TOGETHER • APART
virtual 2020
OCTOBER 12-23, 2020

ICNA • CNS
16th International Child Neurology Congress
49th Annual Child Neurology Society Meeting

Sharing Knowledge • Sowing Friendships • Spreading Hope
The 2020 CNS Scientific Program

The CNS Scientific Program is designed by and is primarily intended for child neurologists and professionals in other fields of study related to neurologic and developmental disorders in children and adolescents. “As a result of attending this meeting the physician will be better able to care for children with neurological disease through an understanding of recent advances in neuroscience, neuro-diagnostics and therapeutics relevant to child neurology.”

Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the Minnesota Medical Association and Child Neurology Society. The Minnesota Medical Association (MMA) is accredited by the ACCME to provide continuing medical education for physicians.

CME Statement

The Minnesota Medical Association designates this live activity for a maximum of 101.75 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
YOU ARE INVITED!

4 • Jo Wilmshurst, MB, BS, MD; President of the ICNA
5 • Phillip L. Pearl, MD; President, Child Neurology Society

10 THINGS

6 • To Know Before You Go (to your computer)

SCHEDULE

10 • Monday, October 12
11 • Tuesday, October 13
14 • Wednesday, October 14
18 • Thursday, October 15
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SCHEDULE AT A GLANCE

51 •

REGISTRATION

55 • Information and Fees
On behalf of the International Child Neurology Association, it is my great pleasure to welcome you to the 16th International Child Neurology Congress being held October 12-23, 2020 in collaboration with the Child Neurology Society. Due to the COVID-19 pandemic, this will be the first virtual ICNC. Our congress theme is “Sharing Knowledge, Sowing Friendships, Spreading Hope”. The additional theme Together•Apart Virtual 2020 is the perfect concept for this congress. The ICNCs have truly set the stage as the key forum which provides the very latest and most relevant updates on child neurologic disorders from a global perspective. Speakers from across the six major geographic regions will present at the congress. The scientific program will feature internationally recognized experts, including themes of “Developmental and Epileptic Encephalopathies: What we know and what we do not know” (Nicola Specchio/Pritchard Award); “Update in Pediatric Neurometabolic Disorders 2020” (Lance Rodan/Linda de Meirleir Neurometabolic Award); “The Global Burden of Paediatric Neurological Disorders” (Charles Newton/Frank Ford Award) and “Dietary Therapies for Epilepsy in Low Resource Settings: Challenges and Success” (Suvasini Sharma/Sheila Wallace Award).

We are keen to hear from members of the ICNA and CNS community and hope you successfully submitted your proposals. Following the successful framework of previous congresses, the globally representative scientific committee, chaired by Prof Jonathan Mink, have selected the most innovative proposals to ensure a rich and diverse program guaranteeing that all delegates will leave inspired and with knowledge gained.

There will be opportunity for the newly established Council of the Future Leaders of ICNA (FLICNA), comprised of outstanding, regionally nominated senior child neurology residents, fellows and junior faculty to meet virtually and discuss strategy, as well as how the ICNA can support junior child neurologists. To promote access from clinicians based in low and low-middle income countries the registration rate has been significantly reduced. Based on popular demand there will be a strong educational program inclusive of master classes and teaching courses.

There will also be an opportunity for different child neurology subspecialty special interest groups to meet virtually. The networking opportunities building international collaborations is a key theme for the ICNA and the 2020 ICNC-CNS congress will be an ideal opportunity to pursue this. The congress promotes connecting clinicians involved in the phenotyping of unique clinical populations afflicted with specific neurological diseases with researchers in state-of-the-art research laboratories.

Please join us for a scientifically stimulating ICNC2020 program. We look forward to meeting virtually new colleagues and engaging with old friends. Following on from the COVID-19 pandemic, I hope that we can learn from the experience and identify new and positive ways to support each other and promote the health of children with neurologic disease.

On behalf of the ICNA board
Jo Wilmshurst, MB, BS, MD
President of the ICNA
My fellow CNS and ICNA members, this Welcome Letter has undergone too many versions to anticipate anything at all but an unconventional meeting. But we will have a great meeting; Roger Larson guarantees it! Seriously, he and the CNS National Office are working so hard, with a great vendor and platform, to give us a superb conference, and in concert with the international crowd to boot. I am so pleased to co-host this conference with Jo Wilmshurst from ICNA and Jon Mink as chair of the Scientific Planning Committee. So many have worked so hard to coordinate these efforts; please plan to attend the sessions, which will now be spread out over two weeks, lest anyone has to sit in front of a screen and concentrate in aliquots as you would by sitting in a beautiful conference center in sunny San Diego!

This meeting has been years in the planning, but in Churchillian fashion, the best-laid plans of mice and men often go awry. In any case, we will still feature plenty of networking opportunities (Networking Lounges, Happy Hours and roundtable discussions), the Pellock Epilepsy Course for graduating child neurology residents, a Neurobiology of Disease symposium on head injury, and a scientific program replete with plenary award lectures, symposia, platform & poster presentations, Meet-the-Expert sessions, and workshops. The symposia span neuroimmunology, epilepsy, stroke, neuro-oncology, neuro-infectious disease, neuromuscular, movement disorders, neonatal neurology, behavioral neurology, neurogenetic-metabolic, neonatal neurology, neuro-opthalmology, and more. There is something for everyone, including a combination of practical knowledge and research advances, along with international representation that has been carefully integrated into the program. The organization of the meeting has been meticulous, but we are very busy trying to have all the material pre-recorded in time for uniformly high technical quality.

A highlight coming at the end of Week 1 will be the annual Child Neurology Foundation’s symposium, this year focusing on the diagnostic odyssey so familiar to us and our patients in the process of genetic diagnosis, symposia. We will also offer a very special series of evening programs in both Week 1 and Week 2. I so much enjoy experiencing other cultures when attending international conferences. Please join me in our novel course on AMERICAN CREATIVITY, INGENUITY, and DIVERSITY. We are going to demonstrate how the diversity that makes up American society has led to magnificent creativity and ingenuity in the arts, and I will be joined by my colleague and local bard, David Urion MD, past President of the Professors of Child Neurology, in an exploration of the literary works that help illustrate this aspect of American humanities. I will also be joined by colleagues from the Berklee School of Music here in Boston, drawing upon the diversity and expertise of their faculty, so that I will have a chance to play the music presented in the program with some of the greatest performing musicians in the world today. I’m delighted to share the joy of watching and listening to this incredible combo perform from your front row seat in front of the computer screen!

Phillip L. Pearl, MD
President, Child Neurology Society
William G. Lennox Chair, Boston Children’s Hospital
Professor of Neurology, Harvard Medical School
Institute of Music and Health, Berklee College of Music
1 REGISTRATION FEES:
What’s Included
Delegates paying registration fees (listed p55) will be eligible for:

- All Open CME courses listed in this prospectus
  • Neurobiology of Disease in Children (NDC): Traumatic Brain Injury requires payment of an additional course fee
- Special Interest Group meetings: Week 1; dates & times to be listed in late September
- Industry-Sponsored CME seminars and/or product theaters Week 1 & 2; dates & times to be listed in late September
- Up to 101.75 CME credits. To earn credit, delegate must attend the full session & click link at the end of the session to answer a CME question. CME credits will be totaled and a certificate issued beginning December
  • Participation certificates (not good for validating CME credits earned) will be available immediately upon completing a course.
  • Because sessions are available On-Demand through March 2021, delegates paying registration fee may be able to earn needed CME credits for two years (2020 and 2021; # of credits will be based on when courses are completed).

2 JUNIOR MEMBERS
Four Junior Member seminars have been scheduled in Week 1 for CNS & ICNA Junior Members and medical students to attend.

3 LIVE SESSIONS
(October 12-23, 2020)
All sessions listed will be shown “live” once. Each session will begin at the scheduled time, serially showing pre-recorded lectures. A live Question and Answer period will follow each set of pre-recorded lectures with Session Chairs and available presenters providing audible response to questions selected by a moderator from among those submitted in a side text/chatbox during the lectures.

4 ON-DEMAND SESSIONS
(November 2020 - March 2021)
All live sessions will be recorded and nearly all will be offered On Demand (24/7) via the virtual meeting platform November 1, 2020 thru March 31, 2020.
5 POSTERS & VIDEO-POSTERS

More than 600 posters (pdf files) and 100 video poster presentations (PPT presentations) will be available On Demand (24/7) Week 1 and Week 2 of the virtual meeting and thru March 2021. Delegates may click to contact presenting author with follow-up email Q&A and discussion.

6 SPONSORS & EXHIBITORS

This meeting would not be possible - this year especially - without the financial support and participation of our corporate and non-profit partners. Show your appreciation by visiting Sponsor & Exhibitor microsites (booths) available for extended hours on two days during both Week 1 and Week 2, and On Demand thru December 31, 2020.

