31st International Congress of Clinical Neurophysiology of the International Federation of Clinical Neurophysiology (IFCN)

Washington, DC • May 1-6, 2018

Hosted by: American Clinical Neurophysiology Society (ACNS) and Canadian Society of Clinical Neurophysiologists (CSCN)



Final Program







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Welcome

Dear Colleagues,

Greetings and welcome to the 31st International Congress of Clinical Neurophysiology (ICCN 2018). We are so pleased that you have joined us for what will be a truly engaging week of clinical neurophysiology education and connection among friends and colleagues!

Kicking off the week's programming, ACNS is pleased to offer as part of the ICCN program its signature courses, as well as courses and workshops that have been planned by IFCN Member Societies and other prominent societies in clinical neurophysiology from the US and around the world. Pre-Congress courses and workshops are designed to provide a solid review of the fundamentals and the latest scientific advances in both central and peripheral clinical neurophysiology.

As the Congress scientific program commences on Thursday, the breadth of topics covered means there's something for everyone. The Congress planning committees took great care to ensure that the latest advances, techniques and technologies were addressed by the leaders in these fields, meaning the toughest decision will be which sessions to choose!

Special award lectures will feature many aspects of clinical neurophysiology, as ACNS and IFCN honor six well-known clinical neurophysiologists for their work in the field and their lectures form the foundation of the Congress general sessions, making them "can't miss" programs.

The IFCN Special Interest Groups (SIGs) will convene on Friday, May 4 over lunch (see page 40).

ACNS is particularly excited to share with you yet another of its traditions on Saturday, May 5. The "Neurophys Bowl" features two rounds of trivia that pit colleagues against one another in ACNS's classic clash of Clinical Neurophysiology knowledge. Each of the four IFCN chapters will send a team to the stage, making this year's Neurophys Bowl the true "world championships" of CNP! We thank returning hosts Drs. Mark Ross & Larry Hirsch for what promises to be a highly entertaining and educational evening.

Outside of the educational and scientific program, ICCN 2018 also includes multiple opportunities to connect with other delegates, exhibitors and sponsors. The ICCN 2018 Welcome Reception follows the first day of the Congress program on Thursday, May 3 in the Exhibit Hall. On Friday, May 4, celebrate ICCN 2018 with a private social event at the Smithsonian National Air & Space Museum!

Established in 1946, the National Air and Space Museum houses thousands of objects, including Charles Lindbergh's Spirit of St. Louis, the Apollo 11 Command Module Columbia, and a lunar rock you can touch.

Finally, we wish to thank the ICCN 2018 exhibitors and supporters. The educational and scientific program will be complemented by an engaging exhibition and interesting Product Theaters and Learning Labs (see page 60). We encourage you to attend these sessions and visit the exhibition.

ACNS and CSCN are honored to co-host ICCN 2018 and hope that you enjoy the meeting and all that Washington, DC has to offer! Welcome!



au ar c

Marc R. Nuwer, MD, PhD, FACNS Convener



Mark Hallett, MD, FACNS IFCN President

Co-Hosting Societies

American Clinical Neurophysiology Society (ACNS) Canadian Society of Clinical Neurophysiologists (CSCN)

Partner Societies - will hold their meeting in conjunction with ICCN

American Clinical Magnetoencephalography Society (ACMEGS)

Supporting Societies and Organizations – have supported ICCN through organization of a satellite course and representation on the Scientific Advisory Board and Program Planning Committees

American Society for Neurophysiological Monitoring (ASNM) BrainStem Society Critical Care EEG Monitoring Research Consortium (CCEMRC) International League Against Epilepsy (ILAE) International Society of Intraoperative Neurophysiology (ISIN) International Society of Peripheral Neurophysiological Imaging (ISPNI)

Contributing Societies – have contributed to ICCN via representation on the Scientific Advisory Board and Program Planning Committees

American Autonomic Society (AAS) American Epilepsy Society (AES) ASET – The Neurodiagnostic Society Organisation of Societies for Electrophysiological Technology (OSET)

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AMA Delegate Marc R. Nuwer, MD, PhD, FACNS UCLA

Journal Editor Aatif M. Husain, MD, FACNS Duke University Medical Center

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Abstract Supplement

All abstracts accepted for poster presentation at ICCN 2018 have been published online at www.iccn2018.acns.org/abstracts. Abstracts will also be published as an online supplement of *Clinical Neurophysiology.*

Admission to Sessions & Social Events

Official name badges will be required for admission to all sessions. All attendees receive a name badge with their registration materials. Name badges should be worn at all time inside the Marriott Wardman Park, as badges will be used to control access to sessions and activities. Attendees are cautioned against wearing their name badges while away from the venue, as badges draw unwanted attention to your status as visitors to the city.

Tickets will be required for admission to the Gala Reception. The Gala Reception will take place at Smithsonian National Air & Space Museum, at an additional \$85 fee per ticket for registered delegates. The ticket is included in guest registrations. If you pre-registered, tickets will be distributed with your registration materials and name badge. A limited number of tickets may be available at the Registration Desk before Friday, May 4 at 4:00 pm.

Attire

Business casual (polo or dress shirts, sports coats) is appropriate for meeting sessions and for all sessions; ties are not required.

Cell Phone Protocol

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

Emergency & First Aid

The Marriott Wardman Park is fully prepared to handle emergency requests and first aid. Contact an ICCN staff person for support. Remember to note all emergency exits within the venue.

Evaluations

Please take time to complete the online evaluation forms for each session you attend. Your input and comments are essential in planning future meetings.

Wireless Internet

Wireless Internet access is available throughout the Marriott Wardman Park:

Network: Marriott_CONFERENCE Password: ICCN2018

Language

English is the official language of ICCN 2018.

Lost & Found

Please feel free to stop by the Registration Desk if you have lost or found an item during the course of the meeting.

ACNS Meeting Safety & Responsibility Policy

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) so that we can take the appropriate action.

General Meeting Information

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.

Announcement Board

A self-service announcement board (non-electronic) will be available in the Registration Area for attendees to post notes or leave messages for other attendees. ACNS staff will also post meeting updates and announcements on the board. Please remember to check for any messages that may be left for you.

Photography Policy

ICCN staff will be taking photographs and video throughout ICCN 2018. We will use these photos in publications and to produce related literature and products for public release. Individuals photographed will not receive compensation for the use and release of these photos and will be deemed to have consented to the use and release of photos in which they appear. If you are opposed to being photographed, please immediately notify the photographer or an ICCN staff member if your picture is taken. Thank you for your cooperation.

ACNS does not allow personal video recording of the presentations of any kind. ACNS holds the right to confiscate any and all recording taken of any of the presentations.

Insurance Liabilities & Disclaimer

Delegates and guests will be fully responsible for any claims, liabilities, losses, damages, or expenses, including attorney's fees, relating to or arising out of any loss of injury to, or damage to any person or property of the delegate or guest or any other property where such injury, loss or damage is incident to, arises out of or is in any way connected with the delegate or guest's participation in ICCN 2018, including participation in tours and social events. Delegates and guests shall protect, indemnify, hold harmless, and defend ACNS, IFCN and/or the Marriott Wardman Park, their officers, directors, agents or servants, and employees from and against any and all such claims, liabilities, losses, damages, and expenses, including attorneys' fees, provided that the foregoing shall not apply to injury, loss, or damage caused by or resulting from the negligence or willful misconduct of ACNS, IFCN and/or the Marriott Wardman Park, their officers, directors, agents, or employees.

Registration Desk

Location: Convention Registration Desk (Lobby Level)

Tuesday, May 1	7:00am - 5:00pm
Wednesday, May 2	7:00am - 5:00pm
Thursday, May 3	6:30am - 7:00pm
Friday, May 4	6:30am - 6:00pm
Saturday, May 5	8:00am - 7:00pm
Sunday, May 6	8:00am - 10:00am

Download the ICCN 2018 App!

Create a personalized schedule, search exhibitors, get real-time push notifications, and MORE!

GET THE APP

- Download the 'CrowdCompass AttendeeHub' app to your device (available in any app store);
- 2. Once downloaded, open the app and search for "ICCN 2018"
- 3. Click the "Download" button to download the event app;
- 4. Login by tapping on the 3 horizontal lines in the top left corner of the screen, then tapping on 'Login for more features!'
- 5. Enter your first and last name to search the invited attendee list and be taken to a verification code page. If you are not in the list, enter your email address.
- 6. Check your email for your code, then enter the code and click 'Verify' to login.

Speaker Ready Room

Location: Park Tower 8229 (Lobby Level)

Presenters may 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 but must be uploaded in the Speaker Ready Room.

Tuesday, May 1	7:00am – 5:00pm
Wednesday, May 2	7:00am – 5:00pm
Thursday, May 3	6:30am – 5:00pm
Friday, May 4	9:00am – 3:00pm
Saturday, May 5	8:00am – 3:00pm

Smoking Policy

Smoking is not permitted during any meeting activity or event.

Special Needs

If you have any health issues for which you may require special accommodations or assistance, please notify the staff at the Registration Desk. We will make every effort to accommodate any special needs.





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Getting Around DC

Metro Fare Basics

Use Metro's Trip Planner (https://www.wmata.com/schedules/ trip-planner/index.cfm) to calculate fares and to determine the best way to travel (rail, bus, or both).

Each passenger must pay a fare; however, two children under age five may travel free with a paying passenger.

- SmarTrip® cards are used to pay fares on both Metrorail and Metrobus.
- Metrorail fares are variable depending on time-of-day and distance traveled.
- Regular (non-express) bus fares are the same throughout the system.
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- Exact change is required on Metrobus if the fare is paid in cash.
- Save on a One Day Unlimited Metrorail Pass: A SmarTrip® card with a pre-loaded Metrorail One Day Pass is less expensive when purchased online.
- If you live in the US, consider purchasing a SmarTrip® card online 10 business days before you travel.
- SmarTrip® cards are also available at Metrorail vending machines, authorized retailers and Metro sales offices.

Nearby Restaurants

Medium Rare

American, 0.8 MILES Phone: +1 202-237-1432

Ardeo + Bardeo American, 0.8 MILES

Phone: +1 202-244-6750

Spices Asian Restaurant and Sushi Bar

Asian, 0.7 MILES Phone: +1 202-686-3833

Lebanese Taverna

Other, 0.1 MILES Open for lunch and dinner Dress code: Casual Phone: +1 202-265-8681

Petits Plats

French, 0.1 MILES Breakfast only served on weekends; Open for lunch and dinner Dress code: Casual Phone: +1 202-518-0018

I Ricchi

Italian, 1.6 MILES Open for lunch and dinner Dress code: Dress Jeans Phone: +1 202-835-0459

Duke's Counter

English, 0.4 MILES British fare & hefty sandwiches in a white-walled eatery, with a copper-topped bar & graffiti art. Brunch available Sat & Sun Open for breakfast, lunch and dinner Dress code: Casual Phone: +1 202-733-4808

Open City

American, 0.2 MILES Pizza, all-day breakfast & more gourmet diner fare in an airy, tin-ceilinged space with a patio. Open for breakfast, lunch and dinner Dress code: Casual Phone: +1 202-332-2331

Bindaas

Indian, 0.7 MILES Chef-driven Indian snacks & light fare, plus cocktails, in a hip, urban art–inspired setting. Open for lunch and dinner Dress code: Casual Phone: +1 202-244-6550

Tail Up Goat

Mediterranean, 0.6 MILES A hip bistro serving creative Mediterranean fare & Caribbean-inspired drinks in modern surrounds. Reservations required Open for dinner Dress code: Smart Casual Phone: +1 202-986-9600

Mintwood Place

French, 0.7 MILES Modern farmhouse style & a French-influenced American menu, plus wood-burning oven & sidewalk seats. Open for dinner Dress code: Smart Casual Phone: +1 202-234-6732

2 Amys

Pizza, 1.4 MILES Bustling wood-oven pizzeria serves innovative Neapolitan-style pies & Italian wine by the glass. Open for lunch and dinner Dress code: Casual Phone: +1 202-885-5700

Perry's Restaurant

Japanese, 0.7 MILES Sleek multi-level eatery serving Japanese fare, sushi & speciality cocktails, with a rooftop bar. Open for dinner Dress code: Casual Phone: +1 202-234-6218

Johnny's Half Shell

Seafood, 0.7 MILES Fried oysters, gumbo & chef-y seafood dishes in warm surrounds with a sociable bar & maritime feel. Open for dinner Dress code: Casual Phone: +1 202-506-5257

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ICCN 2018 will be planned and implemented in accordance with the Essential Areas and Polices of the Accreditation Council for Continuing Medical Education (ACCME) through the sponsorship of ACNS. ACNS is accredited by the ACCME to provide continuing medical education for physicians.

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) are performed at low volume at most centers, and a forum for review and hands-on interpretation are essential to 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.

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.

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 31st International Congress of Clinical Neurophysiology (ICCN 2018) is designed to provide a review of the fundamentals and the latest scientific advances in all aspects of clinical neurophysiology. Presentations at ICCN 2018 are given by leading experts in the field and have value for health care professionals who utilize clinical neurophysiology.

Target Audience

The ICCN's educational activities are directed to the following individuals:

- Neurologists, including specialists in epilepsy, neuromuscular disorders, sleep medicine, movement disorders, autonomic disorders, neuro ICU, neurophysiology, neuroimaging, cognitive neurology and general neurologists;
- Neurophysiologists with special interests in EEG, EMG, evoked potentials, sleep medicine, autonomics, MEG, brain stimulation, brain-computer interface, neuroimaging, brain connectivity, cognition and intraoperative monitoring;
- Neurology and clinical neurophysiology trainees; residents, fellows and students;
- Neuroscientists, including researchers of various neurologic disorders, neurophysiology, neuromodulation, neurostimulation, brain connectivity and cognitive neurosciences;
- Technologists involved in a wide array of neurophysiologic tests, including EEG, EMG and nerve conduction studies, evoked potentials, intraoperative monitoring, autonomics, MEG, noninvasive brain stimulation;
- Affiliated personnel, such as nurses, patient care coordinators and business managers involved with the care of patients with neurologic illnesses.

Learning Objectives

At the conclusion of ICCN 2018, the participant will be able to:

- Describe the indications for use of clinical neurophysiology techniques in diagnosis and management of disorders of the nervous system;
- 2. Incorporate new neurophysiology procedures and technological advances into his/her own clinical practice;
- Perform and interpret a broad range of clinical neurophysiology procedures, and integrate the results of these tests into comprehensive patient management plans;
- 4. Discuss recent advances in clinical neurophysiology techniques and related disorders; and
- 5. Apply advances in clinical neurophysiology techniques to improve the diagnosis of neurologic disorders.

Accreditation Statement

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

Credit Designation

ACNS designates the ICCN 2018 Congress for a maximum 22.75 AMA PRA Category I Credit(s)TM. Physicians should claim only credit commensurate with the extent of their participation in the activity.

ACNS designates the ICCN 2018 Courses for the following maximum number of AMA PRA Category 1 Credit(s)TM.

Intensive Care Unit Electroencephalography 7.25 AMA PRA Category I Credit(s)™

BrainStem Society Meeting 10.0 AMA PRA Category I Credit(s)™

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Single Fiber Electromyography 3.5 AMA PRA Category I Credit(s)™

Neuromuscular Imaging 11.25 AMA PRA Category I Credit(s)™

Neurophysiological Intraoperative Monitoring 10.50 AMA PRA Category I Credit(s)™

Invasive Electroencephalography 7.0 AMA PRA Category I Credit(s)™

Transcranial Magnetic Stimulation 10.0 AMA PRA Category I Credit(s)™

CME Certificates and Certificates of Attendance will be available to delegates at www.iccn2018.acns.org/cme-information

- Pre-Registered Delegates may access and complete evaluations and claim certificates upon the closing of the meeting on May 6, 2018. Log on to the website listed above, enter your last name and the ID# listed at the top of your ICCN 2018 Registration Confirmation form (included in your registration packet). The system will then ask you to indicate which sessions you attended, to complete evaluation forms for each of those sessions, and then will generate a PDF certificate which may be printed or saved to your 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.
- Delegates registering onsite in Washington, DC may access evaluations and certificates after May 21, 2018. Delegates registering onsite will receive an email with instructions when certificates become available.

All delegates are required to complete overall meeting & session evaluations to obtain a CME Certificate or Certificate of Attendance.

