, PhD, MS (CRDSA)

10:40am  Surgery Versus no Surgery in Epileptic Spasms: Does the EEG Matters?  
Ahsan Moosa Naduvil, MD

11:00am  Case Discussion  
Elia M Pestana Knight, MD, FACNS

**Noninvasive Brain Stimulation**

10:00am  Noninvasive Brain Stimulation: An Overview  
Charles Epstein, MD, FACNS

10:20am  Focused Ultrasound Stimulation  
Seung-Schik Yoo, PhD, MBA

10:40am  Transcranial Electrical Stimulation  
Giulio Ruffini, PhD

11:00am  Improving Noninvasive Brain Stimulation by Preclinical Research  
Alexander Rotenberg, MD, PhD
**ADVANCE REGISTRATION FORM**

**AMERICAN CLINICAL NEUROPHYSIOLOGY SOCIETY**

**2019 ANNUAL MEETING & COURSES**

February 6-10, 2019 | Caesar’s Palace | Las Vegas, Nevada

(Please type or print clearly.)

ACNS ID# (optional) ____________________________________

First (Given) Name _____________________________________  Middle Initial ________  Last (Family) Name ______________________________________________________

Designation (MD, PhD, DO, etc.) ________________ Institution __________________________________________________________________________________________

Mailing Address ___________________________________________________________________________________________________________________________
______________________________________________________________________________________________________________________________________

City ________________________________________________________________  State/Province _________________________________________________________

Zip/Postal Code _______________________________________  Country  _______________________________________________________________________________

Phone _______________________________ Fax ____________________________  Email ______________________________________________________________

**ANNUAL COURSES – Wednesday, February 6 – Friday, February 8, 2019**

Please note that the scheduled times of some Courses listed below may conflict. Please refer to the Preliminary Program for complete Course scheduling information to make your selections.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Course Description</th>
<th>ACNS Members</th>
<th>Non-Members</th>
<th>ACNS Junior &amp; Technologist Members</th>
<th>Non-Member Residents, Fellows, Technologists</th>
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<tr>
<td>9:00am-5:00pm</td>
<td>601: Epilepsy Surgery/Invasive EEG Course Part I</td>
<td>$175</td>
<td>$230</td>
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<td>9:00am-5:00pm</td>
<td>602: Intensive Care Unit EEG (Part I)</td>
<td>$175</td>
<td>$230</td>
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<td>9:00am-5:00pm</td>
<td>603: Neurophysiologic Intraoperative Monitoring (NIOM) Part I</td>
<td>$175</td>
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<td><strong>Thursday, February 7</strong></td>
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<td>7:00-8:30am</td>
<td>701: Evoked Potentials</td>
<td>$75</td>
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<td>7:00-8:30am</td>
<td>702: Central EEG Technical</td>
<td>$75</td>
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<td>7:00-8:30am</td>
<td>703: Epilepsy Surgery/Invasive EEG Course Part II</td>
<td>$85</td>
<td>$100</td>
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<td>9:00am-12:00pm</td>
<td>711: Intensive Care Unit EEG (Part II)</td>
<td>$85</td>
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<td>9:00am-3:00pm</td>
<td>713: EMG/Peripheral Nervous System</td>
<td>$175</td>
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<td>9:00am-5:00pm</td>
<td>714: Neurophysiologic Intraoperative Monitoring (NIOM) Part II</td>
<td>$175</td>
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<td>11:30am-2:00pm</td>
<td>721: 5th Annual CNP Program Director’s Symposium</td>
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<td>1:30-3:00pm</td>
<td>731: Autonomic Neuropathology</td>
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<td>3:00-4:30pm</td>
<td>741: Video-EEG (Part I)</td>
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<td>3:00-4:30pm</td>
<td>742: EMG Demo</td>
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<td>7:00-10:00am</td>
<td>801: Basic EEG</td>
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<td>7:00-10:00am</td>
<td>802: Neuromodulation/Stimulation</td>
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<td>7:00-10:00am</td>
<td>804: Neonatal EEG</td>
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<td>8:30-10:00am</td>
<td>805: Video EEG (Part II)</td>
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**Annual Courses Total (A):**

**ANNUAL MEETING/SCIENTIFIC PROGRAM - Friday, February 8 through Sunday, February 10, 2019**

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<th>Date</th>
<th>Time</th>
<th>Program Description</th>
<th>ACNS Members</th>
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<td><strong>Friday, February 8</strong></td>
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<td>Annual Meeting Scientific Program</td>
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**Annual Meeting Total (B):**
Please check below the sessions you plan to attend which are included in the Annual Meeting registration fee. Pick one from each time segment. This information will be used to assign sessions to available rooms based on anticipated attendance. You are not obligated to attend the sessions you check.

**Friday, February 8**

7:00-10:00am
- 803: Women's Leadership Symposium

1:30-3:30pm
- 812: Beyond qEEG: Artificial Intelligence in Clinical Neurophysiology
- 813: Critical Care ECoG: How to Integrate It Into Your Practice
- 814: Current and Future Clinical Practice of High Density EEG and Electrical Source
- 815: The Business Side of Clinical Neurophysiology

4:00-5:30pm
- 821: Brachial Plexopathies – Improving Your Diagnostic Skills
- 822: Brain–Computer Interface: The Dawn of a New Era for Patients with Neurological and Motor Deficits
- 823: Clinical Neurophysiology Resident and Fellow Special Interest Groups

**Saturday, February 9**

8:00-9:30am
- 902: Mapping Human Language Networks with Intracranial EEG Spectra
- 903: Mastering Semi-Quantitative Motor Unit Potential Analysis Skills in 90 Minutes!
- 904: Of Dreams and Spells – The Neurophysiological Tools of REM Sleep and Epilepsy
- 905: Decision Making with Neurostimulation