7 INDUSTRY-SPONSORED CME SEMINARS AND/OR PRODUCT THEATERS

These will be listed along with all ICNA-CNS CME session in the “Sessions” listings of the virtual meeting platform. A complete listing will also be published in the special CNS Connections meeting edition posted in early October. Each will be offered once during Week 1, and a second time during Week 2.

8 NETWORKING

- Special Interest Group Meetings.
  Four 90-minute live SIG meetings have been scheduled for Week 1 at the time this was posted. Additional SIG meetings may be added by SIGs submitting requests no later than September 11.
- Networking Lounge
  • Happy Hours every night
  • Roundtables enabling up to 6 people to gather at a time to discuss anything and everything!
- “Hello World!”
  When first logging in, delegates will be asked to
  • Check up to 7 “Areas of Interest” (tags) to help AI link you to others sharing your interests
  • Introduce yourself with uploaded photo, brief bio, and brief video greeting
9 SPECIAL “EVENING” PROGRAMMING WEEK 1 & 2: American Creativity, Ingenuity, and Diversity

As CNS President, Phillip Pearl, MD noted in his letter (page 5), he and Boston Children’s Hospital colleague, David Urion, MD will offer an engaging look at the diversity that makes up American society and has led to magnificent creativity and ingenuity in the arts. Dr. Urion is finalizing literary selections for presentation; these will be posted in late September along with final program dates and times. Musical selections, performed by Dr. Pearl on keyboard alongside colleagues from the renowned Berklee School of Music will include:

1. **How High the Moon**: written for musical theater, lyricist Nancy Hamilton was a member of the early and closeted lesbian thespian society in NYC; made famous by clarinetist Benny Goodman in the big band era; rewritten as Ornithology by the African American father of be-bop, Charlie “Yardbird” Parker.

2. **It Could Happen to You**: written for musical theater in 1943, rewritten as Hot House by African American saxophonist Dexter Gordon.

3. **What is this Thing Called Love**: written by Cole Porter (1929), struggled with homosexuality in his life and music; rewritten by African American composer and musical intellect Tadd Dameron as Hot House (1945).

4. **Les feuilles mortes (“The dying leaves”)**: beautiful ballad by a Hungarian – French composer (1945), introduced to America as “Autumn Leaves”, featured the Miles Davis solo on the 1959 Kind of Blue album, #1 selling jazz album in the world.

5. **A Night in Tunisia**: Afro-Cuban genre, introduction of Latin and African music to the US, John Birks Dizzy Gillespie, trumpeter and godfather of Latin Jazz.

6. **Mingus**: the giant American bassist, himself a “mongrel” with so many racial bloodlines, defined American music as: “...what we play, belongs with the people who have a feeling of freedom and like to play together without discrimination”; dies of ALS, singing his last compositions into a tape recorder.

7. **My Favorite Things**: from the great duo of Richard Rodgers and Oscar Hammerstein for their last play, The Sound of Music, to the iconic recording by “Trane”, i.e. John Coltrane, master African American saxophonist.

8. **When Sunny Gets Blue (1956)**: composed the same year as James Baldwin’s composition, Sonny’s Blues, on life as a math teacher in Harlem.

9. **Waltz for Debby**: signature piece by my personal favorite pianist, Bill Evans; struggled with depression, drug abuse, suicide.
TUESDAY, OCTOBER 20

6:00 AM – 6:55 AM PDT
JOHN STOBO PRITCHARD AWARD LECTURE:
Developmental and Epileptic Encephalopathies: What We Know and What We Do Not Know
Nicola Specchio, MD, PhD, Bambino Gesu’ Children’s Hospital, IRCCS, Rome, Italy
Introduced by Helen Cross, MB, ChB, PhD, OBE FRCP, FRCPCH

7:00 AM – 7:55 AM PDT
BERNARD SACHS AWARD LECTURE:
Genes as a Window into the Developing Brain
Joseph G. Gleeson, MD; University of California San Diego, Rady Children’s Institute for Genomic Medicine, San Diego, California, USA
Introduced by William Dobyns, MD

WEDNESDAY, OCTOBER 21

6:00 AM - 6:55 AM PDT
SHEILA WALLACE AWARD LECTURE:
Dietary Therapies for Epilepsy in Low Resource Settings: Challenges and Successes
Suvasimi Sharma, MD, DM; Lady Hardinge Medical College and Associated Kalawati Saran Children’s Hospital, New Delhi, India
Introduced by Pratibha Singhi, MBBS, MD, FIAP, FNAMS

7:00 AM - 7:55 AM PDT
PHILIP R. DODGE YOUNG INVESTIGATOR AWARD LECTURE:
Molecular and Cellular Mechanisms of Excitation and Inhibition in Neurodevelopmental Disorders
Hsiao-Tuan Chao, M.D., Ph.D.; Jan and Dan Duncan Neurological Research Institute, Houston, Texas, USA
Introduced by Huda Zoghbi, MD

THURSDAY, OCTOBER 22

6:00 AM – 6:55 AM PDT
LINDA DE MEIRLEIR NEUROMETABOLIC AWARD LECTURE:
Update in Pediatric Neurometabolic Disorders 2020
Lance Rodan, MD, FRCP(C); Boston Children’s Hospital, Harvard Medical School, Boston, Massachusetts, USA
Introduced by Ingrid Tein, MD

7:00 AM – 7:55 AM PDT
HOWER AWARD LECTURE:
Migraine, Vertigo and Dizziness
Kenneth J. Mack, MD, PhD; Mayo Clinic, Rochester, MN, USA
Introduced by Paul Youssef, MD

FRIDAY, OCTOBER 23

6:00 AM – 6:55 AM PDT
FRANK FORD AWARD LECTURE:
The Global Burden of Paediatric Neurological Disorders
Charles Newton, MD; University of Oxford, Oxford, United Kingdom, KEMRI-Wellcome Trust Collaborative Programme, Kilifi, Kenya
Introduced by Jo M. Wilmshurst, MD, BS, MD
Monday, October 12

2:00 PM – 3:30 PM

PROFESSORS OF CHILD NEUROLOGY (PCN): EDUCATION & TRAINING

Organizer:
Tim Lotze, MD; President, PCN; Baylor College of Medicine, Texas Children’s Hospital, Houston, Texas, USA

Child Neurology in the 21st Century: More than the Sum of our RVUs
Mary L. Zupanc, MD; CHOC Neurosciences Institute, University of California-Irvine; CHOC-Children’s Hospital of Orange County, Orange, California, USA

Creating a Clinical Educator Track for Your Trainees
James Reese, Jr., MD, MPH, MA, FAAN; University of New Mexico, Albuquerque, New Mexico, USA

Course Description:
The Professors of Child Neurology is attended by Residency Program Directors, Division Chiefs, and Program Coordinators who are members of the organization. The session includes two parts. The first part provides updates regarding organizational business, national involvement efforts of members, and updates from affiliated groups to include the AAP Section of Neurology. The second part of the meeting provides CME on selected topics which include a discussion of the current practice of child neurology in the era of productivity metrics and development of a clinician educator track for residents.

Learning Objectives:
1. Identify opportunities to educate residents regarding productivity metrics in clinical medicine.
2. Describe strategies for developing a clinical educator curriculum for residents seeking an academic career.

Impact Statements:
1. Attendees of the meeting will receive a comprehensive update on the current state of residency training.
2. Identify opportunities for ongoing program development at their own institution.

Learning Objectives and Impact Statement

All Learning Objective statements listed for each session should be read as responses to the following: ‘As a result of this educational session, participants will be able to:’

All Impact Statements listed for each session should be read as responses to the following: ‘This educational session helped me to identify changes I could make in my practice related to:’
MEET THE EXPERTS: EXPERIMENTAL THERAPEUTICS: Gene Therapy for Childhood Neurological Disorders

Course Description:
Participants will gain an understanding of the rapidly evolving landscape of gene therapy for neurological disorders of childhood. We will discuss the basic principles of gene vector development and delivery, and describe specific diseases for which gene therapy is currently approved for clinical use or available as an experimental treatment in clinical trials. Finally, we will discuss challenges facing gene therapy development, including cost and worldwide accessibility.

Learning Objectives:
1. Understand the principles of gene therapy development and delivery.
2. Be able to describe how different gene therapy strategies can be used to treat specific neurologic diseases in children.

Impact Statements:
1. Recognizing genetic disorders that are amenable to treatment with gene therapy.
2. Identifying opportunities for patients with rare diseases to participate in clinical trials of experimental therapies.