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Conflict of Interest Disclosures

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Conflict of Interest Disclosures

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Conflict of Interest Disclosures

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ICCN * 2018 21 Final Program

	Tuesday, M Course	May 1, 2018 Program	
Maryland	Delaware A	Delaware B	Wilson
8:00am - 5:00pm 1000: Intensive Care Unit Electroencephalography Course	8:00am - 5:00pm 1015: BrainStem Society Meeting	8:00am - 5:00pm 1020: Magnetoencephalography Course	8:00am - 12:00pm 1005: Advanced Electromyography Course
			1:00 - 5:00pm 1010: Single Fiber Electomyography Course

Wednesday, May 2, 2018 Course Program				
Maryland	Delaware	Wilson	Harding	
8:00am - 5:00pm 2000: Neuromuscular Imaging	8:00am - 5:00pm 2010: Invasive	8:00am - 5:00pm 2005: Neurophysiological	8:00am - 5:00pm 2015: Transcranial Magnetic	
Course	Electroencephalography Course	Intraoperative Monitoring Course	Stimulation Course	

	Thursday, M Course	May 3, 2018 Program	
Maryland	Delaware	Wilson	Harding
7:00 - 10:30am	7:00 - 10:30am	7:00 - 10:30am	7:00 - 10:30am
2000: Neuromuscular Imaging	1015: BrainStem Society	2005: Neurophysiological	2015: Transcranial Magnetic
Course	Meeting	Intraoperative Monitoring Course	Stimulation Course

IFCN and ACNS gratefully acknowledge the following companies for their support of ICCN 2018 in the form of unrestricted educational grants:

- ABRET Neurodiagnostic Credentialing and Accreditation
- MEGIN an Elekta Company
- Greenwich Biosciences
- Nihon Kohden America
- Persyst Development Corporation

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		T Congress S	hursday, May 3, 201 Scientific & Educatior	18 nal Program		
Marriott 1,2	Marriott 3	Maryland	Virginia	Delaware	Wilson	Exhibit Hall
11:00am -12:30pm Opening Ceremonies & ACNS Jasper Lecture		1	<u> </u>	1		
						12:30 - 1:30pm Lunch
						Presentations
						Learning Lab
	1	(1:30 - 3:00pm Concurrent Session	s	[
	3020: TMS- Evoked Potentials- a Novel Technique to Study Brain Excitability and Connectivity	3010: Neonatal EEG: From Basic Concepts to Advanced Techniques	3005: Intraoperative Motor Evoked Potentials Optimization Techniques	3000: Autonomic Testing and Small Fiber Neuropathies Evaluations	3015: Ten Years of the IFCN Electrodiagnostic (Awaji) Criteria for Early Diagnosis of ALS Health and Disease	
			3:00pm - 3:15pm Break			
		(3:15pm - 4:45pm Concurrent Session	s		
	3025: Applied Cases in Central Neurophysiology and Video EEG	3030: Guidelines and Evidence- Based Medicine in Electrodiagnostic (EDX) Testing	3035: Standard Formats for Neurophysiology Data Exchange	3040: Platfrom Session-EEG/ Epilepsy	3045: Platform Session Electromyogra- phy	
			4:45pm - 5:00pm Break			
		(5:00 - 6:30pm Concurrent Session	s		
	3055: Large Scale Networks in Focal Epilepsy Revealed by High-Density EED and fMRI studies	3070: Update and Advances in the Neurophysiologic Assessment of Neuromuscular Junction Disorders	3050: EEG Based Biomarkers in Neuropsychiatric Disorders: Pitfalls and Opportunities	3060: Neurophysiology of Tremor	3065: Novel Methodologies in Transcranial Magnetic Stimulation	
						6:30 - 8:30pm Welcome Reception

		Congress S	Friday, May 4, 2018 Scientific & Educatior	nal Program		
Marriott 1,2	Marriott 3	Maryland	Virginia	Delaware	Wilson	Exhibit Hall
		1		1	7:15 - 8:15am Product Theater: Sunovion	7:00-9:00am Learning Lab: Ambulatory EEG
8:30-10:00am General Session: IFCN Berger Lecture & ACNS Schwab Lecture					1	· · · · ·
			10:00 - 10:15am Break			
			10:15 - 11:45am Concurrent Sessions	3		
	4005: Controversy: Nonconvulsive Seizures and Status Should be Aggressively Treated	4010: Electrophysiology and Immune Mechanisms in Post-Infectious Neuropathies	4015: Advances in the Neurophysiology of Language: Structure, Time, and Plasticity	4020: Structures Activated by TMS and Stimulating Current Directon	4000: CNP Program Directors Symposium: Subspecialty Clinical Neurophysiology Training	
			11:45am - 1:00pm Concurrent Sessions	3		
	4083: Special Interest Group- Continuous Elec- troencephalogra- phy Monitoring	4084: Special Interest Group- Neurophysiologic Intraoperative Monitoring	4080: Special Interest Group- Noninvasive Brain Stimulation	4082: Special Interest Group- Neuromuscular Ultrasound	4081: Special Interest Group- Education	Lunch Poster Presentations Learning Lab
			1:00 - 2:30pm Concurrent Sessions	6		1
	4025: How Well Do You See Inside the Brain with Scalp EEG, MEG, EEG-fMRI and Intracerebral EEG?	4030: Peripheral Clinical Neurophysiology in Intensive Care	4035: Quantitative EEG in Epilepsy and Critical Care: Interactive Workshop	4040: Sleep Biomarkers in Cognitive Disorders	4045: Teaching Clinical Neurophysiology: Adapting Models to Local Demands	
			2:30 - 2:45pm Break			
			2:45 - 4:15pm Concurrent Sessions	3		
	4050: Continuous EEG in Targeted Temperature Management: the I-CARE (International Cardiac Arrest EEG Consortium)- CCEMRC Study	4060: Pediatric Neuromuscular Disorders	4075: Platform Session- Evoked Potentials & NIOM	4070: Platform Session- NIBS	4055: Growing the Optimal Neurodiagnostic Team: Presented by ASET- The Neurodiagnostic Society	
			4:15 - 4:30pm Break			
4:30 - 6:00pm General Session: ACNS Presidential Lecture & IFCN Adrian Lecture						
			7:00 - 9:00pm Gala Reception	num *Tieket Desuiter-	 *	
	= Education Track			euni nokel heguliet	4	

		S Congress S	aturday, May 5, 201 cientific & Educatio	18 nal Program		
Marriott 1,2	Marriott 3	Maryland	Virginia	Delaware	Wilson	Exhibit Hall
			8:30-10:00am			
		((Concurrent Session	S	5000	
	5000: Clinical	5005: Human Brain	5015: Neuro-	5010: Neurophysiologic	5020: Neurophysiology	
	of Insular	Connectome	Effects of Deep	and Imaging	of Multisensory	
	Epilepsy	from Physiology to Disease	Brain Stimulation	Signatures of Pain and Itch	Integration	
			10:00-10:15am Break			
10:15 - 11:45am		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			
General Session: ACNS Gloor Lecture and						
IFCN Kugelberg Lecture						
	12:00 - 2:30pm					11:45am -
	IFCN General					2:00pm
	Assembly					Exhibits and
						View Poster Presentations
	I	1	2:00 - 3:30pm			
		(Concurrent Session	S		
		5030:	5035:	5040: Pediatric	5025:	
		Stereo EEG vs.	Ultrasound	Stimulation	Update on	
		Grids and Strips	is Sufficient		Pedicle Screw	
		- Which Is Better,	for Diagnosis		Stimulation	
		Choose?	Demvelinating			
			Neuropathy			
			3:30 - 3:45pm Break			
		(3:45 - 5:15pm Concurrent Session	S		
	5060: The	5045: Advances	5065: Update on	5055:	5050: Botulinum	
	Evolving Role of	in Neuromuscular	Evoked Potential	Neurophysiology	Toxin Treatment	
	in the	Imaging: A Focus on Nerve	during Surgery	of Cannabinoids	of Neurologic Disorders:	
	Management	Ultrasound			Mechanisms	
	of Medically				of Action and	
	Epilepsy				Ultrasound vs EMG Guidance	
		1	5:15 - 5:45pm Break	1]	
5:45 - 6:45pm			5:15 - 5:45pm			
General Session:			ACNS Business			
JCN CAM Award			Meeting			
Neurophys Bowl						

	Congres	Sunday, May 6, 2018 ss Scientific & Educational I	Program	
Madison	Wilson	Harding	Lincoln 2-4	Lincoln 5&6
		8:30 - 10:00am Concurrent Sessions		
6005: Contribution of Corticomuscular, Intermuscular and Corticokinematic Coherence in Research on Sensorimotor Interactions	6010: New Proposals for Tc-MEP Interpretation in Spinal Deformities and Intramedullary Spinal Cord Tumor (IMSCT) Surgeries	6015: Quo Vadis Clinical MEG Worldwide?	6040: Beyond Sleep Studies and EEG's: Advances in Ambulatory Neurophysiologic Monitoring of Sleep and Epilepsy	6000: Brain Connectivity: What Invasive Electrophysiology Can do for Mapping Brain Networks
		10:00 - 10:15am Break		
		10:15 - 11:45am Concurrent Sessions		
6045: How Sports Affects Neurophysiology: The Good, the Bad, and the Ugly	6025: Quantitative Methods to Follow Neuromuscular Disease	6030: Sensorimotor Organization in Writer's Cramp	6020: Optimizing Transcranial Direct Current Stimulation	6035: Wide-Band EEG by Neuron and Glia: From Basic and Clinical Application in Epilepsy
		11:45am - 12:00pm Break		
				12:00-12:15pm Closing Ceremonies

Award Lectures

IFCN Berger Lecture



The IFCN Berger Award is presented every four years by the IFCN for outstanding current contributions to central clinical neurophysiology research.

Margitta Seeck, MD, PhD Professor

University of Geneva

Prof. Seeck will deliver the Berger Award Lecture on Friday, May 4, 2018 at 8:35am.

IFCN Kugelberg Lecture



The IFCN Kugelberg Award is presented every four years by the IFCN for outstanding current contributions to peripheral clinical neurophysiology research.

Mandaville Gourie-Devi, MBBS, MD, DM, DSc Emeritus Professor of Neurology Department of Neurology

Institute of Human Behaviour and Allied Sciences

Prof. Gourie-Devi will present the Kugelberg Award Lecture on Saturday, May 5, 2018 at 11:05am.

IFCN Adrian Lecture



The IFCN Adrian Award is presented every four years by the IFCN for outstanding current contributions to Clinical Neurophysiology research in basic science.

Clifford Saper, MD, PhD Professor, Beth Israel Deaconess Medical Center

Prof. Saper will present the Adrian Award Lecture on Friday, May 4, 2018 at 5:20pm.

ACNS Jasper Award Lecture



The Herbert H. Jasper Award is presented annually to an individual for a lifetime of outstanding contributions to the field of clinical neurophysiology including research, teaching and mentoring.

Mark Hallett, MD, FACNS Chief, Human Motor Control Section National Institute of Neurological Disorders and Stroke, National Institutes of Health

Prof. Hallett's Jasper Award Lecture will be part of the ICCN 2018 Opening Ceremonies on Thursday, May 3, 2018 at 11:45am.

ACNS Gloor Award Lecture



The Pierre Gloor Award is presented annually for an individual's outstanding contributions to central clinical neurophysiology research.

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

Prof. Nuwer will present the Gloor Award Lecture on Saturday, May 5, 2018 at 10:20am.

ACNS Schwab Award Lecture



This Robert S. Schwab Award is presented annually for an individual's outstanding contributions to peripheral clinical neurophysiology research.

Donald Sanders, MD Professor of Neurology Duke University Medical Center

Prof. Sanders will present the Schwab Award Lecture on Friday, May 4, 2018 at 9:20am.

Stephan U. Schuele, MD, MPH, FACNS

ACNS Presidential Address



Prof. Schuele is the President of the American Clinical Neurophysiology Society (ACNS) and also serves as Professor of Neurology and Physical Medicine & Rehabilitation at Northwestern University in Chicago, Illinois, USA. He has been

University in Chicago, Illinois, USA. He has been the director of the epilepsy center at Northwestern University since 2006 and the Medical Director of

the Neurological Testing Center at Northwestern Memorial Hospital since 2012.

Prof. Schuele will deliver the ACNS Presidential Address on Friday, May 4, 2018 at 4:30pm.

Networking Events & Optional Tours

Welcome Reception



Gala Reception



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ICCN Exhibit Hall Washington Marriott Wardman Park

Join us at the official Welcome Reception of ICCN 2018 to connect with colleagues, meet other attendees, view posters, and visit exhibit booths on the opening day of Congress sessions.

Smithsonian National Air & Space Museum

Celebrate ICCN 2018 with colleagues from around the world in one of the US's most prominent museums! The Smithsonian National Air & Space Museum holds the largest collection of historic aircraft and spacecraft in the world, providing a unique backdrop for networking, collaboration, and exploring. Experience featured exhibits and take in an IMAX movie.

The Gala Reception is open to registered delegates and registered guests. Tickets are required and a limited number may be available for purchase at the ICCN Registration Desk before 4:30pm on Friday, May 4.

Transportation to the reception is not provided. See page 7 for more information on travel by Metro, taxi or rideshare.

TUESDAY, MAY 1, 2018

8:00AM - 12:00PM

1005: Advanced Electromyography Location: Wilson

Co-Directors: Renato Verdugo, MD (Chile) and Devon Rubin, MD, FACNS (USA)

Objectives:

Upon completion of this session, participants should be able to

- Explain principles and practice of testing cranial nerve functions as they relate to diseases of nerve, muscle and neuromuscular junction;
- 2. Explain principles and practice of testing axonal excitability and how the measurements complement routine nerve conduction studies in demyelinating neuropathies;
- 3. List the electrophysiological methods used to differentiate muscle weakness due to myopathy from neurogenic disorders;
- 4. Describe how clinical neurophysiological methods should be used in making the critical diagnosis Motor Neuron Disease/ Amyotrophic Lateral Sclerosis;
- 5. Describe the advantages and limitations of the different methods presently available for evaluation of sensory fibers, making necessary an evaluation including different procedures;
- 6. Identify the electrophysiologic features that distinguish peripheral nerve hyperexcitable disorders.

Agenda:

8:00am	EDX in Demyelinating Neuropathies (Action Potential and Impulse Conduction) David Burke, MD, DSc (Australia)
8:40am	Advances in Cranial Nerve Electrodiagnostic Testing Jun Kimura, MD (USA)
9:20am	EDX Advances in Myopathy Christian Krarup, MD, DMSc, FRCP, FEAN (Denmark)
10:00am	Break
10:10am	EDX Advances in Motor Neuron Diseases/ALS Reinhard Dengler, MD (Germany)
10:50am	EDX Advances in Sensory Neuropathy Renato Verdugo, MD (Chile)
11:20am	EDX Features in Peripheral Nerve Hyperexcitability Disorders <i>Devon Rubin, MD, FACNS (USA)</i>

8:00AM - 5:00PM

1000: Intensive Care Unit Electroencephalography (ICU EEG)

Location: Maryland

Developed in conjunction with the Critical Care EEG Monitoring Research Consortium (CCEMRC)

Co-Directors: Lawrence J. Hirsch, MD, FACNS (USA) and Eugen Trinka, MD, MSc, FRCP (Austria)

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.

Agenda:

8:00am	Introduction
	Eugen Trinka, MD, MSc, FRCP (Austria)
8:10am	ICU EEG Terminology, including ACNS Guidelines Sandor Beniczky, MD, PhD (Denmark)
8:40am	Clinical and EEG Definitions of Nonconvulsive Seizures/ NCSE
	Eugen Trinka, MD, MSc, FRCP (Austria)
9:10am	ICU EEG Monitoring in Neonates, including ACNS Guidelines
	Courtney J. Wusthoff, MD, MS, FACNS (USA)
9:40am	When and How to Treat Neonatal Seizures Ronit M. Pressler, MD, PhD, MRCPCH (United Kingdom)
10:10am	Break
10:30am	ICU EEG Monitoring in Children and Adults, including ACNS Guidelines
	Nicholas S. Abend, MD, MSCE, FACNS (USA)
11:10am	Postanoxic Coma Michel J. van Putten, MD, MSc, PhD (Netherlands); Luis Otavio Caboclo, MD, MSc, PhD (Brazil)
12:00pm	NORSE/FIRES: New Consensus Definitions Lawrence J. Hirsch, MD, FACNS (USA)
12:15pm	Lunch (see page 9 for nearby dining options)
1:15pm	EEG in Encephalopathy Peter W. Kaplan, MD, FRCP, FACNS (USA)
1:45pm	Controversial Patterns and the Ictal-Interictal Continuum Suzette M. LaRoche, MD, FACNS (USA); Nicolas Gaspard, MD, PhD (Belgium)
2:35pm	Quantitative EEG: Methodology Susan T. Herman, MD, FACNS (USA)
2:55pm	Break
3:15pm	Quantitative EEG: Application: Detecting Ischemia And Seizures
	M. Brandon Westover, MD, PhD, FACNS (USA)
3:45pm	Use of EEG to Manage Super Refractory SE Andrew Cole, MD (USA)
4:15pm	Multimodality Monitoring and Integrating EEG into Neurocritical Care
1.15nm	Summary and Future
г.торпп	Lawrence J. Hirsch, MD, FACNS (USA)

Courses Program

8:00AM - 5:00PM

1015: BrainStem Society Meeting Location: Delaware A

Developed in conjunction with the BrainStem Society

Co-Directors: Josep Valls-Sole, MD (Spain) and Mark Hallett, MD, FACNS (USA)

Objectives:

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

- Recognize the role of brainstem circuits in functions such as oculomotor control, respiration and inhibitory mechanisms of pain;
- 2. Describe the complex relationship between brainstem nuclei and cerebellum in the control of balance and equilibrium;
- 3. Explain the various functions of the pedunculo-pontine tegmental nucleus (PPTn) and evaluate the potential use of this nucleus as therapeutic target.