11:15am-12:45pm
- 911: The Diagnostic Challenge of Small Fibre Neuropathy
- 912: Functional Brain Mapping Using Invasive Electrodes
- 913: Joint ACNS/IFCN Latin American Chapter: Beyond Traditional Monitoring During Spine Surgery
- 914: Multimodality Monitoring in the EMU

2:00-3:30pm
- 921: Are MEG Practitioners Fulfilling Your Expectations?
- 922: Can Clinical Neurophysiology Improve the Recovery from Sports Induced Injuries?
- 923: Electrophysiologic Assessment of Weakness in the ICU
- 924: Setting Up for Success in Long-Term Monitoring
- 925: Transcranial Magnetic Stimulation: German Society for Neurology

3:45-5:15pm
- 931: Advanced Autonomic Testing
- 932: Advances in Continuous EEG in Targeted Temperature Management
- 933: Brainstem and Supratentorial Surgery Monitoring, New Developments and Current Understanding
- 934: SEEG Planning Based on Pre-Surgical Evidence: Illustrative Case Discussions, Interactive

**Sunday, February 10**

8:00-9:30am
- 1001: Advances in the Neurophysiologic Assessment of Neuromuscular Junction Disorders
- 1002: Night Moves: Common and Uncommon Parasomnias Clinical Neurophysiologists Need to Know
- 1003: Wide–band EEG for Epilepsy: Which is Already Established Tool or Still Research Topic?

10:00-11:30am
- 1011: Noninvasive Brain Stimulation
- 1012: Peripheral Nerve Trauma: From ER to the OR (Joint ACNS/Colombian Association of Electrodiagnostic Medicine Symposium)
- 1013: Epileptic Spasms and Hypsarrhythmia: Lessons from Modern Techniques

**Social & Networking Events (no additional charge)**

- I will attend the Welcome Reception on Friday, February 8 from 7:00-8:30pm.
- I would like to participate in the Neurophys Bowl on Friday, February 8. Please contact me with details!
- I am interested in taking part in the ACNS Mentorship Program. Please contact me for more information.
  - I would like to be a mentor.
  - I would like to be a mentee.

**I am interested in donating the ACNS Strategic Fund.**

<table>
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<td>International Fund</td>
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**Total Donation (C):__________**
ADVANCE REGISTRATION FORM

Payment Information
Courses Total (A): __________ + Annual Meeting Total (B): __________ + Donation (C): __________ = GRAND TOTAL: __________

☐ Company Check – Make check payable to American Clinical Neurophysiology Society (in US Dollars, drawn on a US bank)
☐ Credit Card (check one): ☐ VISA ☐ MasterCard ☐ Discover
☐ Please invoice me.

Credit Card Number  ______________________________________________________________________________________ Expiration Date  _________________________

Card Holder Name  __________________________________________________________________________________________________________________________

Authorized Signature  _____________________________________________________________________________________ Date  _______________________________

*Registrations will not be processed without payment and signature.*

Signature of Agreement. Please retain a copy for your records. You are hereby registering to attend the 2019 ACNS Annual Meeting & Courses, February 6-10, 2019, at Caesar’s Palace in Las Vegas, Nevada. I understand that the event registration rate listed above will be charged to the credit card I have listed. I understand further that all registration charges must be paid in full upon completion of this form. If registration is not paid for in full at time of event, I may be asked to provide payment upon arrival at the meeting.

Cancellation Policy. Refund requests must be submitted in writing to ACNS prior to January 20, 2019. A $20 processing fee will be charged for all refunds. We regret refunds will not be guaranteed for requests postmarked or received after January 20, 2019.

Waiver. Submission of this registration form and payment of associated fee serves as agreement by the delegate to release the American Clinical Neurophysiology Society, Caesar’s Palace, their respective agents, servants, employees, representatives, successors, and assigns, from any and against all claims, demands, causes of action, damages, costs, and expenses, including attorneys’ fees, for injury to person or damage to property arising out of attendance at the ACNS Annual Meeting & Courses. In addition, the delegate hereby grants permission to use his/her likeness in a photograph or other digital reproduction in any and all of its publications, including website entries, without payment or any other consideration, agreeing that these materials will become the property of ACNS which has the right to edit, alter, copy, exhibit, publish or distribute this photo for purposes of publicizing its programs or for any other lawful purpose. Additionally, the delegate waives any right to royalties or other compensation arising or related to the use of the photograph.

Policies. I have been made aware of ACNS’ data privacy and conduct policies and understand that my signature means that I will adhere to the said terms and policies.

☐ I wish to be included on the delegate list provided to supporters.
☐ I wish to be included on any published delegate list including programs, mobile apps, etc.

SPECIAL NEEDS
☐ I have a religious or allergy-related dietary restriction. Please explain: ____________________________

☐ I have a need for physical assistance. Please explain: __________________________________________

How did you hear about this meeting?
☐ I’m an ACNS Member  ☐ ACNS Website
☐ ACNS Emails  ☐ ACNS Postcard
☐ Colleague/Word of Mouth - Please specify: __________________________________________________

☐ Through another organization/meeting - Please specify: _______________________________________

☐ Other - Please specify: ____________________________________________________________________

Please return this registration form with required payment to
American Clinical Neurophysiology Society, Attn: Meetings Department
555 E. Wells Street, Suite 1100 • Milwaukee, WI 53202 • Fax: (414) 276-3349 • E-mail: info@acns.org
Preliminary Program

www.acns.org

WELCOME
2019 Annual Meeting & Courses
FEBRUARY 6-10, 2019 + CAESAR’S PALACE + LAS VEGAS, NEVADA

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