Organizer:
Toni Pearson, MBBS; Washington University School of Medicine, St. Louis, Missouri, USA

Gene Therapy Primer
Barry Byrne, MD, PhD; Child Health Research Institute, University of Florida, Gainesville, Florida, USA

Experiences with Gene Therapy for Childhood Neuromuscular Disorders
Diana Bharucha-Goebel, MD; Children’s National Hospital & National Institutes of Health, Washington, DC, USA

Targeting the Central Nervous System: Experiences with Gene Therapy for AADC Deficiency
Toni Pearson, MBBS

Panel Discussion – Present and Future Challenges in the Development of Universally Accessible New Therapies for Ultra-Rare Diseases
Carsten G. Bönnemann, MD; National Institute of Neurological Disorders and Stroke, Bethesda, Maryland, USA

WORKSHOP: NEUROPSYCHIATRY/MOVEMENT DISORDERS: Practical Management of Functional Neurologic Diseases in Children

Course Description:
Attendees to this symposium will gain knowledge and expertise in the recognition of children with functional neurologic disorders (FND), particularly those manifesting as non-epileptic seizures and movement disorders.

Additionally, participants will learn how to communicate a diagnosis to patients and families, as well as how to develop a plan of care and treatment that results in a lessening of disability and a resumption of normal participation for the child.

Learning Objectives:
1. Appropriately consider the place of functional neurologic disorders in the context of pediatric disorders of movement and pediatric paroxysmal disorders.
2. Effectively explain the diagnosis of functional neurologic disorders to families and children.
3. Develop and implement appropriate treatment plans for children with functional neurological disorders and their families as a result of this educational session.

Impact Statements:
2. Communication with families and children about functional neurological disorders.
3. The creation of effective treatment and management plans for children with functional neurological disorders.

Organizer:
Leon Dure, MD; University of Alabama at Birmingham, Birmingham, Alabama, USA
**Functional Neurologic Disorder Presenting as a Movement Disorder in a Pediatric Patient**
Shekeeb Mohammad, MD, FRACP, PhD; The Children’s Hospital at Westmead, Sydney, NSW, Australia

**Psychogenic Non-Epileptic Seizures in a Pediatric Patient**
Leon Dure, MD

**Practical Treatment and Management of Functional Neurological Disorders in Pediatric Patients**
Aaron D. Fobian, PhD; University of Alabama at Birmingham, Birmingham, Alabama, USA

6:00 PM – 8:15 PM
**MEET THE EXPERTS: ETHICS**
**COSTLY DRUGS AND HEALTHCARE – ETHICS AND VALUE PERSPECTIVES FROM DIFFERENT HEALTHCARE SYSTEMS**

**Course Description:**
Healthcare is expensive in all countries but availability is often limited by affordability. The development of new ultra-expensive, first-in-class specialty biopharmaceuticals for rare neurological diseases exacerbates the healthcare affordability problem. The objective of this symposium is to discuss the ethical challenges and practical approaches to the rising cost of prescription drugs and healthcare in different healthcare systems.

**Learning Objectives:**
1. Understand why exorbitant drug pricing poses direct challenges for distributive justice, which is concerned with the fair distribution of benefits and burdens across society.
2. Understand why costly treatments inevitably lead to some type of “rationing” such as limitations of access (lack of insurance coverage), cost (excessive out-of-pocket expenses), or long wait times.

**Impact Statements:**
1. Understanding the ethical challenges of rising costs in all healthcare systems.
2. Explaining to patients how healthcare affordability may affect access to certain new treatments now and in the future.

**Organizer:**
William D. Graf, MD, FAAP, FAAN; Connecticut Children’s, Farmington, Connecticut, USA

**Costly Drugs and Healthcare – Challenges for Distributive Justice and the Inevitability of Rationing**
Amy Y. Tsou, MD, MSc; ECRI Institute, Michael J Crescenz VA Medical Center, Philadelphia, Pennsylvania, USA

**The Economization of Healthcare in Germany – Lessons for a Science-based, Patient-centered and Needs-orientated Care**
Klaus-Peter Zimmer, MD PhD; UKGM, Standort Gießen / Justus-Liebig-Universität; Gießen, Germany

**Rising Prescription Drug Costs in Canadian Healthcare – The Implementation of National Pharmacare**
Michael Shevell, MDCM, FRCP, FCAHS; McGill University, Montreal Children’s Hospital, Montreal, Quebec, Canada

**Growing Disparities in International Healthcare – Ethical Perspectives on the Availability Versus Affordability Crisis**
William D. Graf, MD, FAAP, FAAN

**Tuesday, October 13 • continued**

**MEET THE EXPERTS: NEUROIMMUNOLOGY**
**Para-infections and Seronegative Autoimmune Encephalitis in Children: Updates and Controversies**

**Course Description:**
Encephalitis in children are most frequently infectious, parainfectious or autoimmune in etiology. CSF profile, next generation sequencing, and neuroimaging, can help differentiate infectious versus autoimmune causes in some cases, but the etiology remains uncertain in more than half of the patients. Even when autoimmune encephalitis (AE) is greatly suspected, CSF antibodies are encountered in less than 50% of the cases. Furthermore, viruses can trigger autoimmune responses. Thus, differentiating infectious versus parainfectious and seronegative AE are common challenges encountered in clinical practice, and treatment strategies frequently overlap.

In this symposium we will dive into the parainfectious phenomenon through 2 examples: the pathophysiology of ADEM and the post-herpetic NMDA ReB encephalitis. We will also discuss controversies regarding management of seronegative AE and the escalation of immune therapy.

**Learning Objectives:**
1. Acquire tools to help differentiating infectious versus non-infectious AE in the clinical practice.
2. Acknowledge the diagnostic challenges and controversies in the management of encephalitis in children and determine which encephalitic processes may benefit from escalation in immune therapy.
Impact Statements:
1. Adequate management of Acute Encephalitis in children.
2. Appropriate use of immunotherapy in Seronegative autoimmune encephalitis.

Organizer:
Cristina Fernandez-Carbonell, MD; Cohen’s Children Medical Center, Lake Success, New York, USA

Introduction: Infectious, Parainfectious and Autoimmune Encephalitis. Challenges in Clinical Practice
Cristina Fernandez-Carbonell, MD

Parainfectious Encephalitis and ADEM. Updates and Controversies
Silvia Tenembaum, MD; National Paediatric Hospital Dr. Juan P. Garrahan, Buenos Aires, Argentina

Postviral Autoimmune Encephalitis: The Case of Post-Herpetic NMDAR Antibody Encephalitis
Thaís Armangue, MD, PhD; IDIBAPS-Hospital Clinic, University of Barcelona, Sant Joan de Déu Children’s Hospital, University of Barcelona, Barcelona, Spain

Seronegative Autoimmune Encephalitis. Updates and Controversies
Russell Dale, MRCP, PhD; Children’s Hospital at Westmead, University of Sydney, Sydney, NSW, Australia

6:00 PM – 8:15 PM
SEMINAR: EPILEPSY: Don’t Ask Don’t Tell, or Full Disclosure? Discussing SUDEP with Patients and Families in the Global Community

Course Description:
In spite of uniform parental desire for information, consistent SUDEP counseling is not happening in our pediatric neurology practices globally. This session highlights the important cultural barriers that prevent child neurologists from discussing SUDEP by providing information on the incidence and frequency of mortality in pediatric epilepsy patients, as well as our current understanding of the pathophysiology of SUDEP. This will be followed by a panel of experts throughout the globe who will describe the unique cultural beliefs that affect discussing SUDEP and mortality in his/her region.

Learning Objectives:
1. Gain a better understanding of the frequency and potential pathophysiology of SUDEP in pediatric epilepsy patients
2. Recognize differences in cultural practices regarding discussing SUDEP and mortality in pediatric epilepsy patients

Impact Statements:
1. Understanding the parental desire for SUDEP and epilepsy mortality counseling
2. Identifying potential cultural barriers that prevent the participant from discussing SUDEP and epilepsy-related mortality in his/her practice

Organizer:
Katherine Nickels, MD, FAES, FAAN; Mayo Clinic College of Medicine, Rochester, Minnesota, USA

How Common is the Nightmare? Global Frequency and Causes of Mortality in Pediatric Epilepsy
Elizabeth Donner, MD, MSc, FRCPC; The Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada

What is our Current Understanding of SUDEP in Pediatrics
Omar Abdel-Mannan, MRCPCH, MA, Great Ormond Street Hospital for Children, London, UK

Panel Discussion
• Jeffrey Buchhalter, MD, PhD; University of Calgary, Calgary, Alberta, Canada
• J Helen Cross MB, ChB, PhD, OBE FRCP, FRCPCH; UCL Great Ormond Street Institute of Child Health, London, UK
• Manjari Tripathi, DM; All India Institute of Medical Sciences, Delhi, India
• Viviana Venegas, MD; Advanced Center of Epilepsy, Clinica Alemana de Santiago, Institute of Neurosurgery, Santiago, Chile
Wednesday, October 14

8:00 AM – 10:15 AM

SEMINAR: NEURO-INFECTIOUS DISEASE:
Measles Vaccination – Current Situation and Consequences –
A Global Perspective

Course Description:
• Repercussions of the present trends in measles vaccination
due to increasing exemptors – short & long term effects on the
developed and developing world.
• Efforts required on the part of the Child Neurology fraternity to
help with the drive for regional and eventually global eradication.
Lessons from Smallpox and Polio.
• Latest understanding into the neuro-immunology of the
measles virus, highlighting the role of research options in the
treatment and or cure of SSPE.