Agenda:

8:00am Opening of the Meeting Mark Hallett, MD, FACNS (USA)

Eye and Eyelid Movements

Chairs: Mark Hallett, MD, FACNS (USA)

- 8:15am Spontaneous, Voluntary and Reflex Blinking in Clinical Practice Josep Valls-Sole, MD (Spain)
- 8:45am Basics of Ocular Motor Control by the Brainstem David S. Zee, MD (USA)
- 9:15am Eye Movement Disorders due to Brainstem Dysfunctions Daniel Gold, DO (USA)
- 9:45am Break

Respiration and Sleep

- Co-Charis: Markus Kofler, MD (Austria) and Jens Ellrich, MD, PhD (Georgia)
- 10:00am Functional Anatomy, Mechanisms of Respiration Jeffrey C. Smith, PhD (USA)
- 10:30am Disorders of Respiration During Sleep Nancy Foldvary-Schaefer, DO, MS (USA)
- 11:00am Facial Pain Syndromes: Differential Diagnoses Satu Jaaskelainen, MD, PhD (Finland)
- 11:30am Relevance of Brainstem to Pain: Nociceptive System and PGM Andrea Truini, MD (Italy)
- 12:00pm Lunch (see page 9 for nearby dining options)

Vestibular System

Co-Charis: Josep Valls-Sole, MD (Spain) and Andrea Truini, MD (Italy)

- 1:30pm Brainstem and Cerebellum Control of Balance and Equilibrium
- John Rothwell, PhD (United Kingdom)
 2:00pm How to Study Vestibular Nuclei: cvEMP and ovEMP James G. Colebatch, DSc, FRACP (Australia)

2:30pm Break

Other Brainstem Functions

- 3:00pm Startle and the StartReact Effect: Physiological Mechanisms Anthony Carlsen, PhD (Canada)
- 3:30pm Autonomic Dysfunction: Vagal Nerve Disorders Lucy Norcliffe-Kaufmann, PhD (USA)

Non-Invasive Therapy-Oriented Stimulation of Cranial Nerves

- 4:00pm State of the Art in Vagus Nerve Stimulation Jens Ellrich, MD, PhD (Georgia)
- 4:30pm State of the Art in Trigeminal Nerve Stimulation *Ian Cook, MD, DFAPA (USA)*

5:00PM - 6:00PM

BrainStem Society Business Meeting Location: Delaware A

All persons registered at the meeting may attend the business meeting of the BrainStem Society, but only members of the Society may vote.

8:00AM - 5:00PM

1020: Magnetoencephalography Location: Delaware B

Developed in conjunction with the American Clinical Magnetoencephalography Society (ACMEGS)

Co-Directors: Angel W. Hernandez, MD, FAAP, FAES (USA); Stefan Rampp, MD (Germany); and Tony W. Wilson, PhD (USA)

Objectives:

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

1. Understand the neurophysiological underpinnings of the signal as well as the principles of physics governing MEG recording.

Agenda:

8:00am	Introduction Richard C. Burgess, MD, PhD, FACNS (USA)
8:10am	Neurophysiological Basis and Recording Fundamentals of MEG and EEG Binhard C. Burgess MD. PhD. FACNS (USA)
9:00am	The Logistics of MEG Operation and Practicing According to the ACMEGS Clinical Practice Guidelines Anto Bagić, MD, PhD, FACNS (USA)
10:00am	Break
10:15am	Dipole Modeling of Epileptiform Activity John Ebersole, MD (USA)
11:00am	Normal Variants in MEG Stefan Rampp, MD (Germany)
11:45am	Lunch (see page 9 for nearby dining options)
12:45pm	Source Modeling of Evoked Activity Tony W. Wilson, PhD (USA)
1:30pm	Cases (How MEG Contributed to Patient Management) - Adult Cases
	Anto Bagić, MD, PhD, FACNS (USA); Andrew Zillgitt, DO (USA)
3:00pm	Break
3:15pm	Cases (How MEG Contributed to Patient Management) - Pediatric Cases Angel W. Hernandez, MD, FAAP, FAES (USA); Dave Clarke, DO (USA)

ICCN ★ 2018 30 Final Program

Courses Program

1:00 - 5:00PM

1010: Single Fiber Electromyography Location: Wilson

Co-Directors: Erik Stålberg, MD, PhD (Sweden) and Donald Sanders, MD (USA)

This course is supported by in-kind donation of equipment by Natus Neurology.

Objectives:

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

- Explain the principles of jitter measurements and the differences between recordings made with SFEMG and concentric needle electrodes (CNE);
- 2. Recognize SFEMG and CNE signals with normal and abnormal jitter;
- 3. Identify possible differences in jitter results with voluntary activation and electrical stimulation;
- 4. Explain the role of jitter measurement in myasthenia gravis and Lambert-Eaton myasthenia.

Agenda:

0	
1:00pm	Welcome
	Erik Stålberg, MD, PhD (Sweden)
1:15pm	SFEMG Recording Principles (including Filter, Trig, VRF) Erik Stålberg, MD, PhD (Sweden)
1:45pm	SFEMG Parameters: Jitter, FD (Ways to Measure) Donald Sanders, MD (USA)
2:15pm	Demo – Vol SFEMG: FD & Jitter; Normal + Patient Erik Stålberg, MD, PhD (Sweden)
2:45pm	Break
3:15pm	Stimulations SFEMG, Method, Pitfalls Erik Stålberg, MD, PhD (Sweden)
3:35pm	CNE Jitter - Method, Definition, Pitfalls <i>Erik Stålberg, MD, PhD (USA)</i>
3:55pm	DEMO CNE Jitter – Vol and Stim Joao A. Kouyoumdjian, MD, PhD (Brazil)
4:25pm	Jitter in MG and LEMS

Donald Sanders, MD (USA)

WEDNESDAY, MAY 2, 2018

8:00AM - 5:00PM

2000: Neuromuscular Imaging Location: Maryland

Developed in conjunction with the International Society of Peripheral Neurophysiological Imaging (ISPNI)

Co-Directors: Michael Cartwright, MD (USA); Lisa D. Hobson-Webb, MD (USA); and Luca Padua, MD, PhD (Italy)

This course is supported by in-kind donations of equipment by Cadwell Industries, Inc; Natus Neurology; and Philips.

Objectives:

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

- 1. Describe the neuromuscular ultrasound findings in nerve entrapment;
- 2. Apply neuromuscular ultrasound techniques to systemic nerve disease, including CIDP and ALS;
- 3. Explain how MRI can be used to assess neuromuscular disease;
- 4. Describe the neuromuscular ultrasound findings in muscle diseases.

Agenda:	
8:00am	Welcome Lisa D. Hobson-Webb, MD (USA); Luca Padua, MD, PhD (Italy)
8:10am	Intro to Neuromuscular Imaging Francis O. Walker, MD, FACNS (USA)
8:45am	NMUS in UE Focal Neuropathies (Including Demo) Simon Podnar, MD, DSc (Slovenia)
9:30am	NMUS in LE Focal Neuropathies (Including Demo) Jeff Strakowski, MD (USA)
10:15am	Break
10:30am	NMUS in Immune-Mediated Polyneuropathy Alexander Grimm, MD (Germany)
11:15am	NMUS in Motor Neuron Disease Stefanie Schreiber, MD (Germany)
12:00pm	Lunch (see page 9 for nearby dining options)
1:00pm	MRI of Spinal Nerve Roots Darryl B. Sneag, MD (USA)
1:45pm	MR Neurography Roberto Gasparotti, MD (Italy)
2:30pm	Advanced Neuromuscular Ultrasound Einar P. Wilder-Smith, MD (Switzerland)
3:15pm	PNS and CNS Trauma: Damage, Regeneration, and Neuroplasticity. US to Monitor Brain, Vessels, Nerves, and Muscles <i>Luca Padua, MD, PhD (Italy)</i>
4:00pm	Disease-Specific Scoring Systems in NMUS Alexander Grimm, MD (Germany); Antonios Kerasnoudis, MD, PhD (Greece)
4:30pm	Interesting Cases in NMUS David C. Preston, MD (USA)

Demonstration Stations:

30-minute demonstration stations will be offered with a break from 3:00 - 3:30pm Demonstration Stations to be included are: Median Nerve Muscle Radial Nerve **Brachial Plexus** Fibular Nerve Free Scan Station **Tibial Nerve** Instructors will be: Lisa D. Hobson-Webb, MD (USA) Francis O. Walker, MD, FACNS (USA) Luca Padua, MD, PhD (Italy) Daniele Coraci, MD, PhD (Italy) Michael Cartwright, MD (USA) Stefanie Schreiber, MD (Germany) Monika Krzesniak-Swinarska, MD (USA) Leo Visser, MD (Netherlands) Ana Lucila Moreira, MD (Brazil) Vanessa Baute, MD (USA) Peter Inkpen, MD (USA) David Mayans, MD (USA) Jeremy D. Bland, MB ChB (USA) Sarada Sakamuri, MD (USA) Craig Zaidman, MD (USA) Einar P. Wilder-Smith, MD (USA) John Norbury, MD (USA) Jeff Strakowski, MD (USA) Joon-Shik Yoon (Korea (the Republic of)) Eman Tawfik, MD (USA)

8:00AM - 5:00PM

2010: Invasive Electroencephalography Location: Delaware

Developed in conjunction with the International League Against Epilepsy (ILAE)

Co-Directors: Jean Gotman, PhD, FACNS (Canada) and Stephan U. Schuele, MD, MPH, FACNS (USA)

Objectives:

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

 Determine in what conditions it is important to consider using intracerebral electrodes for the presurgical investigation of epileptic patients;

2. Identify the limitations of current non-invasive methods of localization of the epileptic focus;

3. Describe how to use intracerebral electrodes in epilepsies caused by different lesion types and in the absence of lesions.

Agenda:

8:00am	Where Does iEEG Fit in the Pre-Operative Investigation? Stephan U. Schuele, MD, MPH, FACNS (USA)
8:30am	Why Do We Need iEEG When We Have High Density EEG, MEG and EEG-fMRI?
9:00am	Diagnostic Utility of Invasive EEG for Epilepsy Surgery: Indications, Modalities, and Techniques (Report of ILAE Task Force)
9:30am	Prasanna Jayakar, MD (USA) The Physics and Physiology of Intracranial EEG Ronald Lesser, MD (USA)
10:00am	Break
10:30am	Surgical Techniques and Complications Giorgio Lo Russo, MD (Italy)
11:00am	The Normal Intracerebral EEG Birgit Frauscher, MD (Canada)
11:30am	Functional Mapping Nathan E. Crone, MD (USA)
12:00pm	Lunch (see page 9 for nearby dining options)
1:00pm	iEEG in Temporal and Temporal Plus Epilepsies Cigdem Ozkara, MD (Turkey)
1:30pm	iEEG in Focal Cortical Dysplasia (Including Children) Laura Tassi, MD (Italy)
2:00pm	iEEG in Nodular Heterotopias Francois Dubeau, MD (Canada)
2:30pm	Break
3:00pm	iEEG in Non-Lesional Epilepsy Philippe Kahane, MD, PhD (France)
3:30pm	Seizure Onset Patterns and Their Significance Lara Jehi, MD (USA)
4:00pm	Does Removing the Seizure Onset Provide the Best Outcome?
	iviaeike zijimans, IVID, PND (INetherlands)

Courses Program

8:00AM - 5:00PM

2015: Transcranial Magnetic Stimulation Location: Harding

Co-Directors: Walter Paulus, MD (Germany) and Mark George, MD (USA)

Objectives:

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

- 1. Understand the biophysics of transcranial electric stimulation;
- 2. Explain basic concepts of electric fields induced by transcranial magnetic stimulation.

Agenda:

8:00am	Introduction Mark George, MD (USA)
8:05am	Physics of Intracranial Current Flow Induced by TMS and TES and of Membrane Excitation <i>Alexander Opitz, PhD (Germany)</i>
8:45am	Essentials of Transcranial Magnetic Stimulation John Rothwell, PhD (United Kingdom)
9:30am	Physiology of Transcranial Magnetic Stimulation Vincenzo Di Lazzaro, MD (Italy)
10:15am	Break
10:30am	Essentials of Transcranial Electric Stimulation Walter Paulus, MD (Germany)
11:15am	Transcranial Stimulation and Imaging Hartwig R. Siebner, MD (Germany)
12:00pm	Lunch (see page 9 for nearby dining options)
1:00pm	Brain Stimulation and Stroke Michael A. Nitsche, MD (Germany)
1:45pm	Recent Advances with TMS for Treating Depression Mark George, MD (USA)
2:30pm	TMS and tDCS in the Addictions Mark George, MD (USA)
3:15pm	Break
3:30pm	NIH Initiatives Using NIBS in Health and Disease Sarah H. Lisanby, MD (USA)
4:15pm	NIBS Approaches To Treating Bipolar Disorder Robert M. Post, MD (USA)

8:00AM - 5:00PM

2005: Neurophysiological Intraoperative Monitoring Location: Wilson

Developed in conjunction with the American Society for Neurophysiological Monitoring (ASNM) and the International Society of Intraoperative Neurophysiology (ISIN)

Co-Directors: Jay Shils, PhD, D.ABNM, FASNM, FACNS (USA); Jaime Lopez, MD, FACNS (USA); and Andrea Szelenyi, MD, PhD

Objectives:

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

- 1. Apply knowledge about effects of anesthsia or NIOM;
- 2. Recognize changes in intraoperative monitoring testsand distinguish these from common technical artifacts.

Agenda:

8:00am	Welcome & Introduction Jaime Lopez, MD, FACNS (USA)
8:05am	Electroencephalography Marc R. Nuwer, MD, PhD, FACNS (USA)
8:40am	Somatosensory Evoked Potentials David MacDonald, MD, FRCP(C), ABCN (Saudi Arabia)
9:15am	Brainstem Auditory Evoked Potentials Alan D. Legatt, MD, PhD, FACNS (USA)
9:50am	Discussion
10:05am	Break
10:25am	Motor Evoked Potentials Ronald Emerson, MD, FACNS (USA)
11:00am	Anesthesia Antoun Koht, MD (USA)
11:35am	Discussion
11:50am	Lunch (see page 9 for nearby dining options)
12:50pm	Welcome & Introduction- Afternoon
12:55pm	Neuromonitoring of Lumbar Surgery and Transpsoas Procedures
	Lawrence R. Wierzbowski, AuD, DABNM, FASNM (USA)
1:30pm	Brain Tumor Surgery and Motor and Language Mapping Andrea Szelenyi, MD, PhD (Germany)
2:05pm	Spinal Cord Tumors and Utility of D waves and Spinal Cord Mapping
0.40	Francesco Sala, MD (Italy)
2:40pm	Discussion
2:55pm	Break
3:15pm	NIOM of Cranial Nerves and Brainstem Mapping Jaime Lopez, MD, FACNS (USA)
3:50pm	Monitoring of Peripheral Nerve Surgery Jorge E. Gutierrez, MD, MSc (Colombia)
4:25pm	NIOM of Cerebrovascular Procedures Leslie H. Lee, MD, FACNS, FAAN (USA)

Courses Program

THURSDAY, MAY 3, 2018

7:00 - 10:30AM CONCURRENT COURSES

2000: Neuromuscular Imaging (continued from Wednesday, May 2) Location: Maryland

Co-Directors: Lisa Hobson-Webb, MD (USA); Luca Padua, MD, PhD (Italy); and Michael Cartwright, MD (USA)

Agenda:

7:00am	MRI vs US in Clinical Practice Craig Zaidman, MD (USA)	
7:45am	Imaging of the Brachial Plexus (Including Demo) Michael Cartwright, MD (USA)	
8:15am	Imaging of the Diaphragm (Including Demo) Andrea Boon, MD (USA)	
8:45am	New Imaging Technologies Lisa D. Hobson-Webb, MD (USA)	
9:30am	Keynote Address – Opportunities in Muscle US Nens van Alfen, MD, PhD (Netherlands)	
10:20am	Conclusion, Intro to Next Meeting Lisa D. Hobson-Webb, MD (USA); Luca Padua, MD, PhD (Italy)	
Demonstration Stations:		
	Brachial Plexus US Leo Visser, MD (Netherlands)	
	Diaphragm US Andrea Boon, MD (USA)	
	US-Guided CTS Injection John Norbury, MD (USA);	
	US-Guided Other Nerve Injection Jeff Strakowski, MD (USA)	
	Small Nerves UE Monika Krzesniak-Swinarska, MD (USA) Small Nerves LE	
	Luca Padua, MD, PhD (USA)	

7:00 - 10:30AM

1015: BrainStem Society Meeting (continued from Tuesday, May 1) Location: Delaware

Co-Directors: Mark Hallett, MD, FACNS (USA) and Josep Valls-Sole, MD (Spain)

Agenda:

Focus on the Pedunculo-Pontine Nucleus Co-Chairs: John Rothwell, PhD (USA) and Satu Jaaskelainen, MD, PhD (Finland)

7:00am	Welcome
7:15am	Anatomy of the Reticular Formation and the PPN <i>Clifford B. Saper, MD, PhD (USA)</i>
7:45am	Functions of the PPN Edgar Garcia-Rill, PhD (USA)
8:15am	Prepulse Inhibition Markus Kofler, MD (Austria)
8:45am	The PPN and Freezing of Gait Jorik Nonnekes, MD, PhD (Netherlands)

9:15am	PPN DBS. Indications and Potential Secondary Effects
	Andres Lozano, MD, PhD, FRCSC, FRSC, FCAHS
	(Canada)
9:45am	Discussion
9:45am	Final Remarks

Mark Hallett, MD, FACNS (USA)

7:00 - 10:30AM

2015: Transcranial Magnetic Stimulation (continued from Wednesday, May 2)

Location: Harding

Co-Directors: Walter Paulus, MD (Germany) and Mark George, MD (USA)

Agenda:

7:00am	Towards EEG Biomarkers of Response to TMS in Depression and Other Neuropsychiatric Diseases Zafiris Daskalakis, MD, PhD, FRCPC (Canada)
7:45am	Essentials of Repetitive Transcranial Magnetic Stimulations Yoshikazu Ugawa, MD, PhD (Japan)
8:15am	Transcranial Stimulation and Pharmacology Ulf Ziemann, MD (Germany)
9:00am	Transcranial Stimulation and EEG Paolo Maria Rossini, MD, PhD (Italy)
0.15am	Summary and General Discussion

9:45am Summary and General Discussion Mark George (USA)

7:00 - 10:30AM

2005: Neurophysiological Intraoperative Monitoring (continued from Wednesday, May 2) Location: Wilson

Co-Directors: Jay Shils, PhD, D.ABNM, FASNM, FACNS (USA); Jaime Lopez, MD, FACNS (USA); and Andrea Szelenyi, MD, PhD

Agenda:

7:00am	Welcome & Introduction
7:05am	NIOM of Functional Neurosurgery (DBS, SCS, MCS) Jay L. Shils, PhD, D.ABNM, FASNM, FACNS (USA)
7:40am	NIOM Using Reflex and Other Modalities Vedran Deletis, MD, PhD (Croatia)
8:15am	Evidence Based Data in NIOM Robert N. Holdefer, PhD (USA)
8:50am	NIOM of Vascular Surgery (Cardiac and Aortic) Mark Stecker, MD, PhD, D.ABNM, FASNM (USA)
9:25am	Alert Criteria in NIOM <i>Lilia de la Maza, MD (Mexico)</i>
10:00am	Discussion

10:30 - 11:00AM

Coffee Break Location: Marriott Foyer

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Congress Scientific & Educational Program

11:00AM – 12:30PM

Opening Ceremonies & General Session Location: Marriott 1&2

Chair: Marc R. Nuwer, MD, PhD, FACINS

11:00am	Welcome Marc R. Nuwer, MD, PhD, FACNS ICCN 2018 Convenor
11:05am	Introduction of the Organizing Committee of the International Congress and ICCN 2018 Honorary Presidents
11:15am	Remarks Walter J. Koroshetz, MD Director, National Institute of Neurological Disorders and Stroke/National Institutes of Health
11:30am	Welcome to Washington, DC Excellent Tours
11:40am	Jasper Award Presentation & Introduction Marc R. Nuwer, MD, PhD, FACNS
11:45am	ACNS Jasper Award Lecture Why Can't Jonny Write? <i>Mark Hallett, MD, FACNS</i>

12:30 - 1:30PM

Lunch

Location: Exhibit Hall A and B North

Poster Presentations

IFCN Chapter Meetings Latin America Chapter (Park Tower 8216) European Chapter (Park Tower 8219)

Asia Oceana Chapter (Park Tower 8222)

North American Chapter (Park Tower 8212)

1:30 - 3:00PM CONCURRENT SESSIONS

3000: Autonomic Testing and Small Fiber Neuropathies Evaluations

Location: Delaware

Co-Chairs: Peter Novak, MD, PhD (USA) and Byung-Jo Kim, MD, PhD (Korea)

Objectives:

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

- 1. Perform standard autonomic testing;
- Explain the value of skin biopsies in evaluation of small fiber neuropathies - sensory/autonomic/mixed;
- Explain the value of cerebral blood flow monitoring in evaluation of orthostatic syndromes;
- 4. Objectively and quantitatively grade autonomic testing;
- 5. Describe common tilt patterns in cerebral blood flow and cardiovascular signals.

Agenda:

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1:30pm Autonomic Testing
Thomas Chelimsky, MD (USA)
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2:00pm Central Dysautonomia
Max J. Hilz, MD (Germany)
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2:30pm Quantitative Grading of Autonomic Failure, Severity of Small Fiber Neuropathy, Autonomic Overactivity and Orthostatic Intolerance Peter Novak, MD, PhD (USA)

3020: TMS-Evoked EEG Potentials – A Novel Technique to Study Brain Excitability and Connectivity in Health and Disease

Location: Marriott 3

Co-Chairs: Ulf Ziemann, MD (Germany) and Donald Schomer, MD, FACNS (United States)

Objectives:

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

- 1. Explain how TMS-evoked EEG responses can be elicited and recorded;
- Describe how TMS-evoked EEG responses can be interpreted with respect to excitability and connectivity of the human brain;
- 3. Explain how TMS-evoked EEG responses can be utilized for assessing abnormal cortical excitability in epilepsy;
- 4. Describe how TMS-evoked EEG responses can be utilized for diagnosis of disorders of consciousness and outcome prediction.

Agenda:

1:30pm	Pharmacological Characterization of TMS-Evoked EEG
	Potentials
	Ulf Ziemann, MD (Germany)
2:00pm	Utility of TMS-Evoked EEG Potentials in Epilepsy Vasilios K. Kimiskidis, MD, PhD (Greece)
2:30pm	Utility of TMS-Evoked EEG Potentials in Disorders of Consciousness <i>Mario Rosanova, MD (Italy)</i>
2015: Tan Vaara of the IECN Electrodiagnostic (Augii)	

3015: Ten Years of the IFCN Electrodiagnostic (Awaji) Criteria for Early Diagnosis of ALS Location: Wilson

Co-Chairs: Ryuji Kaji, MD, PhD (Japan) and Antonin Guechev, MD, PhD (Bulgaria)

Objectives:

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

- 1. Explain how to use ICFN Awaji Criteria for diagnosing ALS using electrophysiological techniques;
- 2. Use ultrasound to increase sensitivity to detect fasciculations;
- 3. Discuss the meta-analysis of the previous studies to test these criteria;
- 4. Apply these criteria to clinical trials.

Agenda:

- 1:30pm Meta-Analysis of the Sensitivity and the Specificity of IFCN Awaji Criteria David Burke, MD, DSc (Australia)
- 2:00pm Expanded Use of IFCN Awaji Criteria with Ultrasound *Reinhard Dengler, MD (Germany)*
- 2:30pm How to Implement Awaji IFCN Criteria in EMG practice *Ryuji Kaji, MD, PhD (Japan)*

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3010: Neonatal EEG: From Basic Concepts to Advanced Techniques

Location: Maryland

Co-Chairs: Cecil Hahn, MD, MPH, FACNS (Canada) and Nick Kane, MSc, MD (Hons), FRCS (United Kingdom)

Objectives:

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

- 1. Demonstrate an organized approach to neonatal EEG interpretation for the assessment of encephalopathy;
- 2. Classify neonatal seizures and identify common and unusual seizure patterns on amplitude-integrated and conventional EEG;
- 3. Explain methods for measuring seizure burden, and recognize the strengths and weaknesses of amplitude-integrated EEG versus conventional EEG;
- 4. Apply current guidelines for neonatal EEG monitoring to your practice.

Agenda:

1:30pm	Neonatal EEG: Pearls and Pitfalls Fabrice Wallois, MD, PhD (France)
2:00pm	Diagnosing Neonatal Seizures with Amplitude-Integrated EEG and Conventional EEG

Ronit M. Pressler, MD, PhD, MRCPCH (United Kingdom)

2:30pm Logistics of EEG Monitoring in the Neonatal Intensive Care Unit *Cecil D. Hahn, MD, MPH, FACNS (Canada)*

3005: Intraoperative Motor Evoked Potentials Optimization Techniques Location: Virginia

Co-Chairs: Bernard Cohen, PhD, FACNS (USA) and Francisco J. Soto, MD (Chile)

Objectives:

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

- 1. Describe the history leading up to the current state of MEPs;
- 2. Identify the stimulus parameters which work best for MEPs;
- 3. Apply peripheral nerve stimulation and other techniques.

Agenda:

1:30pm	Double Train Stimulation
	Henricus L. Journee, MD, PhD (Netherlands)
2:00pm	Peripheral Nerve Stimulation and Other Techniques Ronald Emerson, MD, FACNS (USA)
2:30pm	Quadripolar MEP Stimulation Bernard A. Cohen, PhD, FACNS (USA)

3:00 - 3:15PM

Break

3:15 - 4:45PM CONCURRENT SESSIONS

3030: Guidelines and Evidence-based Medicine in Electrodiagnostic (EDX) Testing Location: Maryland

Co-Chairs: Anders Fuglsang-Frederiksen, MD, DMSc (Denmark) and Mehmet Baris Baslo, MD (Turkey)

Objectives:

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

- 1. Evaluate and select clinical guidelines for use in EDX based on knowledge of evidence-based medicine;
- 2. Describe existing EDX guidelines, especially for polyneuropathy, ulnar nerve lesion of the elbow, and amyotrophic lateral sclerosis;
- 3. Apply the most current guidelines in EDX in the clinical work to benefit patients and society.

Agenda:

- 3:15pm Guidelines and Standards in Electrodiagnostic Medicine *Kirsten Pugdahl, MS, PhD (Denmark)*
- 3:45pm Utility of EDX in Polyneuropathy Hatice Tankisi, MD, PhD (Denmark)
- 4:15pm Utility of EDX in Amyotrophic Lateral Sclerosis Mamede de Carvalho, MD, PhD (Portugal)

3025: Applied Cases in Central Neurophysiology & Video EEG

Location: Marriott 3

Co-Chairs: William O. Tatum, DO, FACNS (USA) and Otto Witte, MD (Germany)

Objectives:

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

- 1. Evaluate the appropriateness of the clinical information as it applies to the care of patients with epilepsy and its mimics;
- 2. Recognize the variety of clinical features seen in patients with seizures and epilepsy syndromes;
- 3. Demonstrate learning in the clinical approach to managing patients with seizures and spells.

Agenda:

- 3:15pm Clinical Neurophysiology: Pearls and Pitfalls *William O. Tatum, DO, FACNS (USA)*
- 3:45pm Challenges in Video-EEG Monitoring Selim R. Benbadis, MD, FACNS (USA)
- 4:15pm Mystery Pediatric Cases Phillip Pearl, MD, FACNS (USA)

Congress Scientific & Educational Program

3035: Standard Formats for Neurophysiology Data Exchange Location: Virginia

Co-Chairs: Jonathan J. Halford, MD, FACNS (USA) and Meriem Bensalem-Owen, MD, FACNS (USA)

Objectives:

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

- 1. Explain the rationale behind developing a standard neurophysiology format;
- 2. Identify the advantages of the MEF3 design and structure;
- 3. Discuss the perspectives of various stakeholders in terms of the challenges of adopting a standard format for neurophysiology data exchange.

Agenda:

3:15pm	The Need for Standard Neurophysiology Formats
	Jonathan J. Halford, MD, FACNS (USA)

- 3:45pm Brain Imaging Data Structure (BIDS) Cyril R. Pernet, PhD (United Kingdom)
- 4:15pm Design of the Multiscale Electrophysiology Format, Version 3 (MEF3) Squire M. Stead, MD, PhD (USA)

3040: Platform Session- Electroencephalography/ Epilepsy

Location: Delaware

Chair: Jonathan Edwards, MD, FACNS (USA) and Hiroshi Shibasaki, MD, PhD, FACNS (Japan)

- 3:15pm The Neural Bases of Ictal Tachycardia in Temporal Lobe Seizures 2017 Herbert Jasper Young Investigator Paper Award *Florian Chouchou, PhD (Canada)*
- 3:30pm Clinical Characteristics and Outcomes of Pediatric Super Refractory Status Epilepticus *Alejandra Vasquez, MD (USA)*
- 3:45pm EEG for the Prediction of Outcome Within the First Five Days of Postanoxic Coma: A Prospective Multicenter Cohort Study *Jeannette Hofmeijer, MD,PhD (Netherlands)*
- 4:00pm Temporal Development of cEEG Patterns as Predictors of Prognosis After Cardiac Arrest *Erik Westhall, MD, PhD (Sweden)*
- 4:15pm Onset of Interictal Ripple High-Frequency Oscillations in Intracranial Electroencephalography Predicts Outcome in Children Undergoing Epilepsy Surgery Eleonora Tamilia, PhD (USA)
- 4:30pm Magnetoencephalography Imaging of Surgically Resected Inter-Ictal High Frequency Oscillation (80-200Hz) was Associated With Seizure Freedom Velmurugan Jayabal, MBBS, PhD (USA)

3045: Platform Session - Electromyography Location: Wilson

Co-Chairs: Mark Ross, MD (USA) and Fiona Molloy, BSc, MB, BCh, BAO, MD, MRCPI, ABPN (Ireland)

- 3:15pm Large Inter-Rater Variation on Revised El Escorial and Awaji Diagnostic Criteria for Amyotrophic Lateral Sclerosis *Birger Johnsen, MD, PhD (Denmark)*3:30pm Nerve Ultrasound for the Identification of Treatment-Responsive Chronic Neuropathies without Nerve Conduction Abnormalities
 - Ingrid Herraets, MD (Netherlands)
- 3:45pm Preconscious and Conscious Responses to Thermoalgesic Stimulation in Healthy Subjects and Patients with Small Fibre Polyneuropathy *Gonzalo Barraza-Sandoval, MD (Chile)*
- 4:00pm Evaluation of Motor Fiber Functions at an Early Stage of Diabetic Peripheral Neuropathy *Li Tian, MD (China)*
- 4:15pm Two Novel Electrophysiological Methods in the Evaluation of ALS patients – MScan MUNE and MVRC *Rikke S. Kristensen, Stud.med. (Denmark)*
- 4:30pm Neural Correlates of Cognitive Set Shifting in Amyotrophic Lateral Sclerosis 2016 William Cobb Young Investigator Award *Florian Lange, PhD (Belgium)*

4:45 – 5:00PM

Break

5:00 - 6:30PM CONCURRENT SESSIONS

3070: Update and Advances in the Neurophysiologic Assessment of Neuromuscular Junction Disorders Location: Maryland

Co-Chairs: Devon Rubin, MD, FACNS (USA) and Carlos Heise, MD (Brazil)

Objectives:

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

- 1. Discuss the sensitivity and specificity, utility of, variation in technique, and potential pitfalls of repetitive nerve stimulation in assessing neuromuscular junction disorders;
- Review the variations in needle electromyographic assessment of neuromuscular junction disorders, including the use of concentric needle and single fiber EMG;
- 3. Apply new, emerging neurophysiologic techniques to identify neuromuscular junction disorders.

Agenda:

5:00pm Repetitive Nerve Stimulation: Advances, Techniques, and Limitations

Devon Rubin, MD, FACNS (USA)

- 5:30pm Update in Single Fiber EMG and Concentric Needle EMG in the Diagnosis of Neuromuscular Junction Disorders Daniel Menkes, MD, FACNS (USA)
- 6:00pm Advancing Neurophysiologic Techniques in the Evaluation of Neuromuscular Junction Disorders Hans D. Katzberg, MD, MSc, FRCPC (Canada)

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3065: Novel Methodologies in Transcranial Magnetic Stimulation

Location: Wilson

Co-Chairs: Ricci Hannah, PhD (United Kingdom) and Tudor Lupescu, MD (Romania)

Objectives:

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

- Describe how pulse shape can be leveraged to enhance the selectivity of TMS for specific neuronal populations and the implications for improved assessments of cortical physiology and improved neuromodulation protocols;
- Identify the basic set-up and procedures for implementing EEGcontrolled TMS;
- 3. Describe how the brain's response to TMS depends on external (i.e. experimental) and internal conditions;
- Describe how the technique may lend to improved neuromodulation efficacy when relevant cortical circuits are most susceptible to TMS;
- 5. Identify the basic set-up and procedures for implementing QPS;
- 6. Describe the physiological outcomes and mechanisms of QPS;
- 7. Explain how QPS can be used to probe brain-behavior relationships in a research setting and potentially be applied in a therapeutic context.

Agenda:

- 5:00pm Selective Neuronal Stimulation with Controllable Pulse Parameter TMS: Physiological And Behavioral Evidence *Ricci Hannah, PhD (United Kingdom)*
- 5:30pm Behavioral Consequences of Quadripulse Stimulation (QPS): Interactions with Response Inhibition in Healthy Individuals and Parkinson's Disease Patients Masashi Hamada, MD, PhD (Japan)
- 6:00pm Brain-State Dependent TMS: Live Methodological Demonstration and Evidence for Enhanced Neuromodulation Effectiveness *Christoph Zrenner, MD (Germany)*

3055: Large Scale Networks in Focal Epilepsy Revealed by High-Density EEG and fMRI Studies Location: Marriott 3

Co-Chairs: Margitta Seeck, MD, PhD (Switzerland) and Soochul Park (Korea)

Objectives:

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

- 1. Describe the key clinical and neuroimaging arguments speaking in favor of large-scale epileptic networks in focal epilepsy;
- Explain how pathological large-scale network activity persist in epileptic patients even outside ictal or interictal events and that they can be recorded and characterized with advanced EEG techniques;
- Describe how epileptic networks can become self-sustaining and persist even after resection of the epileptic zone, leading to persistent neurological and behavioral deficits despite seizurefreedom;
- 4. Explain why early surgery in focal epilepsy could avoid or reduce the installation of pathological large-scale networks.