Learning Objectives:
1. Know the present status of measles with a global
perspective. How the present drop in immunization is going to
affect the clinical scenario – today & in the future, along
with their role in the eradication process.
2. Understand the neuro-immunology of the measles virus – understanding present
and future research in the
treatment and cure for SSPE.

Impact Statements:
1. Understand the implications of drop in measles vaccination? –
the immediate and long term picture. How this knowledge
will help to convince patients to immunize their children?
How can each of us help in the
measles eradication process
2. Understanding of the neuro-
immunology of the measles virus.
Understanding different research
options in SSPE, with the hope
of a cure or treatment in the near
future.

Organizer:
Anaita Udwadia-Hegde, MD,
MRCPCH;
Jaslok Hospital & Research Centre,
SRCC NH Children’s Hospital,
Wadia Children’s Hospital,
Mumbai, India

Co-Organizer:
Pauline Samia, MBchB,
MMed Peds, MPhil;
Aga Khan University,
Nairobi, Kenya

Why Can’t we Eradicate Measles –
Data from the Developing World
Pauline Samia, MBchB,
MMed Peds, MPhil

Newer Understanding of the
Immunological Basis of
Measles & SSPE
Banu Anlar, MD;
Hacettepe University,
Ankara, Turkey

8:00 AM – 10:15 AM

SEMINAR: STROKE:
Pediatric Stroke in the
Era of Advanced Genetics

Course Description:
The adverse health and
economic impacts of pediatric
arterial ischemic stroke are
increasingly appreciated.
Mechanisms underlying
childhood arterial ischemic
stroke (AIS) are heterogeneous
and poorly understood but
critical for the development of
targeted interventions. Cerebral
vasculopathies are one of the major
causes of pediatric stroke. Genetic
discoveries are being increasingly
recognized as an important cause
of many cerebral vasculopathies.
This symposium will highlight the
role of advanced genetic analysis
in pediatric cerebrovascular
diseases, focusing on the common
and currently known genes and
molecular pathways involved in
genetic cerebral vasculopathies.
The role of vascular smooth muscle
cell dysfunction will be highlighted,
as well as the role of endothelial
cell dysfunction in small vessel
diseases. Current approaches for the genetic evaluation and its implementation in pediatric stroke based on a clinical and radiological-driven approach will be discussed, using a pattern-recognition approach. Existing challenges in the provision of accurate definition and phenotyping of patients with vasculopathies in order to facilitate future genotype-phenotype correlations and identify novel associations and disease mechanisms will be highlighted along with potential ways for enhancing gene discoveries in this developing field.

**Learning Objectives:**
1. Identify specific clinical as well as radiological phenotypes associated with common and newly described monogenic disorders related to pediatric stroke
2. Understand the basic concepts of cellular and molecular pathways involved in genetic medium to large cerebral steno-occlusive arteriopathies and small vessel diseases.

**Impact Statements:**
1. Identify clinical and radiological patterns of recently discovered genetic cerebral vasculopathies including arteriopathies and small-vessel diseases.
2. Understand the basic pathophysiological concepts involved in pediatric cerebral vasculopathies

**Organizer:**
Moran Hausman-Kedem, MD; Pediatric Neurology Institute, Dana-Dwek Children’s Hospital, Tel-Aviv Sourasky Medical Center, Tel Aviv, Israel

**A Pattern-recognition Approach to Genetic Arteriopathies**
Nomazulu Dlamini, MBBS, MRCPCH, MSc (Lon), PhD; The Hospital for Sick Children and University of Toronto, Toronto, Ontario, Canada

**Converging Molecular Mechanisms of Genetic Cerebral Vasculopathies**
Vijaya Ganesan MD; UCL Great Ormond Street Institute of Child Health, London, UK

**Molecular Basis of Cerebral Small Vessel Vasculopathies and Microvascular Dysfunction**
Patricia L. Musolino, MD, PhD; Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA

**Course Description:**
Epilepsy surgery is a highly successful treatment option for children with focal and lesional epilepsy. Despite its excellent seizure outcomes and cognitive benefits, surgery is still underutilized and a large treatment gap remains between geographical regions worldwide. This symposium aims to increase the awareness of epilepsy surgery, inform the audience about novel insights in surgical indications, timing, seizure- and cognitive outcomes, and their determinants. We will present the newly defined ILAE criteria for different levels of care in pediatric epilepsy surgery centers and address minimum requirements for surgical procedures in the context of the existing treatment gap.

**Learning Objectives:**
1. Identify candidates for epilepsy surgery and counsel children and parents about its expected seizure- and cognitive outcomes
2. Name the two levels of care for pediatric epilepsy surgery centers and the main requirements to establish such centers

**Impact Statements:**
1. Indications for referral of children with epilepsy for presurgical evaluation
2. Counselling of patients and their parents about expected outcomes of epilepsy surgery

**Organizer:**
Prof. Dr. Kees P.J. Braun, University Medical Center Utrecht, UMCU Brain Center, Utrecht, Netherlands

**Epilepsy Surgery in Children: Indications and Seizure-outcome**
Prof. Dr. Kees P.J. Braun

**Cognitive and Behavioural Outcome after Epilepsy Surgery**
J Helen Cross MB, ChB, PhD, OBE FRCP, FRCPCH; UCL Great Ormond Street Institute of Child Health, London UK

**Criteria for Pediatric Epilepsy Surgery Centers; What about the Treatment Gap?**
William D. Gaillard, MD; Children’s National Medical Center, Washington, DC, USA
10:30 AM – 12:45 AM
SEMINAR: NEUROGENETICS:
Recent Advances in the Etiologies and Mechanisms Underlying Common Brain Malformations

Course Description:
1. Understand recent advances in the genetic causes and mechanisms underlying common brain malformations, focusing on polymicrogyria, lissencephaly and cortical dysplasia.
2. Understand the imaging and phenotypic spectrum for the common genetic causes of common brain malformations.
3. Understand how advances in genetics have led to a better understanding of seizure generation in focal cortical dysplasia.

Learning Objectives:
1. Identify the most common genetic causes of lissencephaly, polymicrogyria and cortical dysplasia.
2. Determine the most appropriate genetic workup for children with lissencephaly, polymicrogyria and cortical dysplasia following review of clinical and imaging features.

Impact Statements:
1. Recognising the imaging features of different brain malformations.
2. Understanding the most likely genetic causes of lissencephaly, polymicrogyria and cortical.

Organizer:
Rick Leventer, FRACP, PhD;
The Royal Children's Hospital
Melbourne, Parkville,
Victoria, Australia

Co-Organizer:
William Dobyns, MD;
University of Washington,
Seattle, Washington, USA

Lissencephaly: Novel Clinical and Molecular Insights
Nataliya Di Donato, MD,
Institute for Clinical Genetics,
TU Dresden,
Dresden, Germany

Polymicrogyria: A Clinical and Genetically Heterogenous Malformation
Anna C. Jansen, MD, PhD,
Pediatriatic Neurology Unit,
UZ Brussel,
Brussels, Belgium

Cortical Dysplasia: Linking Genes to Seizure Generation
Rick Leventer FRACP, PhD

Conclusion & Future Directions
William Dobyns, MD

1:00 PM – 3:15 PM
SEMINAR: NEUROIMMUNOLOGY:
A New Era for Patients with NMOSD, including Children

Course Description:
• To learn current diagnostic criteria for NMO/NMOSD
• To know updated information on the diagnostic biomarkers and appropriate laboratory techniques
• To learn current rescue therapies for acute events, and introducing novel relapse prevention strategies for patients with NMOSD

Lissencephaly: Novel Clinical and Molecular Insights
Nataliya Di Donato, MD,
Institute for Clinical Genetics,
TU Dresden,
Dresden, Germany

Polymicrogyria: A Clinical and Genetically Heterogenous Malformation
Anna C. Jansen, MD, PhD,
Pediatriatic Neurology Unit,
UZ Brussel,
Brussels, Belgium

Cortical Dysplasia: Linking Genes to Seizure Generation
Rick Leventer FRACP, PhD

Conclusion & Future Directions
William Dobyns, MD
Learning Objectives:
1. Learn new clinical and neuroimaging diagnostic criteria for NMO/NMOSD and corresponding biomarkers
2. Receive updated information on current rescue therapies for severe acute CNS events, and learn on relapse prevention strategies, including novel immunosuppressive drugs.

Impact Statements:
1. The appropriate diagnosis of NMOSD
2. The relevant data about treatment options that should be considered for the correct treatment of acute events and relapse prevention with immunosuppression in children.