Agenda:

5:00pm Cognitive Impairment in Focal Epilepsy – Large-Scale Network Disturbance *Pierre Mégevand, MD, PhD (Switzerland)*5:30pm Large-Scale Epileptic Networks in Temporal Lobe Epilepsy: Evidence from HD-EEG in Patents and Animal Models *Pieter van Mierlo, PhD (Belgium)*6:00pm Noninvasive Source Imaging of Seizure from High Density Scalp EEG *Bin He, PhD (USA)*

3060: Neurophysiology of Tremor Location: Delaware

Co-Chairs: Dietrich Haubenberger, MHSc, MD (USA) and Sean Connolly MB, BCh, BAO, MRCPI, MD, FRCPI (Ireland)

Objectives:

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

1. Define models that incorporate features that may help the understanding of the pathophysiology of tremor and differences between patients.

Agenda:

5:00pm	Parkinson's Tremor
	Rick C. Helmich, MD, PhD (Netherlands)
5:30pm	Essential Tremor Dietrich Haubenberger, MHSc, MD (USA)
6:00pm	Dystonic Tremor Pattamon Panyakaew, MD (Thailand)

3050: EEG Based Biomarkers in Neuropsychiatric Disorders: Pitfalls and Opportunities Location: Virginia

Co- Chairs: Joshua Ewen, MD, FACNS (USA) and Chi-Caho Chao, MD, PhD (Taiwan)

Objectives:

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

- Critically appraise the validation literature related to novel tests/ biomarkers in neurodevelopmental disabilities and epilepsy;
- 2. Identify challenges specific to neurodevelopmental disorders in biomarker development;
- 3. Identify validated methods and novel trends in convulsive seizure detection.

Agenda:

- 5:00pm Identifying Biomarkers of Cognitive Dysfunction in Neurodevelopmental Disorders Sandra Loo, PhD (USA)
- 5:30pm Automated Detection of Convulsive Seizures Using Surface EMG

Sandor Beniczky, MD, PhD (Denmark)

6:00pm Biomarker Validation in Neuropsychiatric Disorders Joshua Ewen, MD, FACNS (USA)

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6:30 - 8:00PM

Welcome Reception Location: Exhibit Hall

Celebrate the opening day of ICCN 2018 at the Welcome Reception! Connect with colleagues, network with other attendees, view posters, and visit exhibit booths.

Delegates and registered guests age 18 and over are welcome to attend (name badge required for admittance to the Exhibit Hall).

The Welcome Reception is supported, in part, by a grant from Persyst Development Corporation.

FRIDAY, MAY 4, 2018

7:00 - 9:00AM

Learning Lab: Ambulatory EEG Location: Exhibit Hall

See page 60 for details.

Breakfast will be provided by ICCN2018.

7:15 - 8:15AM

Product Theater: Sunovion Location: Wilson

See page 60 for details.

Breakfast will be provided by ICCN2018.

8:30 – 10:00AM

General Session Location: Marriott 1, 2

Co-Chairs: Paolo Rossini, MD, PhD and Jonathan C. Edwards, MD, MBA, FACNS

8:30am	IFCN Berger Award Presentation
	Paolo Rossini, MD, PhD

8:35am IFCN Berger Award Lecture Margitta Seeck, MD, PhD

9:15am ACNS Schwab Award Presentation Jonathan C. Edwards, MD, MBA, FACNS

9:20am ACNS Schwab Award Lecture: Electrodiagnostic Monitoring of Neuromuscular Function Disorders Donald Sanders, MD

10:00 - 10:15AM

Break

10:15 - 11:45AM CONCURRENT SESSIONS

4010: Electrophysiology and Immune Mechanisms in Postinfectious Neuropathies Location: Maryland

Co-Chairs: YL Lo, MD (Singapore) and Maria Penela Magallanes, MD (Uruguay)

Objectives:

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

- 1. Identify the electrophysiological changes in postinfectious neuropathy;
- 2. Explain the current concepts and research in postinfectious neuropathies;
- Describe the correlation of clinical, electrophysiological and immunological data implications of the above in therapeutic options.

Agenda:

- 10:15am Axonal Guillain-Barre Syndrome: New Concepts Satoshi Kuwabara, MD (Japan)
- 10:45am Electrophysiologic Features of Postinfectigious Neuropathies *YL Lo, MD (Singapore)*
- 11:15am Nodopathies of the Peripheral Nervous System Marcondes C. Franca, MD, PhD (Brazil)

4020: Structures Activated by TMS and Stimulating Current Direction Location: Delaware

Co-Chairs: Yoshikazu Ugawa, MD, PhD (Japan) and John Rothwell, PhD (United Kingdom)

Objectives:

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

- 1. Explain the MEP production mechanisms in TMS in humans;
- Describe what differences are present between anteriorly and posteriorly directed stimulating current directions in motor cortical NBS;
- 3. Explain what mechanisms underlying the above differences: afferent input differences and dendritic excitability differences;
- 4. Apply these differences in clinical settings (examination and treatment).

Agenda:

- 10:15am Based on Own Human Experimental Data Yoshikazu Ugawa, MD, PhD (Japan)
- 10:45am Based on Epidural Recording Data John Rothwell, PhD (United Kingdom)
- 11:15am Based on Modeling Data Vincenzo Di Lazzaro, MD (Italy)

Congress Scientific & Educational Program

4005: Controversy: Nonconvulsive Seizures and Status Should Be Aggressively Treated Location: Marriott 3

Chair: Frank W. Drislane, MD, FACNS (USA)

Objectives:

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

1. Discuss the many different types of SE and different approaches to each.

Agenda:

10:15am Pro

	Andrea O. Rossetti, MD, FAES (Switzerland)
10:35am	Con
	Lawrence J. Hirsch, MD, FACNS (USA)

10:55am Pro Rebuttal Andrea O. Rossetti, MD, FAES (Switzerland)
11:05am Con Rebuttal Lawrence J. Hirsch, MD, FACNS (USA)

11:15am Summary and Comments Frank W. Drislane, MD, FACNS (USA)

4000: CNP Program Directors Symposium: Subspecialty Clinical Neurophysiology Training Location: Wilson

Co-Chairs: Jeffrey Britton, MD, FACNS, FANA, FAAN, FAES (USA) and Cormac O'Donovan, MD, FACNS (USA)

Objectives:

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

- 1. Understand nuances, challenges and benefits of the match process for training programs around the world.
- 10:15am American Perspectives Jeffrey Britton, MD, FACNS, FANA, FAAN, FAES (USA)

 10:30am European Perspectives Jonathan Cole, MA, MSc, DM (Oxon), FRCP (United Kingdom)
 10:45am Asian Perspectives

Ryusuke Kakigi, MD, PhD (Japan)

4015: Advances in the Neurophysiology of Language: Structure, Time, and Plasticity Location: Virginia

Co-Chairs: Ellen Lau, PhD (USA) and Satu Jaaskelainen, MD, PhD (Finland)

Objectives:

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

1. Discuss how recent research is advancing on problems through innovative uses of non-invasive EEG and MEG recordings, both with event-related responses and time-frequency measures.

Agenda:

- 10:15am Neural Representations of Speech in Auditory Cortex Jonathan Z. Simon, PhD (USA)
- 10:45am Neural Encoding of Linguistic Structure Across Time *Ellen Lau, PhD (USA)*
- 11:15am Plasticity in the Neural Implementation of Language: Insights from Studies with Blind Individuals Marina Bedny, PhD (USA)

11:45AM - 1:00PM Lunch

Location: Exhibit Hall

Poster Presentations

12:00 – 1:00PM Special Interest Groups (SIGs) (Non CME)

4080: Noninvasive Brain Stimulation SIG- Spinal Cord Plasticity Induction Location: Virginia

Director: Yoshikazu Ugawa, MD, PhD

4081: Education SIG- Exit Exam Experience Location: Wilson

Director: Jonathan Cole, MA, MSc, DM (Oxon), FRCP

4082: Neuromuscular Ultrasound SIG- Broadening the Scope of Electrodiagnostic Practice: The Emerging Role of Ultrasound Location: Delaware

Director: Francis O. Walker, MD, FACNS

4083: Continuous EEG SIG- Developing cEEG Programs Throughout the World Location: Marriott 3

Director: Sarah Schmitt, MD, FACNS

4084: Neurophysiologic Interoperative Monitoring SIG-Cranial Nerve MEPs vs NAPs Location: Maryland

Director: Lilia de La Maza, MD

4085: Functional Brain Connectivity as Revealed by EEG/ MEG

Location: Park Tower 8228

Co-Directors: Claudio Babiloni, PhD and Fabrizio Vecchio, PhD

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1:00 - 2:30PM CONCURRENT SESSIONS

4025: How Well Do You See Inside the Brain with Scalp EEG, MEG, EEG-fMRI and Intracerebral EEG? Location: Marriott 3

Co-Chairs: Jean Gotman, PhD, FACNS (Canada) and Shozo Tobimatsu, MD, PhD (Japan)

Objectives:

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

- Discuss the limited ability of scalp EEG and MEG to see sources of neuronal activity located below the brain surface and gain an appreciation for the different types of source modeling approaches;
- 2. Describe how EEG is combined with fMRI and how this combination, in some circumstances, allow to identify neuronal sources anywhere in the brain;
- 3. Identify the limitations of subdural and intracerebral electrodes in identifying sources of epileptic discharges.

Agenda:

- 1:00pm Strengths and Limitations of Scalp EEG and MEG in Identifying Deep Neuronal Sources Andreas Alexopoulos, MD (USA)
- 1:30pm Combining EEG and fMRI to See the Source of Deep Epileptic Discharges Jean Gotman, PhD, FACNS (Canada)
- 2:00pm Intracerebral EEG Can See Deep in the Brain, but with Tunnel Vision Laura Tassi, MD (Italy)

4030: Peripheral Clinical Neurophysiology in Intensive Care

Location: Maryland

Co-Chairs: Mamede de Carvalho, MD, PhD (Portugal) and Hatice Tankisi, MD, PhD (Denmark)

Objectives:

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

 Understand the importance of neuromuscular disorders as a critical factor for respiratory muscle weakness, longer stay and higher rate of complications in Intensive care setting: Frequency, mechanisms and diagnosis of critical care polyneuropathy; Frequency, mechanisms and diagnosis of critical care myopathy; Dysfunction of muscular membrane excitability in critical care myopathy and new techniques to investigate this abnormality; Neurophysiological assessment of phrenic nerve conduction and electromyography of the respiratory muscles in the Intensive care unit.

Agenda:

1:00pm	Intensive Care Unit Myopathy
	Hatice Tankisi, MD, PhD (Denmark)
1:30pm	Intensive Care Unit Neuropathy Birger Johnsen, MD, PhD (Denmark)
2:00pm	Respiratory Evaluation Mamede de Carvalho, MD, PhD (Portugal)

4035: Quantitative EEG in Epilepsy and Critical Care: Interactive Workshop Location: Virginia

Chair: Susan T. Herman, MD, FACNS (USA)

Objectives:

- At the conclusion of this session, participants should be able to:
- 1. Describe the benefits and limitations of quantitative EEG trends;
- 2. Interpret quantitative EEG to detect seizures in the ICU and EMU;
- 3. Utilize quantitative EEG to detect ischemia in the ICU.

Agenda:

1:00pm Quantitative EEG for Assessment of Background Abnormalities *Michel J. van Putten, MD, MSc, PhD (Netherlands)*

1:30pm Quantitative EEG for Identification of Seizures and Periodic Patterns *Susan T. Herman, MD, FACNS (USA)*

2:00pm Quantitative EEG for Identification of Ischemia *M. Brandon Westover, MD, PhD, FACNS (USA)*

4045: Teaching Clinical Neurophysiology: Adapting Models to Local Demands Location: Wilson

Chair: Paulo Andre A. Kimaid, MD, PhD (Brazil)

Objectives:

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

- 1. Discuss the different paradigms for teaching clinical neurophysiology around the world;
- 2. Describe the blended learning paradigm for teaching neurophysiologic intraoperative monitoring in Brazil;
- 3. Describe training in electroencephalography provided remotely.

Agenda:

- 1:00pm The Role of IFCN and Other World Organizations in Teaching CNP *Hiroshi Shibasaki, MD, PhD (Japan)*
- 1:30pm Clinical Neurophysiology in Brazil A New ParadiLearning Distance and Intensive Practical Sessions Paulo Andre A. Kimaid, MD, PhD (Brazil)
- 2:00pm Web Based EEG Teaching Techniques Sandor Beniczky, MD, PhD (Denmark)

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4040: Sleep Biomarkers for Cognitive Disorders Location: Delaware

Co-Chairs: Madeleine Grigg-Damberger, MD, FACNS (USA) and Yuping Wang, MD, PhD (China)

Objectives:

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

1. Discuss sleep biomarkers indicated in Alzheimer's Disease, mild traumatic brain injury, and Parkinson's Disease.

Agenda:

1:00pm	Sleep Biomarkers in Alzheimer's Disease and Minima Cognitive Impairment Madeleine M. Grigg-Damberger, MD, FACNS (USA)
1:30pm	Prognostic Significance of Sleep Disorders in Mild Traumatic Brain Injury Sanjeev Kothare, MD, FAAN (USA)
2:00pm	Sleep Biomarkers in Parkinson's Disease <i>Birgit Högl, MD (Austria)</i>

2:30 - 2:45PM

Break

2:45 - 4:15PM CONCURRENT SESSIONS

4055: Growing the Optimal Neurodiagnostic Team: Presented by ASET-The Neurodiagnostic Society Location: Wilson

Co-Chairs: Maureen Carroll, R. EEG/EP T., RPSGT, CNIM (USA) and Kimberly Whitehead, BSc (United Kingdom)

Objectives:

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

- Outline functions and sample job descriptions for neurodiagnostic staff which will meet the need for high volume, high acuity neurophysiology services including continuous EEG in the ICU, epilepsy monitoring unit and neurophysiologic intraoperative monitoring to ensure timely reporting and intervention to improve patient outcome;
- Locate and implement educational resources to build practical skills for neurodiagnostic staff and document the competency of technical staff in specific areas of neurodiagnostics;
- 3. Describe a variety of tools available to enhance neurodiagnostic services including equipment, software, and remote viewing;
- 4. Develop programs to integrate staff and improve communication between the neurophysiology team and the medical staff we serve.

Agenda:

- 2:45pm Education without Boundaries: Self-Directed Distance Learning in Neurodiagnostics Maureen Carroll, R. EEG/EP T., RPSGT, CNIM (USA)
- 3:15pm The Road from Didactics to Clinical Competence in Neurodiagnostics
- Cheryl Plummer, R.EEG T, CLTM, FASET, B.S. (USA)
 3:45pm Global Neurodiagnostic Educational Resources through OSET

Maggie Marsh-Nation, R.EEG T, CNIM, MSIDT (USA)

4050: Continuous EEG in Targeted Temperature Management: the I-CARE (International Cardiac ARrest EEG Consortium)-CCEMRC Study Location: Marriott 3

Co-Chairs: Jong Woo Lee, MD, PhD, FACNS (USA) and Calixto Machado, MD, PhD, FAAN (Cuba)

Objectives:

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

- 1. Identify patterns that have a high predictive value in determining outcome;
- Describe how to elicit and interpret reactivity patterns on EEG in patients undergoing TTM;
- 3. Discuss the current state of the art methods in quantitative analysis and modeling of EEG signals for prognostication;
- Discuss the dynamic nature of cEEGs during TTM and their role in affecting outcome;
- 5. Identify key aspects of the pathophysiology involved in various EEG phenomena and their transitions, in particular the role of selective synaptic failure.

Agenda:

2:45pm Approaches to Continuous EEG in Cardiac Arrest Michel J. van Putten, MD, MSc, PhD (Netherlands)

3:15pm Advances in Assessing EEG Eeactivity in Targeted Temperature Management *M. Brandon Westover, MD, PhD, FACNS (USA)*

3:45pm Dynamic Nature of Brain Injury in Targeted Temperature Management Jong Woo Lee, MD, PhD, FACNS (USA)

4060: Pediatric Neuromuscular Disorders Location: Maryland

Chair: Nancy Kuntz, MD (USA) and Juan Santoni, MD (Dominican Republic)

Objectives:

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

- 1. Have a clinical approach to assess neuromuscular disorders in childhood;
- 2. Determine the diagnostic features which aid in categorizing specific neuromuscular disorders;
- 3. Know the current treatment strategies and therapeutic advances for some pediatric neuromuscular conditions.

Agenda:

2:45pm Congenital Myasthenic Syndromes: Update on EDX and Treatment *Liying Cui, MD (China)*

3:15pm Hereditary Neuropathies: Navigating EDX and Genetic Testing

Nancy Kuntz, MD (USA)

3:45pm Diagnostic Features and Treatment Update Kathryn Selby, BSc, MBChB, MRCP, FRCPC (Canada)

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4070: Platform Session - Noninvasive Brain Stimulation Location: Delaware

Co-Chairs: Charles Epstein, MD (USA) and Paolo Rossini, MD, PhD (Italy)

- 2:45pm Developmental Differences in Motor Cortex TMS-EEG Responses Associate With Local White Matter Microstructure Elisa Kallioniemi, PhD (USA)
- 3:00pm Quantifying the Stereotypy of TMS-Evoked EEG Potentials Using a Cosine Similarity Metric Jack A. Reeves, B.Che.E. (USA)
- 3:15pm An Open-Loop TMS Study Evaluating the Impact of Mu And Beta Oscillations on Motor-Evoked Potential Amplitudes Sara J. Hussain, PhD (USA)
- 3:30pm Cerebellar Direct Current Stimulation (tDCS) for the treatment of Phantom Limb Pain (PLP) Tommaso Bocci, MD (Italy)
- 3:45pm Spatiotemporal Dynamics of Single and Paired Pulse TMS-EEG Responses in Healthy Subjects Annika A. de Goede, MSc (Netherlands)
- 4:00pm Altered Recovery from Inhibitory Repetitive Transcranial Magnetic Stimulation (rTMS) in Subjects with Photosensitive Epilepsy 2016 Mary Brazier Young Investigator Paper Award *Tommaso Bocci, MD (Italy)*

4075: Platform Session - Evoked Potentials & NIOM Location: Virginia

Co-Chairs: Partha Thirumala, MD (USA) and Jorge Gutierrez, MD, MSc (USA)

- 2:45pm Reduced electrode arrays for the automated detection of rhythmic and periodic patterns in the intensive care unit: Frequently tried, frequently failed?
 2017 Grey Walter Young Investigator Award Johannes B. Herta (Austria)
- 3:00pm Factors that Modify the Risk of Intraoperative Seizures Triggered by Electrical Stimulation During Supratentorial Functional Mapping Jennifer M. Dineen, MD, MSc (USA)
- 3:15pm Somatosensory Evoked Potentials and Central Motor Conduction Times Help Predict Outcomes from Deep Brain Stimulation (DBS) in Children with Dystonia Verity M. McClelland, MBBS, PhD, MRCPCH (United Kingdom)
- 3:30pm Prognostic Value of Intra- and Extra-operative Lateral Spread Responses in Microvascular Decompression Surgeries of Hemifacial Spasm Jongsuk Choi, MD (Korea (the Republic of))
- 3:45pm Percutaneous Threshold of Facial Nerve Stimulation Predicts Facial Canal Dehiscence *Richard Vogel, PhD, DABNM (USA)*
- 4:00pm Use of Motor Evoked Potentials During Lateral Lumbar Interbody Fusion Reduces Postoperative Deficits *Michael R. Riley, MS, CNIM (USA)*

4:00 – 4:30PM

Break

4:30 – 6:00PM

General Session Location: Marriott 1, 2

Co-Chairs: Tobias Loddenkemper,, MD, FACNS and Yoshikazu Ugawa, MD, PhD

4:30pm	Introduction of the ACNS President Tobias Loddenkemper, MD, FACNS
4:35pm	ACNS Presidential Lecture Neurophysiology of SUDEP Stephan U. Schuele, MD, MPH, FACNS
5:15pm	IFCN Adrian Award Presentation Yoshikazu Ugawa, MD, PhD
5:20pm	IFCN Adrian Award Lecture Sleep Switches: Clinical Implications Clifford Saper, MD, PhD

7:00PM - 9:00PM

Gala Reception

Smithsonian National Air & Space Museum

The Gala Reception is open to registered delegates and registered guests. <u>Tickets are required</u> and a limited number may be available for purchase at the ICCN Registration Desk before 4:30pm on Friday, May 4. Transportation to the reception is <u>not</u> provided. See page ## for directions to the Smithsonian National Air & Space Museum by Metro and other options.

SATURDAY, MAY 5, 2018

8:30 - 10:00AM CONCURRENT SESSIONS

5005: Human Brain Connectome from Physiology to Disease

Location: Maryland

Chair: Fabrizio Vecchio, PhD (Italy)

Objectives:

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

1. Identify ways to investigate neurodegeneration such as in Alzheimer's disease through the study of the brain connectivity modulation.

Agenda:

8:30am Anatomical and Functional Connectivity: From Cell to Whole Brain

Hartwig R. Siebner, MD (Denmark)

- 9:00am Functional Connectivity in Physiological and Pathological Aging from EEG Network Analysis During Rest and Task *Fabrizio Vecchio, PhD (Italy)*
- 9:30am Connectivity and Neurodegeneration Paolo Maria Rossini, MD, PhD (Italy)

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5010: Neurophysiologic and Imaging Signatures of Pain and Itch

Location: Delaware

Co-Chairs: Sung-Tsang Hsieh, MD, PhD (Taiwan) and Ana Lucila Moreira, MD (Brazil)

Objectives:

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

- 1. Explain the clinical neurophysiology of pain and itch and the applications of pain- and itch-evoked potential;
- 2. Discuss neuroimaging of pain and itch;
- 3. Explain brain plasticity in degeneration-induced neuropathic pain.

Agenda:

8:30am	Neurophysiological Signatures of Pain and Their Clinical Use Praveen Anand, MD (United Kingdom)
9:00am	Imaging Signatures of Nerve Degeneration-Induced Neuropathic Pain
9:30am	Sung-Tsang Hsieh, MD, PhD (Taiwan) Itch Perception in Humans Ryusuke Kakigi, MD, PhD (Japan)

5015: Neurophysiological Effects of Deep Brain Stimulation

Location: Virginia

Co-Chairs: Josep Valls-Sole, MD (Spain) and Vivianne van Kranen-Mastenbroek, MD, PhD (Netherlands)

Objectives:

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

- 1. Discuss the latest advances in the understanding of local and distant neurophysiological effects of deep brain stimulation;
- 2. Discuss the knowledge derived from such studies.

Agenda:

8:30am	Circuit Effects of DBS
9:00am	Beyond Basal Ganglia. Effects of DBS on Cortical Activity
	Robert Chen, MD (Canada)
9.30am	Lateral Effects on Sensory and Motor Pathways

9:30am Lateral Effects on Sensory and Motor Pathways Josep Valls-Sole, MD (Spain)

5000: Clinical Neurophysiology of Insular Epilepsy Location: Marriott 3

Chair: Dang Nguyen, MD, PhD, FRCPC (Canada)

Objectives:

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

- 1. Recognize the semiology of insular seizures;
- 2. Recognize the surface EEG abnormalities associated with insular epilepsy;
- 3. Explain the value of magnetoencephalography in the diagnosis of insular epilepsy;
- 4. Discuss the value of invasive EEG investigation for insular cortex epilepsy: indications, methods and risks.

Agenda:

8:30am Video-Scalp EEG Investigation of Insular Epilepsy Dang K. Nguyen, MD, PhD, FRCPC (Canada)

9:00 am Magnetoencephalographic Investigation of Insular Epilepsy Ismail S. Mohamed, MD (USA)

9:30am Invasive EEG Investigation of Insular Epilepsy *Philippe Kahane, MD, PhD (France)*

5020: Neurophysiology of Multisensory Integration Location: Wilson

Co-Chairs: John Foxe, PhD (USA) and Tereza Gabelic, MD (Croatia)

Objectives:

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

1. Discuss electrophysiological and behavioral studies on multisensory integration.

Agenda:

-	
8:30am	Shifting Among Multiple Sense John Foxe, PhD (USA)
9:00am	Timing in the Brain: Multi-Modal Investigations <i>Mark Wallace, MD (USA)</i>
9:30am	Multisensory Integration in Autism: A Developmental Perspective Sophie Molholm, PhD (USA)

10:00 - 10:15AM

Break

10:15 – 11:45AM

General Session Location: Marriott 1, 2

Co-Chairs: Stephan U. Schuele, MD, MPH, FACNS and Reinhard Dengler, MD

- 10:15am ACNS Gloor Award Presentation Stephan U. Schuele, MD, MPH, FACNS
- 10:20am ACNS Gloor Award Lecture: A Journey through Intraoperative Neuromonitoring: Past, Present, and Future Marc R. Nuwer, MD, PhD, FACNS
- 11:00am IFCN Kugelberg Award Presentation Reinhard Dengler, MD
- 11:05am IFCN Kugelberg Award Lecture: Development of Clinical Neurophysiology in India: Building on the past and looking forwards. A Perspective *Mandaville Gourie-Devi, MBBS, MD, DM, DSc*

11:45AM - 2:00PM

Lunch

Location: Exhibit Hall

Posters Presentations

Learning Lab: Neuromuscular Ultrasound (see page 60 for complete information)

12:00PM - 2:30PM

IFCN General Assembly Location: Marriott 3

All persons registered at the Congress may attend a meeting of the IFCN General Assembly, but only members of the IFCN Executive Committee and delegates, alternates and additional representatives whose names appear on the list maintained by the IFCN Secretary (each a member of the General Assembly) may speak and vote at a meeting of the General Assembly.

2:00 - 3:30PM CONCURRENT SESSIONS

5030: Controversy: Stereo EEG vs. Grids and Strips – Which Is Better, How Do We Choose? Location: Maryland

Chair: Saurabh Sinha, MD, PhD, FACNS (USA)

Objectives:

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

- 1. Identify advantages and limitations of stereo EEG versus subdual electrodes for invasive monitoring to localize the seizure focus;
- 2. Identify specific situations/cases that are better suited to stereo EEG versus subdural electrodes.

Agenda:

2:00pm	Moderator Welcome
	Saurabh R. Sinha, MD, PhD, FACNS (USA)
2.15pm	Controversy Session

2: I spm Controversy Session Francois Dubeau, MD (Canada) Gregory Bergey, MD (USA)

5035: Controversy: Ultrasound is Sufficient for Diagnosis of ALS, CTS, Demyelinating Neuropathy Location: Virginia

Chair: Francis O. Walker, MD, FACNS (USA)

Objectives:

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

1. Discuss the relative merits and limitations of each approach for specific cases presented.

Agenda:

2:00pm	Moderator Welcome
	Francis O. Walker, MD, FACNS (USA)

2:15pm	Controversy Session
	David C. Preston, MD (USA)
	Leo Visser, MD, PhD (Netherlands)

5025: Contemporary Update on Pedicle Screw Stimulation Location: Wilson

Co-Chairs: Gloria Galloway, MD, MBA, FACNS (USA) and Rafael De Castro, MD (Brazil)

Objectives:

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

- 1. Understand the alert criteria which can be used in PS placement;
- 2. Discuss limitations in applying data to PS placement.

Agenda:

2:00pm	Alert Criteria in PS Placement and Chronically
	Compressed Nerve Roots
	Gloria Galloway, MD, MBA, FACNS (USA)
2:30pm	Value of NIOM in PS Placement Review of the Data Armando Tello, MD, PhD (Mexico)
3:00pm	Complications of PS Placement with Review of Case Studies Jaime Ramos-Peek, MD (Mexico)

5040: Pediatric Noninvasive Brain Stimulation Location: Delaware

Co-Chairs: Alexander Rotenberg, MD, PhD (USA) and Kaidi Lunge, MD (Estonia)

Objectives:

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

- Describe the basics of TMS, tDCS and tACS equipment and the physical principles that govern electrical intracranial electrical current distribution;
- 2. Explain TMS, tDCS and tACS effects at the neuronal network level, regional cortical and cellular level;
- 3. Identify regulatory status and safety considerations in noninvasive brain stimulation;
- 4. Explain the ways in which current knowledge, available technology, and physics guide experimental design and interpretation, focusing on several classic and contemporary experiments.

Agenda:

2:00pm	Moving Targets: Developmental Neurobiology
	Considerations in NBS
	Alexander Rotenberg, MD, PhD (USA)
2:30pm	Therapeutic Targets in ADHD
	Michael Siniatchkin, MD (Germany)
3:00pm	Therapeutic Prospects for NBS in Pediatric Stroke Adam Kirton, MD, MSc (Canada)

3:30 - 3:45PM

Break

3:45 - 5:15PM CONCURRENT SESSIONS

5060: The Evolving Role of Neurostimulation in the Management of Medically Refractory Epilepsy Location: Marriott 3

Co-Chairs: Dawn Eliashiv, MD, FACNS, FAAN (USA) and Elson So, MD, FACNS (USA)

Objectives:

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

- 1. Identify appropriate patients for neurostimulation;
- 2. Explain the neurophysiological principles behind neurostimulation;
- 3. Manage and program patients with neurostimulators.

Agenda:

3:45pm Cranial Nerve Stimulation in Epilepsy: Update and Future Trends

Steven Karceski, MD (USA)

4:15pm Responsive Neurostimulation: Patient Selection and Advanced Programming Strategies *Lawrence J. Hirsch, MD, FACNS (USA)*

4:45pm Neurostimulation 2020 and Beyond Dawn Eliashiv, MD, FACNS, FAAN (USA)

5045: Advances in Neuromuscular Imaging: A Focus on Nerve Ultrasound

Location: Maryland

Co-Chairs: Lisa Hobson-Webb, MD (USA) and Dongsheng Fan, MD, PhD (China)

Objectives:

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

- 1. Identify the limitations of current HRUS technology;
- 2. Review the current status of ultra-high frequency US technology and photoacoustics;
- 3. Explore the potential for standardized, quantitative measures of vascularity and echointensity;
- 4. Review elastrography concepts, including acoustic radiation force imaging and shear wave imaging;
- 5. Provide examples of how these novel technologies may enhance clinical care and research in neuromuscular disease.

Agenda:

3:45pm Emerging Technologies in Neuromuscular Imaging: An Overview Lisa D. Hobson-Webb, MD (USA)

4:15pm Integrating Imaging with Electrodiagnostic Testing Francis O. Walker, MD, FACNS (USA)

4:45pm Elastography Techniques in Neuromuscular Imaging Daniele Coraci, MD (Italy)

5050: Botulinum Toxin Treatment of Neurologic Disorders: Mechanism of Action and Ultrasound vs EMG Guidance

Location: Wilson

Co-Chairs: Jaime Lopez, MD, FACNS (USA) and Gustavo Ramos Burbano, MD, MSc (Columbia)

Objectives:

- At the conclusion of this session, participants should be able to:
- 1. Describe how botulinum toxin improves dystonia and spasticity;
- 2. List limitations of injection guidance by palpation; and
- 3. Compare and contrast EMG, electrical stimulation, and ultrasound guidance for administering therapeutic injections of botulinum toxin.

Agenda:

- 3:45pm The Clinical Neuropharmacology and Neurophysiology of Botulinum Toxins Janice Massey, MD (USA)
- 4:15pm Ultrasound Guidance of Botulinum Toxin Therapy Katharine Alter, MD (USA)
- 4:45pm EMG and Electrical Stimulation Guidance for Botulinum Toxin

Jaime Lopez, MD, FACNS (USA)

5065: Update on Evoked Potential Warning Criteria during Surgery Location: Virginia

Co-Chairs: Aatif M. Husain, MD, FACNS (USA) and Lidia Cabanes-Martinez, MD (Spain)

Objectives:

- At the conclusion of this session, participants should be able to:
- 1. Explain the nuances of interpreting EP changes during surgery;
- Apply updated interpretation criteria for SEP changes during surgery;
- 3. Apply site of surgery dependent criteria for MEP changes;
- 4. Apply type of surgery dependent criteria for BAEP changes.

Agenda:

3:45pm	Somatosensory Evoked Potentials
	David MacDonald, MD, FRCP(C), ABCN (Saudi Arabia)

- 4:15pm Motor Evoked Potentials Andrea Szelenyi, MD, PhD (Germany)
- 4:45pm Brainstem Auditory Evoked Potentials Aatif M. Husain, MD, FACNS (USA)

5055: Neurophysiology of Cannabinoids Location: Delaware

Co-Chairs: Jose Tellez-Zenteno, MD, PhD, FRCP (C), CSCN (EEG) (Canada) and Monica Perassolo, MD (Argentina)

Objectives:

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

- 1. Discuss assessments of neuropathic pain;
- 2. Explain the pharmacology of CBD in the context of cannabinoid receptor in the central and peripheral nervous system.

Agenda:

3:45pm	Neurophysiology of CBD in Epilepsy Jose Tellez-Zenteno, MD, PhD, FRCP (C), CSCN (EEG) (Canada)
4:15pm	Neurophysiology of CBD in Pain Sung-Tsang Hsieh, MD, PhD (Taiwan)
4:45pm	Neurophysiology of CBD in Sleep Charlene Gamaldo, MD (USA)

5:15 – 5:45PM

Break

ACNS Member Business Meeting & Presidential Inauguration Location: Virginia

Chair: Stephan U. Schuele, MD, MPH, FACNS

5:45 – 6:45PM

General Session Location: Marriott 1, 2

5:45pm Journal of Clinical Neurophysiology (JCN) Cosimo Ajmone-Marson (CAM) Award Presentation Aatif M. Husain, MD, FACNS Editor-in-Chief, Journal of Clinical Neurophysiology

5:50pm Neurophys Bowl Hosts: *Mark Ross, MD, FACNS; Lawrence J. Hirsch, MD, FACNS* Judge: *Mark Hallett, MD, FACNS*



This "edutainment" session is a staple of the ACNS Annu-

al Meetings, consisting of a TV game-show style competition where participants rush to answer questions from recent CNP literature. ICCN 2018 will feature two semi-final rounds and a final round, played by teams representing each of the four IFCN regional chapters. The competition is fierce (but friendly!) and the winning chapter will be deemed to have the smartest clinical neurophysiologists in the world!

Come cheer on your chapter team...and if the teams are stumped, audience members have a chance to answer and win prizes!