Organizer:
Silvia N. Tenembaum, MD; National Pediatric Hospital Dr. Juan P. Garrahan, Buenos Aires, Argentina

Co-Organizer:
E. Ann Yeh, MD, MA, FRCPC; Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada

Introduction: Current Diagnostic Criteria of Neuromyelitis Optica Spectrum Disorders (NMOSD)
Silvia N. Tenembaum, MD

Diagnostic Biomarkers of NMOSD: AQP4-IgG and MOG-IgG
Thaís Armangue, MD, PhD; IDIBAPS-Hospital Clinic, University of Barcelona, Sant Joan de Déu Children’s Hospital, University of Barcelona, Barcelona, Spain

Treatment of Acute Clinical Events
Andrea Savransky, MD; National Pediatric Hospital Dr. J. P. Garrahan, Buenos Aires, Argentina

Current Preventive Treatment Strategies for NMOSD
E. Ann Yeh, MD, MA, FRCPC

New Era on Preventive Treatment of NMOSD: Recently Approved and Investigational Agents
Tanuja Chitnis MD, FAAN; Harvard Medical School, Boston, Massachusetts, USA

6:00 PM – 8:15 PM
JUNIOR MEMBER SEMINAR: Becoming a Physician Scientist in Pediatric Neurology

Course Description:
How do we conduct a good research and write a good scientific paper? We will approach this universal question through three specific talks: “Common faults editors see”, “What PhD brings to research” and “Research outside a medical center”. This symposium is aimed to help young physicians embark on their research journey.

Learning Objectives:
1. Learn the common pearls and pitfalls in writing a good manuscript.
2. Better plan their medical research career path, especially for those in their early stages.

Impact Statements:
1. Improve skills to write a scientific paper.
2. Better plan one’s medical research career path.

Organizer:
Chang-Chun Wu, MD; Department of Pediatrics, Taipei City Hospital, Taipei, Taiwan

Co-Organizer:
Hiroya Nishida, MD; Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan

What are the Common Faults Editors See?
Jonathan W. Mink, MD, PhD; University of Rochester, Rochester, New York, USA

What PhD Brings to our Research and Clinical Work?
Pratibha Singhi, MBBS, MD, FIAP, FNAMS; Medanta, The Medicity, Gurgaon, Haryana, India

Suggestions on Research Outside a Medical Center
Takeru Honda, PhD; Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan
Thursday, October 15

10:30 AM – 12:45 PM
WORKSHOP: GLOBAL NEUROLOGY: Training to Bridge the Gap in Global Access to Child Neurology Care

Course Description:
The participants will gain specific knowledge about barriers to access to child neurology care in diverse settings, with an emphasis on South America and Sub-Saharan Africa. They will learn about socioeconomic, geographic, and infrastructure barriers that continue to limit access to care. They will acquire knowledge about three specific settings where training programs are bridging these gaps in access to child neurology care.

Learning Objectives:
1. Understand some of the socioeconomic, geographic, and infrastructure barriers that continue to limit access to child neurology care globally
2. Become aware of a variety of approaches to training to overcome those barriers.

Impact Statements:
1. How to design educational and training programs to sustainably improve access to child neurology care in diverse settings
2. How to participate in educational and training programs that increase access to child neurology care in low to moderate resource settings.

Organizer:
Alex R. Paciorkowski, MD; University of Rochester Medical Center, Rochester, New York, USA

Child Neurology in Brazil, a Model and Challenges
Helio van der Linden, Jr., MD; Instituto de Neurologia de Goiânia, Goiânia, Goiás, Brazil

Breaking New Ground in Zambia – First Child Neurology Trainees
Nfwama Kawatu, MD; University Teaching Hospitals, Children’s Hospital, Lusaka, Zambia

Innovative Child Neurology Curriculum in Ecuador
Kevin Shapiro, MD, PhD; Cortica Healthcare, Los Angeles, California, USA

1:00 PM – 3:15 PM
JUNIOR MEMBER SEMINAR: Nurturing the Global Pipeline of Academic Child Neurologists

Course Description:
There is an ever-growing gap between the need for clinical Child Neurology and Neurodevelopmental Disabilities services and the number of trained practitioners throughout the world. In this setting, nurturing and encouraging trainees and junior faculty towards an academic career path is a constant, but necessary, enterprise to ensure that clinically focused research in our field continues to scale as well. This seminar will discuss the current challenges and opportunities for training the next generation of Child Neurology physician-scientists both within the US and globally. There is an ever-growing gap between the need for clinical Child Neurology and Neurodevelopmental Disabilities services and the number of trained practitioners throughout the world. In this setting, nurturing and encouraging trainees and junior faculty towards an academic career path is a constant, but necessary, enterprise to ensure that clinically focused research in our field continues to scale as well. This seminar will discuss the current challenges and opportunities for training the next generation of Child Neurology physician-scientists both within the US and globally.
Learning Objectives:
1. Understand and educate others about the training and funding mechanisms available to support trainees and junior faculty interested in an academic Child Neurology career path.
2. Be aware of the research and service delivery priorities for expanding Child Neurology access globally in addition to training more practitioners.

Impact Statements:
1. Encouraging trainees and junior faculty to pursue academic career paths.
2. Prioritizing lines of research and training that are globally applicable.

Organizer:
Alexander Li Cohen, MD, PhD; Boston Children’s Hospital, Boston, Massachusetts, USA

The NIH Perspective on the Child Neurology Physician-Scientist Workforce
Adam L. Hartman, MD, FAAP, FANA, FAES; National Institute of Neurological Disorders & Stroke Neuroscience Center, Rockville, Maryland USA

Building a More Diverse Pediatric Research Community
Erika Augustine, MD, MS; University of Rochester Medical Center, Rochester, New York, USA

Growing a Global(ly Capable) Pediatric Neurology Workforce
Jo M. Wilmshurst, MB, BS, MD, Red Cross War Memorial Children’s Hospital, University of Cape Town, Cape Town, Western Cape, South Africa

3:30 PM – 5:45 PM
MEET THE EXPERTS: BEHAVIORAL NEUROLOGY: Management of Behavior in Children with Neurodevelopmental Disorders

Course Description:
Pediatric Neurologists now care for more children and adolescents with neurodevelopmental disabilities as the prevalence increases worldwide. The neurobehavioral care of these children is especially challenging. This Meet the Experts session will address some of the common behavioral management issues through case-based presentations of children with neurodevelopmental disorders including Autism, Tuberous Sclerosis, Fetal Alcohol Syndrome and other intellectual disabilities and Phelan McDermid Syndrome. The Experts will discuss management of problems such as irritability, behavior issues in a child with epilepsy, Attention and executive function challenges and sleep.

Learning Objectives:
1. Treat four common behavior challenges in children with NDD’s including irritability, anxiety, attention and sleep.
2. Understand some of the behavior challenges in children with autism, tuberous sclerosis complex, fetal alcohol syndrome, and Phelan McDermid Syndrome, their shared characteristics across disorders but also unique challenges.

Impact Statements:
1. Identifying behaviors in minimally verbal children and NDD
2. Treatment of behaviors in children with NDD.

Organizer:
Ann M. Neumeyer, MD; Massachusetts General Hospital, Boston, Massachusetts, USA

Moderator:
Sarah Spence, MD PhD, Boston Children’s Hospital, Boston, Massachusetts, USA

Case 1: Behavior Changes and Anxiety in a Child with Tuberous Sclerosis Complex
Shafali Spurling Jeste, MD; UCLA David Geffen School of Medicine, Los Angeles, California, USA

Case 2: Behavior Changes and Irritability in a Child with Autism Spectrum Disorder
Evdokia Anagnostou, MD; University of Toronto, Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Ontario, Canada

Case 3: Identifying and Treating Executive Function and Inattention in a Child with Fetal Alcohol Syndrome
Kirsten A. Donald MD, PhD, University of Cape Town, Cape Town, South Africa

Case 4: Behavior Changes and Sleep in a Child with Phelan McDermid Syndrome
Ann M. Neumeyer, MD; Massachusetts General Hospital, Boston, Massachusetts, USA

TOGETHER • APART virtual 2020
OCTOBER 12-23, 2020
6:00 PM – 8:15 PM
MEET THE EXPERTS:
NEUROMETABOLIC DISORDERS:
Unravelling the Complexity
of Treatable Neurometabolic
Disorders: A Case-based Session

Course Description:
Inborn errors of metabolism (IEM) are individually rare but collectively they form a major group of treatable disorders in children. Affected children manifest with neurological and psychiatric symptoms that overlap more common conditions, and delayed diagnosis is not uncommon. Enhancing knowledge and understanding of these conditions will help neurologists establish early diagnosis. Unravelling the complexity of treatable neurometabolic disorders will enhance knowledge and impact outcomes through appropriate multidisciplinary management. This symposium will focus on the approach and management of patients with treatable neurometabolic disorders, IEM associated with hyperammonemia, pediatric neurotransmitter disorders, cerebral creatine deficiency syndromes and treatable IEMs associated epilepsies.