Latin American Chapter - LA + WAVES

Alejandro Zavala, MD Jorge Gutierrez, MD, MSc Luis Otavio Caboclo, MD, MSc, PhD Paulo Kimaid, MD, PhD

European Chapter - EURO SPIKES

Ulf Ziemann, MD Sandor Beniczky, MD, PhD Jonathan Cole, MA, MSc, DM (Oxon), FRCP Mamede de Carvalho, MD, PhD

Asia-Oceana Chapter - ACTIVE OSCILLATIONS

Ryusuke (Ricky) Kakigi, MD, PhD Ying-Zu Huang, MD Nortina (Tina) Shahrizaila, MD Akio Ikeda, MD, PhD, FACNS

North American Chapter - NUISANCE ARTIFACTS

Stephan U. Schuele, MD, MPH, FACNS Cecil Hahn, MD, MPH, FACNS Madeleine Grigg-Damberger, MD, FACNS Devon Rubin, MD, FACNS

SUNDAY, MAY 6, 2018

8:30 - 10:00AM CONCURRENT SESSIONS

6015: Quo Vadis Clinical MEG Worldwide? Location: Harding

Co-Chairs: Anto Bagic, MD, PhD, FACNS (USA) and Cormac O'Donovan, MD, FACNS (USA)

Objectives:

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

- 1. Discuss the current state of Clinical MEG in the world along with its clinical potential;
- 2. Explain the factors leading to lack of coherent and evidencebased clinical practice guidelines (CPGs) worldwide;
- Explain the lack of harmonization of practices, procedures and CPGs worldwide as the key obstacles for faster integration of MEG in routine clinical practice;
- 4. Recognize the urgent need for internationally accepted clinical MEG practices, procedures and ensuing CPGs.

Agenda:

- 8:30am Japanese Perspective on the Current State and Future Direction of Clinical MEG *Kazutaka Jin, MD, PhD (Japan)*
- 8:50am European Perspective on the Current State and Future Direction of Clinical MEG Stefan Rampp, MD (USA)
- 9:10am USA Perspective on the Current State and Future Direction of Clinical MEG Anto Bagić, MD, PhD, FACNS (USA)

6005: Contribution of Corticomuscular, Intermuscular and Corticokinematic Coherence in Research on Sensorimotor Interactions Location: Madison

Co-Chairs: Sylvain Crémoux, PhD (France) and Mika Kallio, MD, PhD (Finland)

Objectives:

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

- Describe the basic neurophysiological mechanisms underlying corticomuscular coherence (CMC), intermuscular coherence (IMC) and corticokinematic coherence (CKC);
- 2. Explain the processing for quantification of CMC, IMC and CKC;
- 3. Associate the modulation of the CMC, IMC and CKC magnitudes with specific motor behaviors and/or pathology.

Agenda:

- 8:30am Potential of Corticomuscular and Intermuscular Interactions to Evaluate and Detect Alteration of Motor Control in Healthy People and People with Cervical Spinal Cord Injury Sylvain Crémoux, PhD (France)
- 9:00am Corticomuscular Coherence During Walking: Investigating the Cortical Control of Human Gait in Young and Older Adults and People with Parkinson's Disease *Tjeerd Boonstra, PhD (Australia)*
- 9:30am Corticokinematic Coherence: A Biomarker of the Proprioceptive Feedbacks to the Sensorimotor Cortex Mathieu Bourguignon, PhD (Spain)

ICCN * 2018 47 Final Program

6000: Brain Connectivity: What Invasive

Electrophysiology Can Do For Mapping Brain Networks Location: Lincoln 5&6

Co-Chairs: Riki Matsumoto, MD, PhD (Japan) and Giridhar Kalamangalam, MD, DPhil, FACNS (USA)

Objectives:

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

- Discuss the current status of the understanding of brain connectivity for presurgical evaluation of epilepsy and brain tumor;
- 2. Explain the basic concepts of the invasive electrophysiological methods to probe brain connectivity;
- 3. Select the patients who need and benefit from these brain connectivity methods.

Agenda:

8:30am	Mapping Brain Networks with ECoG Spectral Analysis
	Nathan E. Crone, MD (USA)

- 9:00am Probing Brain Effective Connectivity Using Cortico-Cortical Evoked Potential *Riki Matsumoto, MD, PhD (Japan)*
- 9:30am Exploring Brain Functional Connectivity Using Direct White Matter Stimulation Hugues Duffau, MD, PhD (France)

6010: New Proposals for Tc-MEP Interpretation in Spinal Deformities and Intramedullary Spinal Cord Tumor (IMSCT) Surgeries

Location: Wilson

Co-Chairs: Martin Segura, MD, PhD (Argentina) and Mohamed Imam, MD (Egypt)

Objectives:

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

- 1. Identify the differences between the several MEP-NIOM warning criteria proposed for spinal deformity surgery as well know a new alarm criterion that integrates most of them in a single approach;
- Name an alternative gold standard to better identify "false positive" results that takes into account not only the immediate postoperative clinical outcome but also surgical maneuvers, traction, hemodynamic changes, technical, and anesthetic factors;
- 3. Apply an updated plan of action to promptly and orderly react to intraoperative neurophysiological alarms provided by MEP-NIOM during spinal deformity surgery;
- 4. List MEP warning criteria in Spinal Deformities and IMSCT;
- 5. Discuss a tailored neurophysiological approach to MEP warning criteria in spinal deformities and IMSCT and the reason why they are different.

Agenda:

- 8:30am A New Alarm Criterion for MEP-NIOM and an Alternative Gold Standard to Better Identify True "False Positive" Findings Martin J. Segura, MD, PhD (Argentina)
- 9:00am A Proposed New Algorithm for Decision Making in the Face of Neurophysiological Alarms During Spinal Deformity Surgeries *Ricardo Ferreira, MD (Brazil)*

9:30am A Tailored Neurophysiological Approach to Warning MEP Criteria in Intramedullary Spinal Cord Tumors *Francisco J. Soto, MD (Chile)*

6040: Beyond Sleep Studies and EEGs: Advances in Ambulatory Neurophysiologic Monitoring of Sleep and Epilepsy

Location: Lincoln 2-4

Co-Chairs: Tobias Loddenkemper, MD, FACNS (USA) and Marie-Dominique Lamblin, MD (France)

Objectives:

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

1. Discuss feasibility of current monitoring technologies, as well as the potential for future discoveries, in ameliorating the risk of SUDEP.

Agenda:

8:30am	Monitoring of Neurophysiological Biomarkers During Wakefulness and Sleep <i>Milena Pavlova, MD (USA)</i>
9:00am	Seizures, Sleep and SUDEP Elson So, MD, FAAN, FACNS (USA)
9:30am	Circadian Seizure Patterns and Ambulatory Detection Devices

Tobias Loddenkemper, MD, FACNS (USA)

10:00 - 10:15AM

Break

10:15 - 11:45AM CONCURRENT SESSIONS

6035: Wide-band EEG by Neuron and Glia: From Basic and Clinical Application in Epilepsy Location: Lincoln 5&6

Co-Chairs: Akio Ikeda, MD, PhD, FACNS (Japan) and Seyed Mirsattari, MD, PhD, FRCPC (Canada)

Objectives:

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

- 1. Describe the generator mechanism of both HFO and DC shifts in clinical EEG;
- 2. Discuss the clinical application in the epilepsy fields based on the proper understanding of the generator mechanism.

Agenda:

10:15am Basic Generator Mechanism of Wide-Band EEG in Epilepsy

Christophe Bernard, PhD (France)

- 10:45am Clinical Observation of HFO in Epilepsy Jean Gotman, PhD, FACNS (Canada)
- 11:15am Clinical Observation of DC Shifts in Epilepsy *Akio Ikeda, MD, PhD, FACNS (Japan)*

Congress Scientific & Educational Program

6030: Sensorimotor Organization in Writer's Cramp Location: Harding

Chair: Mathew Alexander, MD, DM (India) and Robert Jech, MD, PhD (Prague)

Objectives:

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

- 1. Describe the role of sensory dysfunction, sensorimotor integration in the pathophysiology of FHD;
- 2. Target the sensory retraining, cutaneous sensory stimulation, rTMS, biofeedback therapy and botulinum toxin therapy.

Agenda:

10:15am	Pathopsysiology of Dystonia
	Pattamon Panyakaew, MD (Thailand)
10:45am	Noninvasive Brain Stimulation as a Therapeutic Tool in FHD
	Angelo Quartarone, MD (Italy)
11:15am	Sensori-Motor Processing Abnormalities in Writer's

Cramp Mathew Alexander, MD, DM (India)

6025: Quantitative Methods to Follow Neuromuscular Disease

Location: Wilson

Co-Chairs: Seward Rutkove, MD (USA) and Carlos Humberto Acevedo Avalos (Guatemala)

Objectives:

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

- 1. List the basic principles underlying these different approaches for quantifying motor function and physiology;
- 2. Identify the technical advantages and disadvantages to each of the techniques;
- 3. Assess which technology would be most appropriate for use in a given disorder.

Agenda:

10:15am	Quantitative Needle EMG Methods
	Mark Bromberg, MD, PhD (USA)

- 10:45am Electrical Impedance Myography Seward Rutkove, MD (USA)
- 11:15am Motor Unit Estimates Jeremy Shefner, MD, PhD (USA)

6020: Optimizing Transcranial Direct Current Stimulation Location: Lincoln 2-4

Co-Chairs: Michael Nitsche, MD (Germany) and Ulf Ziemann, MD (Germany)

Objectives:

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

- 1. Explain effects of transcranial direct current stimulation, including non-linearities, and optimizing approaches regarding stimulation intensity, and duration, as well as respective mechanisms;
- 2. Describe network-based stimulation approaches in contrast to single-target stimulation approaches;
- 3. Explain the impact of pharmacological interventions on tDCS effects, including disruptive and synergistic effects.

Agenda:

- 10:15am More is Not Better, Just Different Michael A. Nitsche, MD (Germany)
- 10:45am Targeting Networks Giulio Ruffini, PhD (Spain)
- 11:15am tDCS and Drugs Alexander Rotenberg, MD, PhD (USA)

6045: How Sports Affects Neurophysiology: The Good, the Bad, and the Ugly Location: Madison

Co-Chairs: Claus Reinsberger, MD, PhD, FACNS (Germany) and Alejandro Zavala Reina, MD (Mexico)

Objectives:

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

- Understand the role of neurophysiology in the acute diagnosis and treatment of sports related injuries of the central nervous system;
- Understand the role of neurophysiology in the acute diagnosis and treatment of sports related injuries of the peripheral nervous system;
- 3. Understand the role of sleep in the prevention of sports injuries and disturbances of sleep architecture induced by sports injuries.

Agenda:

10:15am	Better Performance by Better Sleep: The Role of Sleep
	in Elite Sports (The Good)
	Hugh Fullagar, PhD, Lecturer (Australia)

- 10:45am Task-Specific Dystonia in Sports: 'Waggles', 'Staggers' and 'Yips' (The Ugly) Sarah Pirio Richardson, MD (USA)
- 11:15am Neurophysiology of Acute Concussion (The Bad) Claus Reinsberger, MD, PhD, FACNS (Germany)

11:45AM – 12:00PM

Break

12:00 - 12:15PM

Closing Ceremonies Location: Lincoln 5&6 Chair: Walter Paulus, MD (Germany)

Chair: Walter Paulus, MD (German



806	Ad-Tech Medical Instrument Corporation
410	AIT Austrian Institute of Technology
707	American Board of Psychiatry & Neurology (ABPN)
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708	American Clinical Magnetoencephalography Society (ACMEGS)
705	American Society for Neurophysiological Monitoring (ASNM)
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706	ASET- The Neurodiagnostic Society
402+404	Brain Sentinel
109	Cadwell Industries, Inc.
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311	Demos Medical Publishing
313	DEYMED Diagnostic
205	DIXI Medical USA
800	Eisai Neurology
510	Electrode Store, The
804	Elsevier
502	Epilog
512	Epitel
101	Guger Technologies OG
304	Holberg EEG
308	iMedisyn Inc
500	IntraDiagnostics, LLC.
309	Ives EEG Solutions
105	Jali Medical Inc
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207	MEGIN (Elekta Oy)

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407	York Instruments Ltd.
103	Zeto
409+411	Zimmer Biomet
702	Australian and New Zealand Association of Neurol- ogists
701	Chinese EMG and Clinical Neurophysiology Society
703	Geneva Tourism & Conventions Foundation

#806

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#707

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The American Board of Psychiatry and Neurology serves the public interest and the professions of psychiatry and neurology by promoting excellence in practice through its certification and maintenance of certification processes.

#704

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The American Board of Clinical Neurophysiology (ABCN) has a 65year 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!

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#708

American Clinical Magnetoencephalography Society (ACMEGS) 555 E. Wells Street, Suite 1100 Milwaukee, WI, USA 53202 Email: info@acmegs.com Website: www.acmegs.org

American Clinical MEG Society is a non-profit 501(c)(6) trade association that includes the membership of clinical magnetoencephalography (MEG) facilities in the United States. Founded in 2006 by physicians committed to setting a national standard for high quality care of patients with epilepsy, ACMEGS now advocates for all individuals with neurological conditions who would benefit from MEG by educating policymakers and regulators about current and recommended standards of care, financial reimbursement, and health care provider regulations.

#705

American Society for Neurophysiological Monitoring (ASNM) 275 N. York Street Suite 401 Elmhurst, Illinois 60126 630.832.1300 Phone: +1-630-832-1300 Website: www.asnm.org

Founded in 1990 to promote the interests of the specialty of neurophysiological monitoring, the Society continues to advance the industry by upholding their vision and mission through the board, committees, events, and valued members. Our vision: The Society serves as the leading organization for the field of interventional neurophysiological assessment and monitoring. Our Mission: Quality neurophysiological monitoring benefits patient outcomes. The Society: Fosters the growth and stature of neurophysiological monitoring as a profession; Provides a forum for education and dissemination of knowledge in the field; Develops quality standards for practice and training; Builds partnerships and coalitions with allied professionals.

#508

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#706

ASET- The Neurodiagnostic Society 402 E. Bannister Rd, Ste A Kansas City, MO, USA 64131 Phone: +1-816-931-1120 Fax: +1-816-931-1145 Email: info@aset.org Website: aset.org

ASET - The Neurodiagnostic Society is the largest national professional association serving neurodiagnostic practitioners. ASET provides educational resources in all neurodiagnostic modalities, sets standards and competencies in neurodiagnostic technology and provides governmental advocacy to preserve the practice of neurodiagnostics. ASET's membership represents over 4,000 neurodiagnostic professionals including technologists, students, physicians and institutions. The mission of ASET is to provide education and advocacy, creating greater awareness of the profession, and establish best practices to ensure quality patient care. ASET provides its members practical guidance and helps them stay abreast the latest advances in the field through education programs, publications, and its member network.

#402+404

Brain Sentinel 8023 Vantage Drive San Antonio, TX, USA 78230 Email: info@brainsentinel.com Website: brainsentinel.com

Brain Sentinel is a privately held medical device start-up based in San Antonio, Texas. Brain Sentinel has submitted a novel Seizure Monitoring and Alerting System using surface EMG to the FDA for de novo market clearance. Through better, longitudinal, clinical information about motor seizure activity, Brain Sentinel wants to help epilepsy patients be heard in a way never before possible. Better information. Optimized treatment.

#109

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#408

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#808

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#311

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#800

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#510

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#804

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#502

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#101

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#304

Holberg EEG Mollendalsveien 65C Bergen, Norway 5009 Phone: +4721519111 Email: info@holbergeeg.com Website: holbergeeg.com

#308

iMedisyn Inc 8F KAIT Tower., 306, Teheran-ro, Gangnam-gu Seoul, Korea 06210 Phone: +82-2-747-7422 Fax: +82-2-745-7422 Email: jchung@imedisyn.com Website: https://imedisyn.com

iMediSyn Inc. develops software that evaluates of brain function by analyzing EEG in less than 10 minutes called iSyncBrain. This risk-assessment software can both be provided to the patient in receiving EEG, and also by a doctor when considering diagnosis and treatment. The company has collected healthy subjects' EEG for 5 years and developed an algorithm using an AI technology. In the software, the patient's EEG are uploaded to a cloud platform and then visualized to brain mapping. Major quantitative EEG indices, such as absolute band power, relative band power, spectra, abnormal peak information, band power ratio, asymmetry, coherence and source level networks are provided though iSyncBrain.

#500

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IntraDiagnostics is committed to reducing hospital costs and enhancing patient care by providing affordable cEEG solutions 24/7/365. Our R.EEGTs and CLTMs average over 15 years experience each. We are experienced with all EMU and ICU patient populations/Adult/Pediatric/Neonatal EEG/cEEG/SEEG/Grid patients. We provide flexible monitoring coverage and there is no minimum requirement and no charge when we are not providing coverage. We are available with an hour notice or less with no extra charges for nights/weekends/holidays. We offer Neurophysiology Specialty Boarded Neurologists for On-Call EEG/cEEG Reading services. We can provide cEEG equipment and manage the data in a HIPAA Compliant environment.

#309

Ives EEG Solutions 25 Storey Ave Newburyport, MA, USA 01950 Phone: +1-978-518-9163 Website: www.iveseegsolutions.com

#105

Jali Medical Inc 330 Bear Hill Rd. Suite 303 Waltham, MA, USA 02451 Phone: +1-781-376-008 Fax: +1-781-376-0808 Email: joanne@jalimedical.com Website: jalimedical.com

US distributor for reputable neuromodulation devices that include magnetic and electrical nerve stimulation, TMS ,tDCS, tACS, EEG, EMG and neuronavigation. We distribute for Magstim Company, Rogue Research, Rogue Resolutions, ANT Neuro, Mega Electronics, Bkin, and Delsys.

#611

Lifelines Neurodiagnostic Systems, Inc. 411 Edwardsville Road Troy, IL, USA 62294 Phone: +1-618-667-6445 Fax: +1-618-667-1982 Email: sales@lifelinesneuro.com Website: www.lifeslinesneuro.com

Lifelines Neurodiagnostic Systems is a pioneer in EEG. The acceptance of our Cloud-based, interactive EEG solution now has tens of thousands of days of video EEG stored in the Cloud in a secure, encrypted, HIPAA-compliant environment. We implement our mission, Changing Lives Through Neurodiagnostic Innovation, by providing solutions that are easy and efficient for clinicians with innovative solutions like the Jordan WiEEG BraiNet and eight-channel EEG amplifier. This product enables the clinician to quickly assess the EEG recorded in the ED from a remote internet connection. The Virtual EMU allows a patient to have their longterm video EEG recorded in the comfort of their own home, and the Incereb EEG electrode arrays simplify neonatal EEG monitoring. Lifelines is quickly developing a reputation for being the market expert at recording high-quality EEG in the most difficult of places.

#608

Mag & More Gmblt Machtlfinger Str. 13 München, Bayern, Germany 81379 Phone: +49-89-2018-5248 Fax: +49-89-2018-5328 Email: info@magandmore.com Website: www.magandmore.com

MAG & More is a manufacturer of Transcranial Magnetic Stimulation (TMS) solutions – quality Made in Germany. With over 15 years of experience, we specialize on developing high-end neurostimulation systems. All our products are developed and manufactured in Germany adhering to the highest standards. Using cutting edge technology, our stimulators are opening doors for clinicians and researchers around the globe. This includes the most innovative clinical solution on the market, the Apollo treatment system, as well as our market-leading devices for combined EEG-TMS experiments or the all-in-one QPS device. We look forward to welcoming you at our booth.

#306

Medtronic 1800 Pyramid Place Memphis, TN, USA 38132 Phone: +1-901-0396-3133 Fax: +1-901-399-2012 Email: karen.baker@medtronic.com Website: www.medtronic.com

#207

MEGIN (Elekta Oy) Siltasaarenkatu 18-20 Helsinki Finland FI-00530 Phone: +358-9-7562400 Email: megin@elekta.com Website: www.meetmegin.com

#403

Micromed LLC 224 S Maple Street Ambler, PA, USA 19002 Phone: +1-480-236-4705 Email: david.baker@micromedusa.com Website: www.micromedusa.com

Neurology solutions defined by you – designed, developed and manufactured by us. Micromed is trusted by some of the world's and nation's most reputable hospitals to deliver high quality, cost effective and clinically relevant Intensive Care and Epilepsy Monitoring solutions including EEG and LTM systems for both adult and pediatric patients. As the premier provider of neurology solutions in Europe, Micromed's FDA cleared systems are now available for direct sale in the United States. Micromed is focused exclusively on neurology hardware and software, driving continuous product development and customer support, dedicated to meeting the needs of physicians and technicians worldwide.

#405

Moberg ICU Solutions 224 S Maple Street Ambler, PA, USA 19002 Phone: +1-215-283-0860 Fax: +1-215-283-0859 Email: info@moberg.com Website: www.moberg.com

The Moberg Component Neuromonitoring System (CNS) is a continuous video EEG system specifically designed for the ICU. The system provides a full array of quantitative EEG trends, compatibility with Persyst, high-frequency, EEG, and is the preferred system for recording spreading depolarizations. The Moberg CNS is the only comprehensive data management system for neurocritical care. It collects and time synchronizes data from over 30 devices (vital signs, brain oxygen, temperature management, etc.) for more accurate EEG interpretation. It provides a data platform to facilitate individualized patient care. Data can be exported into Capsule, IBM Streams, Matlab, and other third-party software applications.

#603+605

Natus Neuro 3150 Pleasant View Road Middleton, WI, USA 53562 Phone: +1-800-356-0007 Fax: +1-608-829-8775 Email: neurology.marketing@natus.com Website: natus.com

Natus Neuro is a global market leader that provides diagnostic, therapeutic and surgical solutions built on a strong heritage in neurodiagnostics, neurocritical care and neurosurgery. Natus Neuro delivers clinician-led products that improve outcomes and enhance care for neuro patients through leading-edge equipment, service, education and supplies.

#413

Neuralynx, Inc. 105 Commercial Drive Bozeman, MT, USA 59715 Phone: +1-406-585-4542 Email: sales@neuralynx.com Website: nlxneuro.com

Used in top-50 hospitals worldwide, Neuralynx's ATLAS Neurophysiology System is the only DC capable, high-density EEG, EcOG and Human Single Unit solution – now for up to 512 channels! ATLAS operates as a research LTM while providing full clinical compatibility as a stand-alone system or in parallel with existing clinical systems. Neuralynx is also a leader in wireless digital telemetry, ultra-high-density, and real-time closed loop systems for epilepsy and pharmacological animal research. Decades of innovation, the loyal support of worldwide partners, and the drive to improve people's lives -- that's why over 700 animal and clinical research labs choose Neuralynx.

#401

NeuroPace, Inc. 455 N. Bernardo Avenue Mountain View, CA, USA 94043 Phone: +1-650-237-2700 Fax: +1-650-237-2701 Email: info@neuropace.com Website: www.neuropace.com

NeuroPace was founded to develop and market implantable devices for the treatment of neurological disorders with responsive stimulation. The RNS® System is an award-winning technology recognized for its innovation. Similar to a pacemaker that monitors and responds to heart rhythms, the RNS® System is the world's first and only medical device that can monitor and respond to brain activity, and is designed to prevent seizures at their source.

#110

Neurosoft 5, Voronin str. Ivanovo, Russia 153032 Phone: +74932240434 Fax: +74932240435 Email: info@neurosoft.com Website: neurosoft.com

#609

Neurovirtual 3303 W Commercial Blvd #100 Fort Lauderdale, FL, USA 33309 Phone: +1-786-693-8200 Fax: +1-305-393-8429 Email: ssolis@neurovirtual.com Website: www.neurovirtual.com

#202

Neurotech, LLC 626 W. Moreland Blvd. Waukesha, WI, USA 53188 Phone: +1-262-754-0898 Fax: +1-262-754-0897 Email: vwolfe@neurotecheeg.com Website: neurotecheeg.com

Neurotech, LLC specializes in EEG services including in-home, longterm, 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.

#108

Neuroelectrics 210 Broadway, Suite 201 Cambridge, MA, USA 02139 Phone: +1-617-682-0770 Email: laura.dubrevil@neuroelectrics.com Website: www.neuroelectrics.com

#201

Nihon Kohden America 15353 Barranca Parkway Irvine, CA, USA 92618 Phone: +1-949-580-1555 Fax: +1-949-580-1550 Email: info@nihonkohden.com Website: https://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 40 consecutive quarters (MD Buyline).

#504+506

Persyst Development Corporation 420 Stevens Ave., Suite 210 Solana Beach, CA, USA 92075 Phone: +1-866-327-8334 Fax: +1-858-461-4531 Email: sales@persyst.com Website: www.persyst.com

Persyst is the world's leading supplier of EEG software for clinical applications. Persyst Seizure Detection, Spike Detection, Trending and Artifact Reduction is integrated and sold by every leading EEG manufacturer. Visit Persyst to see the future of EEG software.

#503 Philips EGI 3721 Valley Center, Suite 500 San Diego, CA, USA 92130 Phone: +1-858-720-4020 Website: www.egi.com

#303

Renishaw Healthcare 1001 Wesemann Dr West Dundee, IL, USA 60118 Phone: +1-847-286-9953 Fax: +1-847-286-9974 Email: usa@renishaw.com Website: www.renishaw.com

#511

Rhythmlink International, LLC 1140 First Street South Columbia, SC, USA 29209 Phone: +1-806-633-3754 Fax: +1-803-227-1015 Email: sales@rhythmlink.com Website: rhythmlink.com

Rhythmlink International, LLC° works to enhance patient care worldwide by transforming medical device technology. By providing superior products, consistent availability, innovation and the highest level of customer service in the industry without wavering in our commitment to fair pricing, Rhythmlink has revolutionized the important physical connection between patients and the diagnostic equipment needed to record or elicit neurophysiologic biopotentials. In addition to designing, manufacturing and distributing medical devices, Rhythmlink provides custom packaging, private labeling, custom products and contract manufacturing to its customer.

#104

Ricoh USA, Inc. 1100 Valencia Ave. Tustin, CA, USA 92780 Phone: +1-714-316-4661 Email: scott.abelson@ricoh-usa.com Website: https://www.ricoh-usa.com/en/industries/healthcare

Ricoh Company, Ltd. is a Japanese multinational company, producing electronic products, cameras and office equipment. Ricoh is the largest manufacturer of copiers in the world. In 2016, Ricoh acquired Yokogawa Inc. MEG, which launched Ricoh into the field of medicine. Ricoh is now focusing on the United States for clinical use and research, providing the MEG with its excellent axial gradiometers for deep brain explore and a user friendly interface for lightening the diagnosis tasks.

#610 **Ripple** 2056 South 1100 East Salt Lake City, UT, USA 84106 Phone: +1-801-413-0139 Fax: +1-801-413-2874 Email: sales@rppl.com Website: rippleneuro.com

Ripple provides neurophysiology data acquisition systems for neuroscience and clinical research. Our systems are compact, portable, and heavily optimized for real-time, closed-loop applications with hundreds of channels of EMG, EEG, ECoG, and microelectrode data. Our software is cross platform, and can be run on Windows, Mac OS, and Linux.

#514

Rochester (AMC) 1711 NW 39th Street Coral Springs, FL, USA 33065 Phone: +1-800-358-2468

#305

RSC Diagnostic Services 331 Melrose Drive, Suite 145 Richardson, TX, USA 75080 Phone: +1-877-333-2575 Fax: +1-800-840-8626 Email: ctommelein@rscdiagnosticservices.com Website: www.rscdiagnosticservices.com

RSC combines cutting edge telemedicine with academic caliber video-EEG in patients' homes and medical facilities. CLTM technologists review EEG data under supervision by an unparalleled panel of board certified and fellowship trained epileptologists. While an EMU is essential for planned medication changes, RSC meets or exceeds the EMU standard for observational diagnostic studies at a reduced cost. RSC is Redefining Seizure Care one patient at a time.

#301

Signal Gear LLC 27 Sweetwater Drive Prosperity, SC, USA 29127 Phone: +1-855-439-4327 Fax: +1-800-878-9804 Email: team@signalgear.com Website: 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 and introduce yourself. We'd love to meet you and hear about your work!

#302 SpecialtyCare 214 Centerview Drive, Suite 100 Brentwood, TN, USA 37027 Phone: +1-615-345-5400 Email: careers@specialtycare.net Website: specialtycare.net

More than 1,200 hospitals and 13,500 physicians trust Specialty-Care to help them achieve exceptional care outcomes, regulatory compliance, and financial results. With nearly 1,500 clinicians supporting over 375,000 procedures annually, we maintain the SpecialtyCare Operative Procedural Registry (SCOPE[™]), the largest procedural database of its kind, which we use to identify standards, determine benchmarks, disseminate best practices, and foster innovations that improve patient outcomes, increase efficiencies, and minimize costs. We are accredited and certified by The Joint Commission. By developing expertise beyond industry requirements, our customers can be certain they have the best partner for clinical excellence in perfusion, intraoperative neuromonitoring, autotransfusion, sterile processing management, surgical assist, and minimally invasive surgical support.

#209

Sunovion 84 Waterford Drive Marlborough, MA, USA 01752 Phone: +1-508-481-6700 Website: www.sunovion.us

Sunovion is a global biopharmaceutical company focused on the innovative application of science and medicine to help people with serious medical conditions. Sunovion's spirit of innovation is driven by the conviction that scientific excellence paired with meaningful advocacy and relevant education can improve lives. The Company has charted new paths to life-transforming treatments that reflect ongoing investments in research and development and an unwavering commitment to support people with psychiatric, neurological, and respiratory conditions.

#102

Trusted Neurodiagnostics Academy 1308 Robinson Rd Dahlonega, GA, USA 30533 Phone: +1-866-785-7023 Email: customercare@trustedneuro.com Website: http://trustedacademy.com

#415 UCB 1950e Park Drive Smyrna, GA, USA 30080 Phone: +1-770-970-7500 Email: uscommunications@ucb.com Website: www.ucb.com

At UCB, patients are at the heart of everything we do. Since UCB was established in the US in 1994, the US affiliate of UCB has continuously maintained invaluable programs for patients, health-care professionals, caregivers and patient communities. Many of the programs we support are noted for their innovative and pioneering work in healthcare.

#203

Upsher-Smith Laboratories, LLC 6701 Evenstad Dr. Maple Grove, MN, USA 55369 Phone: +1-763-315-2000 Email: uslinfo@upsher-smith.com Website: www.upsher-smith.com

#204

VNS Therapy by LivaNova 100 Cyberonics Blvd Houston, TX, USA 77058 Phone: +1-346-315-9201 Fax: +1-281-853-1356 Website: www.seizurecontrol.com

#802

Wolters Kluwer Two Commerce Sq, 2001 Market Street Philadelphia, PA, USA 19103 Phone: +1-215.521.8300 Email: customerservice@lww.com Website: https://shop.lww.com

Wolters Kluwer Health is a global provider of information, business intelligence and point-of-care solutions for the healthcare industry. We are the proud publisher of the official publications of the American Clinical Neurophysiology Society. Additional brands include Lippincott Williams & Wilkins, Lippincott Nursing Solutions and Ovid online.

#407

York Instruments Ltd. The Biocentre, Innovation Way York, UK YO10 5NY Phone: +44 (1904) 567958 Email: enquiries@york-instruments.com Website: www.york-instruments.com

#103

Zeto 2336 Park Ave Santa Clara, USA 95050 Phone: +1-408-658-0737 Email: info@zetoinc.com Website: www.zetoinc.com

#409+411

Zimmer Biomet 1520 Tradeport Drive Jacksonville, FL, USA 32218 Phone: +1-904-741-4400 Website: www.zimmerbiomet.com

ROSA® Brain is a robotic surgical device specifically designed for instrument trajectory planning and guidance during neurosurgical procedures. ROSA® Brain is CE marked and FDA cleared. At Zimmer Biomet, we collaborate with healthcare professionals around the globe to advance the pace of innovation. Our products and solutions help treat patients suffering from disorders of, or injuries to, bones, joints or supporting soft tissues. Together with healthcare professionals, we help millions of people live better lives.

ICCN 2022 Candidate Cities

#702

Australian and New Zealand Association of Neurologists 145 Macquarie St. Sydney, NSW, Australia 2000 Phone: +61292565443 Fax: +61292414083 Email: anzan@anzan.org.au Website: www.anzan.org.au

The Australian and New Zealand Association of Neurologists (AN-ZAN) ensures that high standards of clinical neurology and clinical neurophysiology are practiced in Australia and New Zealand by playing an active role in training, continuing education and encouraging teaching and research. We are excited to present the details of our bid to host ICCN 2022 in Melbourne, Australia. Voted the World's Most Liveable city for 7 years in a row, Melbourne offers an exciting, once-in-a-lifetime opportunity for delegates to experience Australia, New Zealand and the South Pacific whilst attending this major international congress.

#701

Chinese EMG and Clinical Neurophysiology Society 49 North Garden Rd Peking University Third Hospital Beging, China 100191

#703

Geneva Tourism & Conventions Foundation Rue du Mont-Blanc 18 – P.O. Box 1602 Geneva, Switzerland 1211 Phone: +41229097000 Fax: +41229097075 Email: info@geneve.com Website: https://www.geneve.com/fr/business/convention-bureau/

ICCN *** 2018** 59 Final Program

Learning Labs

These non-CME learning environments create curated exhibit experiences, organized around themes within the field of clinical neurophysiology. Each lab is a total of two (2) hours, with the first hour including an introduction to the topic and related products available from companies participating in the lab, putting those products in context as they relate to the theme and field. Following the introduction, the physician leader will assist attendees as they make their way through interactive demonstrations, led by the participating companies.

The Learning Lab is located in Exhibit Hall B North on the Lower Level of the Marriott WArdman Park. Either lunch or a hot breakfast will be provided as part of the lab.

Ambulatory EEG

Friday, May 4 7:00 – 9:00am • Hot breakfast will be provided Physician Leader: William O. Tatum, IV, DO, FACNS Participating Companies: Cadwell Industries, Inc. Lifelines Neurodiagnostics Natus Neurology

Neuromuscular Ultrasound

Saturday, May 5 12:00 – 2:00pm • Lunch will be provided Physician Leader: Francis O. Walker, MD, FACNS Participating Companies: Cadwell Industries, Inc. Natus Neurology

Product Theater

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

Friday, May 4, 2018

7:15am – 8:15am Wilson (Mezzanine Level)

Aptiom® (eslicarbazepine acetate), Fine-Tuned for Your Prescribing Needs

Presented by: Sunovion Pharmaceuticals

This presentation explores the Phase 3 clinical trials that led to the FDA approval of APTIOM as monotherapy and adjunctive therapy of partial-onset seizures in adults. This presentation also discusses how APTIOM may be used in clinical practice.

This is open to US physicians only and breakfast will be provided.

Instructor: Mohamad Z. Koubeissi, MD Associate Professor, Department of Neurology Director, Epilepsy Center George Washington University Washington, DC

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