Learning Objectives:
1. Understand key metabolic pathways involved in the biosynthesis of essential neurotransmitters, the clinical presentations and the role of the laboratory in diagnosis of primary defects in neurotransmitter metabolism
2. Identify biochemical abnormalities and the clinical consequences in primary hyperammonemic disorders, their diagnoses and management
3. Identify the clinical phenotypes, diagnose various subtypes and optimize the management of inherited cerebral creatine deficiency syndromes
4. Identify the phenotype and diagnose treatable metabolic causes of epilepsy in children and adolescents.

Impact Statements:
1. Timely recognition, utilization of appropriate biochemical and genetics testing to establish early diagnosis and improve outcomes in the four groups of metabolic disorders discussed through appropriate therapeutic interventions
2. Enhancing collaboration and establishing networks in the global pediatric neurology community dedicated to improve the outcomes of children affected by neurometabolic disorders.

Organizer:
Asuri N. Prasad, MBBS, MD, FRCPC, FRCPEdin, FAES; Schulich School of Medicine and Dentistry Western University, London, Ontario, Canada

Primary Disorders of Neurotransmitter Metabolism: Challenges in Diagnosis & Management
Asuri N. Prasad, MBBS, MD, FRCPC, FRCPEdin, FAES

Primary Hyperammonemic Disorders: Neurological Implications, Current Diagnosis and Management Strategies
Bindu Parayil Sankaran MD, DM, FRACP, PhD; Children Hospital at Westmead NSW, Sydney, Australia

Epilepsies Associated with IEM
Annapurna Poduri, MD, MPH; Boston Children’s Hospital, Harvard Medical School, Boston, Massachusetts, USA

Cerebral Creatine Deficiency Syndromes - An Underdiagnosed Entity: Clinical Aspects and Management
Sangeetha Yoganathan, MD, DNB, DM; Christian Medical College, Tamil Nadu, India
Friday, October 16

8:00 AM – 10:15 AM

MEET THE EXPERTS: NEURO-CUTANEOUS DISORDERS: IN SPANISH: Neurocutaneous Syndrome Iberoamerican Network

Course Description:
The aim of the Iberoamerican network is to implement an international collaboration where healthcare professionals (pediatric epileptologists, pediatric neurologist, geneticists, neurosurgeons, pediatricians, psychologists, nurses, etc.), affected families and caregivers from different countries share their field of expertise, knowledge and experiences. A platform enables sharing and empowers families.

The main objective of the symposium is to emphasize the importance of early diagnosis, adequate treatment and precise follow-up in the more prevalent Neurocutaneous Diseases.

Learning Objectives:
1. Learn about the spectrum of clinical presentation, importance of early diagnosis, adequate treatment and accurate follow up.
2. Have a clear understanding of the benefits of having a multidisciplinary team for the treatment and surveillance of patients and their families.

Impact Statements:
1. The use of appropriate diagnostic and treatment algorithms concerning the management of these patients.
2. The development of a multidisciplinary approach.

Organizer:
Federico Jose Ramos, MD; Sant Joan de Déu Hospital, Barcelona, Spain

Introduction
Federico Jose Ramos, MD

Neurocognitive Problems and Impact of Individualized Neuropsychological Intervention for Children with Neurofibromatosis Type 1 (NF1)
Alba Parra Checa, MSc; Sant Joan de Déu Hospital, Barcelona, Spain

Update on mTOR Inhibition as Treatment for Neurological Tuberous Sclerosis Complex (TSC) Manifestations
Lorena Lechuga-Becerra, MD; Sofia Salud, Mexico City, Mexico

Early Management and Strategies for the Treatment of Epilepsy Associated with Sturge Weber Syndrome
Bolívar Quito-Betancourt MD; Hospital Monte Sinai, Cuenca, Ecuador
10:30 AM – 12:45 PM  
SEMINAR: HEADACHE: IN SPANISH: Migraine in Children and Adolescents – Diagnosis, Management and Treatment

Course Description:  
This seminar about Migraine in Children and Adolescents, addressed in Spanish, will allow participants to learn and/or review the diagnostic criteria, epidemiology, therapeutic modalities, economic impact and quality of life data regarding Migraine in the Pediatric population in The Americas. Through lecture format and case presentation, participants will learn and/or review therapeutic modalities for migraine, including cognitive behavioral therapy (CBT), acute medications, preventive medications, “natural” treatments and neuromodulation. Participants will learn about “ointments, concoctions and potions” and will learn perspectives related to the level of scientific evidence for each therap. Participants will learn about health habit modification, accommodations in school, exercise, meditation and psychiatric comorbidities for patients with migraine. In addition, participants will learn about the similarities and differences in the practice of pediatric neurology (US vs Canada vs Latin America), as it relates to the regional, cultural and social norms, as well as the resources available to each demographic.

Learning Objectives:  
1. Know the diagnostic criteria, epidemiology, therapeutic modalities, economic impact and quality of life data regarding Migraine in the Pediatric population in The Americas.  
2. Know the importance of health habit modification, accommodations in school, exercise, meditation and addressing psychiatric comorbidities for pediatric patients with migraine.

Impact Statements:  
1. Implementing a comprehensive plan for the management of migraine in the pediatric population that includes pharmacological as well as non-pharmacological therapies.  
2. Implementing actions that will address reintegration to school and management of psychiatric comorbidities in patients with migraine.

Organizer:  
Clarimar Borrero-Mejias, MD; Barrow Neurological Institute at Phoenix Children’s Hospital, University of Arizona – COM- Phoenix, Phoenix, Arizona, USA

Migraine: Diagnosis, Epidemiology and Burden of Disease in The Americas  
Edith Alva Moncayo MD; President of Mexican Council of Neurology and Pediatric Neurology in Medical Center La Raza IMSS, México

Migraine Therapies: Medications and Beyond  
Denia Ramirez-Montalegre MD, MPH, PhD; The University of Tennessee Medical Center Knoxville, Tennessee, USA

Migraine: Habits, School, Mind and Mood  
Clarimar Borrero-Mejias, MD

Organizer:  
Banu Anlar, MD; Hacettepe University, Ankara, Turkey

Case Presentations Illustrating the Clinical Spectrum  
Banu Anlar, MD

Monogenic Interferonopathies with Non-Aicardi Goutieres Phenotype  
Raphaela Goldbach-Mansky MD, MHS; Laboratory of NIAID/NIH, Bethesda, Maryland, USA

Molecular Pathogenesis and Treatment Targets  
Adeline Vanderver, MD; Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania, USA

Discussion & Questions
10:30 AM – 12:45 PM  
SEMINAR: NEONATAL  
NEUROLOGY: The Value of  
Magnetic Resonance Imaging in the Newborn

Course Description:  
The participant will gain knowledge regarding the appropriate use of MRI in the neonatal period under a variety of conditions. In particular, the parent and clinician perspectives will be highlighted so as to inform the decision-making process.

Learning Objectives:  
1. Make an informed decision about when to obtain an MRI in the newborn period.  
2. Understand what MRI offers in conditions such as neonatal stroke, hypoxic-ischemic encephalopathy, congenital heart disease and extreme prematurity.

Impact Statements:  
1. When to order MRI in the newborn.  
2. The need for MRI in the preterm newborn and the appropriate time to get it.

Organizer:  
Donna M. Ferriero, MD, MS;  
UCSF Weill Institute for Neurosciences,  
San Francisco, California, USA

Tailor Made Prediction of Neonatal Stroke  
Linda S. de Vries, MD, PhD;  
University Medical Center Utrecht, the Netherlands

Congenital Heart Disease and Brain MRI: The Heart of the Matter  
Steven Paul Miller, MDCM, MAS, FRCPC; The Hospital for Sick Children, The University of Toronto, Toronto, Ontario, Canada

Preterm MRI – Is it Immature Information?  
Terrie Inder, MBChB, MD;  
Brigham and Women’s Hospital, Boston, Massachusetts, USA

MRI after Therapeutic Hypothermia – Are there Cool Findings  
Donna M. Ferriero, MD, MS

Questions & Answers

10:30 AM – 12:45 PM  
MEET THE EXPERTS:  
NEUROMUSCULAR:  
The Many Faces of Pediatric Neuromuscular Diseases: Cases, Approaches, Pearls and Challenges

Course Description:  
Neuromuscular diseases encompass a heterogeneous group of disorders which may be genetically determined, genetic or acquired, congenital or later onset, acute or chronic, and progressive, static or intermitted. Specific therapies are emerging for an increasing number of diseases with promising results for genetically determined diseases of the neuromuscular system, including spinal muscular atrophy, Duchenne muscular dystrophy and treatable myopathies, but also for acquired conditions. The entry point for any directed therapy however is an accurate diagnosis.

Educational objectives for the symposium are three fold:  
1. Review clinical clues from a detailed history and points on the physical examination and discuss when to consider a neuromuscular disease  
2. Teach how to integrate clinical phenotype, and/or imaging and histology, as well as genetic tools to arrive at a diagnosis  
3. How to confirm or refute a suspicious but not yet diagnostic genotype, based on careful iterative clinical analysis.
Learning Objectives:
1. Approach to most common neuromuscular presentations including early-onset muscle diseases, and recognize various important phenotypes in the pediatric age group using clinical, extended clinical, and basic laboratory clues

Impact Statements:
1. Awareness of the many different presentations in the pediatric neuromuscular field and recognition of patients in whom a neuromuscular specialist should be referred in the ‘Pediatric Neurology’ practice

Organizer:
Göknur Haliloğlu, MD; Hacettepe University Children’s Hospital, Ankara, Turkey

Case Presentations
Göknur Haliloğlu, MD
Carsten G. Bönnemann, MD; National Institute of Neurological Disorders and Stroke, Bethesda, Maryland, USA
Learning Objectives:
1. Gain a better understanding of the benefit and need for international pediatric clinical trial consortia.
2. Join and support an ongoing international clinical research consortium in child neurology.

Impact Statements:
1. Joining and supporting an international clinical research consortium in child neurology.
2. Seeking institutional and financial support for an international clinical research consortium in child neurology.

Organizer:
Adam L. Hartman, MD, FAAP, FANA, FAES; National Institute of Neurological Disorders & Stroke Neuroscience Center, Rockville, Maryland USA

Introduction
Adam L. Hartman, MD, FAAP, FANA, FAES

IPSS: Collaboration on Pediatric Stroke in 25 Countries
Heather J. Fullerton, MD, MAS; University of California, San Francisco, California, USA

Understanding the Etiology and Pathogenesis of Nodding Syndrome in Eastern Africa
Richard Idro, MMED, PhD; Makerere University, Kampala, Uganda

The Institutional Perspective on International Research Consortia
Edwin Trevathan, MD, MPH; Vanderbilt University Medical Center, Nashville, Tennessee, USA

Question & Answer

3:30 PM – 5:45 PM
CHILD NEUROLOGY FOUNDATION SYMPOSIUM:
Shortening the Diagnostic Odyssey in Children with Neurologic Conditions

Course Description:
This symposium will bring together medical professionals, families and advocates from around the world to discuss ways to shorten the diagnostic odyssey in children with neurologic conditions. On average, it takes five years to diagnose a rare disease. This is frustrating for both family and healthcare providers as it is critical, and sometimes lifesaving, to get to a diagnosis and begin making informed decisions about next steps in care for the child. During this session, participants will receive an overview of the current perspective, of families and professionals, on the challenges of getting to a diagnosis. The symposium will include speakers who share information on both low-tech and high-tech tools to accelerate the diagnostic journey. Participants will discuss the available tests and screens as well as how to best access and utilize these tools. We will also share information on best collaborate with families during the diagnostic process.

Two Learning Objectives:
1. Identify the different types of tools available for diagnosing children with neurologic differences.
2. Identify the key elements of collaborating with families and mobilizing energy to use resources effectively.

Two Impact Statements:
1. Developing a more effective protocol to utilize the appropriate tests and screeners for children in search of a diagnosis.
2. Improving communication and collaboration with families to shorten the diagnostic journey.

Organizer:
Child Neurology Foundation
Scott L. Pomeroy, MD, PhD; Harvard Medical School, Boston Children's Hospital, Boston, Massachusetts, USA

Welcome and Assessment Results
Scott L. Pomeroy, MD, PhD; Harvard Medical School, Boston Children’s Hospital, Boston, Massachusetts, USA

Family Perspective/Hope for Diagnosis and Possibly Precision Treatment
E. Gay Grossman, Patient Advocate, Co-Founder ADCY5.org, San Diego, California, USA

Family Support Through Multidisciplinary Programs/Genetic Counseling
Beth Rosen Sheidley, MS, CGC; Boston Children’s Hospital, Boston, Massachusetts, USA
Historical view of the evaluation of neurologic disorders. The impact of genetic progress and shift in diagnostic approach to genetics viewed from the perspective of neuromuscular disorders; solving the unsolved, implications for treatment.

James Dowling, MD, PhD; Hospital for Sick Children, Toronto, Ontario, Canada

How to address disorders where the differential diagnosis includes genetic and non-genetic causes, from the perspective of epilepsy. Role of imaging, role of genetics, progress and shift in diagnostic approach, evolving implications for treatment, role of community engagement.

Ingrid E. Scheffer, AO, MBBS; The University of Melbourne, Austin Health and Royal Children’s Hospital, Heidelberg, Victoria, Australia

Rare Neurological Diseases – Taking an Undiagnosed Diseases Network Model

Panel Discussion
- James Dowling, MD, PhD
- E. Gay Grossman, Patient Advocate
- Annapurna Poduri, MD, MPH; Boston Children’s Hospital, Harvard Medical School, Boston, Massachusetts, USA
- Scott L. Pomeroy, MD, PhD
- Ingrid E. Scheffer, AO, MBBS
- Beth Rosen Sheidley, MS, CGC

Close
Scott L. Pomeroy, MD, PhD; Harvard Medical School, Boston Children’s Hospital, Boston, Massachusetts, USA

3:30 PM – 5:45 PM
MEET THE EXPERTS: MOVEMENT DISORDERS: Tics, Stereotypies, and Their Look-a-Likes – Understanding and Managing Repetitive Movements

Course Description:
This Meet the Experts Interest Group session will address tics, stereotypies, psychogenic mimics, and similar-appearing movements. The presenters will share their clinical experience on use of key diagnostic features from home videos and in-person neurological evaluations in order to distinguish challenging cases. They will also share the latest research and neurobiological advances regarding the pathophysiology and treatment of these conditions.

Learning Objectives:
1. Use clinical skills to accurately distinguish tics and stereotypies from “mimics” including drug-induced and functional movement disorders.
2. Discuss recent advances in understanding of neurobiology of tics, stereotypies, and functional movement disorders.

Impact Statements:
1. More accurate diagnosis based on phenomenology without medical diagnostic testing
2. Implementation of treatment strategies starting with effective communication of diagnoses and treatment options to caregivers

Organizer:
Donald L. Gilbert, MD, MS; Cincinnati Children’s Hospital Medical Center, Cincinnati, Ohio, USA
Tic Phenomenology and Pathophysiology
Russell Dale, MRCP, PhD;
Children's Hospital at Westmead,
University of Sydney,
Sydney, NSW, Australia

Stereotypy Phenomenology and Pathophysiology
Harvey S. Singer MD;
Johns Hopkins Medicine,
Kennedy Krieger Institute,
Baltimore, Maryland, USA

Mimics – Functional (Psychogenic), Drug-induced, and Otherwise
Donald L. Gilbert, MD, MS

6:00 PM – 8:15 PM
JUNIOR MEMBER SEMINAR: Choosing Your Career Track – Academic, Private Practice, and NGOs

Course Description:
This session will discuss diverse choices in building a career post-training in child neurology. Three different career paths will be discussed:
1. Academic/research careers – how to interact with chairs, apply for jobs, negotiate time for research or education
2. Private practice – how to find a good practice, tips towards starting your clinical career and negotiating for dedicated time for your clinical interests
3. NGO and governmental jobs (i.e. CDC) – how to pursue a non-traditional career path and interact with multiple governmental associations and industry resources outside of the traditional clinical setting.

These sessions include speakers that are early career investigators at the NIH, public health officials working for the department of defense, and physicians in private practice. Speakers will discuss options available for junior child neurologists in building bridges to various research funding entities, carving out a subspecialty interest within a group practice, as well as pursuing governmental careers in the translation of scientific advances to the field.

Learning Objectives:
1. Identify distinct career options following training.
2. Successfully transition into a long career role that best suits their career needs.

Impact Statements:
1. Pursue as a child neurology attending.
2. Identify clear steps to continue on my career trajectory and achieve my long-term career goals.

Organizer:
Payal Patel, MD;
Seattle Children’s Hospital,
Seattle, Washington, USA

The Academic Track
Naila Makhani, MD, MPH;
Yale University,
New Haven, Connecticut, USA

The Private Practice Track
Doug Smith, MD;
Minnesota Epilepsy Group,
St. Paul, Minnesota, USA

The Off-the-Beaten-Path Track, Working in Government
Ana-Claire Meyer, MD, MHSH;
US Army Medical Research and Development Command,
Fort Detrick, Maryland, USA
Monday, October 19

7:00 AM – 3:30 PM
SYMPOSIUM I: NEUROBIOLOGY OF DISEASE IN CHILDREN (NDC): Traumatic Brain Injury (TBI)

Course Description:
Traumatic brain injury (TBI) takes an enormous toll on the developing nervous system. NDC 2020 will focus on the topic including a description of clinical features, pathogenesis and its management, as well as identifying future research directions. TBI not only contributes to high levels of childhood mortality but also considerable morbidity demanding the expertise of child neurologists at diagnosis and in follow-up, impacting learning and well-being.

Learning Objectives:
1. To recognize the spectrum of clinical presentations and complications arising from traumatic brain injury in children.
2. To learn of latest developments in the field and how best to manage resulting neurological complications

Impact Statements:
1. To have a deeper understanding of key concepts that enable cutting edge management in one’s practice soon after injury and in follow-up.
2. To serve as an advocate for prevention of TBI and to educate others about emerging concepts in care and management.

Organizer:
Bernard L. Maria, MD, MBA, Goryeb Children’s Hospital, Morristown, New Jersey, USA

Supported by the National Institutes of Health (NIH grant 5R13NS040925-21), and the Child Neurology Society

7:00 AM – 7:15 AM
OPENING COMMENTS/INTRODUCTION
Bernard L. Maria, MD, MBA

7:15 AM – 7:25 AM
OVERVIEW OF CLINICAL ASPECTS
Christopher C. Giza, MD

7:25 AM – 7:50 AM
EPIDEMIOLOGY OF PEDIATRIC TBI
Alcy R. Torres, MD; Boston University School of Medicine, Boston Medical Center, Boston, Massachusetts, USA

7:50 AM – 8:15 AM
SEVERE TBI AND NEUROCRITICAL CARE MONITORING
Mark Wainwright, MD, PhD; Seattle Children’s Hospital, University of Washington, Seattle, Washington, USA

8:15 AM – 8:40 AM
SIDELINE ASSESSMENT OF CONCUSSION IN SPORT
Javier Cárdenas, MD; Barrow Concussion & Brain Injury Center, Barrow Neurological Institute, Phoenix, Arizona, USA

8:40 AM – 9:05 AM
CLINICAL EVALUATION OF PEDIATRIC CONCUSSION AND MILD TBI
Sean Rose, MD; Nationwide Children’s Hospital, Columbus, Ohio, USA
9:05 AM – 9:15 AM
QUESTION AND ANSWER SESSION

9:30 AM – 11:20 AM
SESSION II: PATHOGENESIS

Co-Director and Moderator:
Mayumi Prins, PhD;
Brain Injury Research Center,
University of California
Los Angeles,
Los Angeles, California, USA

9:30 AM – 9:55 AM
OVERVIEW OF PATHOBIOLOGY OF TBI
Mayuni Prins, PhD

9:55 AM – 10:20 AM
SEX DIFFERENCES IN TBI
Meeryo Choe, MD;
UCLA Mattel Children’s Hospital,
Los Angeles, California, USA

10:20 AM – 10:45 AM
ADVANCED NEUROIMAGING IN TBI
Emily Dennis, PhD;
University of Utah,
School of Medicine,
Salt Lake City, Utah, USA

10:45 AM – 11:10 AM
GENETIC AND MOLECULAR MARKERS FOR TBI
Christopher C. Giza, MD

11:10 AM – 11:20 AM
QUESTION AND ANSWER SESSION

12:25 PM – 3:00 PM
SESSION III: TREATMENT AND MANAGEMENT

Co-Director and Moderator:
Lucia Braga, Neuroscientist, PhD;
SARAH Network of Rehabilitation Hospitals,
Brasilia, Brazil

12:25 PM – 12:50 PM
POST-TRAUMATIC SEIZURES, BIOMARKERS, AND EPILEPSY
Adam Numis, MD;
UCSF-Benioff Children’s Hospital,
University of California
San Francisco,
San Francisco, California, USA

1:15 PM – 1:40 PM
EXERCISE AND CONCUSSION
John Leddy, MD;
Jacobs School of Medicine,
Buffalo, New York, USA

1:40 PM – 2:05 PM
REHABILITATION FROM PEDIATRIC MODERATE-SEVERE TBI
Lucia Braga, Neuroscientist, PhD;
SARAH Network of Rehabilitation Hospitals,
Brasilia, Brazil

2:05 PM – 2:30 PM
TRANSCRANIAL STIMULATION AND RECOVERY
Karen M. Barlow, MBChB,
MRCPCH(UK), FRACP;
University of Queensland,
Brisbane, QLD, Australia

2:30 PM – 2:55 PM
SPORTS AND RECREATION IN CHILDREN WITH NEURODEVELOPMENTAL DISORDERS
Rujuta B. Wilson, MD;
UCLA David Geffen School of Medicine,
Los Angeles, California, USA

2:55 PM – 3:25 PM
SESSION IV: FUTURE DIRECTIONS & QUESTION AND ANSWER SESSION

Moderator:
Bernard L. Maria, MD, MBA

Panelist:
Christopher C. Giza, MD
Mayumi Prins, PhD
Karen Barlow, MBChB,
MRCPCH(UK), FRACP
Lucia Braga, Neuroscientist, PhD
NINDS or NCI Program Officer

3:25 PM – 3:30 PM
CLOSING COMMENTS
Bernard L. Maria, MD, MBA
JOHN STOBO PRITCHARD AWARD LECTURE:
Developmental and Epileptic Encephalopathies: What We Know and What We Do Not Know
Nicola Specchio, MD, PhD, Bambino Gesu’ Children’s Hospital, IRCCS, Rome, Italy

Course Description:
To review the evolution of the concept of Epileptic Encephalopathy (EE) during the course of past years and analyze how the current definition might impact on both clinical practice and research. Developmental delay in children with epilepsy could be the expression of the etiology, consequence of intense epileptiform activity (seizures and EEG abnormalities), or due to the combination of both factors. Therefore, the current ILAE classification identified three electro-clinical entities that are those of Developmental Encephalopathy, Epileptic Encephalopathy, and Developmental and Epileptic Encephalopathy (DEE). Many biological pathways could be involved in the pathogenesis of DEEs. DNA repair, transcriptional regulation, axon myelination, metabolite and ion transport, and peroxisomal function could all be involved in DEE. Also, epilepsy and epileptiform discharges might impact on cognition via several mechanisms, although they are not fully understood. The correct and early identification of an etiology in DEE might increase the chances of a targeted treatment regimen. Interfering with neurobiological processes of the disease will be the most successful way in order to improve both the cognitive disturbances and epilepsy that are the key features of DEE.

Learning Objectives:
1. Correctly define early onset severe epilepsies distinguishing conditions where epilepsy and epileptiform abnormalities are responsible for the cognitive decline from conditions where the etiology is the major player in the cognitive dysfunctions.
2. Be updated regarding new neurobiological process of genetic origin which are responsible of developmental and epileptic encephalopathy.

Impact Statements:
1. Diagnoses different types of developmental and epileptic encephalopathies
2. Improve their knowledge on specific etiologies and targeted therapies in developmental and epileptic encephalopathies

BERNARD SACHS AWARD LECTURE:
Genes as a Window into the Developing Brain
Joseph G. Gleeson, MD; University of California San Diego, Rady Children’s Institute for Genomic Medicine, San Diego, California, USA

Course Description:
Discuss causes of childhood neurological conditions including intellectual disability, autism spectrum disorder and brain dysplasia. Focus on developing an approach towards genetic investigation based upon clinical presentation and family history and developing pathways towards new treatments.

Learning Objectives:
1. Differentiate between dominant, recessive, de novo, somatic, and complex modes of inheritance.
2. Understand differences between gene testing strategies and their power to detect genetic mutations that can determine underlying signs and symptoms.

Impact Statements:
1. Approaches and limitations in evaluating children with neurodevelopmental disease for underlying genetic causes to enable more definitive genetic diagnoses,
2. Approaches to selecting targeted therapies for specific mutations using antisense oligonucleotides.
10:30 AM – 12:45 PM
SYMPOSIUM: NEUROIMMUNOLOGY: International Consensus Opinions in Opsoclonus-Myoclonus-Ataxia Syndrome

Course Description:
The objectives of this symposium on opsoclonus-myoclonus-ataxia syndrome (OMAS) are to provide participants with up-to-date consensus opinions from a collaborative international OMAS study group. Attendees will learn current epidemiology, diagnostic criteria, biological mechanisms of disease, optimal treatment, and long-term outcomes.

Learning Objectives:
1. Explain cardinal presenting features, ratings scales, and the clinical course of opsoclonus-myoclonus-ataxia syndrome (OMAS)
2. Apply common evaluation and treatment practices for patients with OMAS

Impact Statements:
1. The recognition and initial evaluation of children with opsoclonus-myoclonus-ataxia syndrome.
2. The use of immunomodulatory agents in the early course of and long-term follow-up of opsoclonus-myoclonus-ataxia syndrome.

Organizer:
Tim Lotze, MD; Baylor College of Medicine, Texas Children’s Hospital, Houston, Texas, USA

Cardinal Presenting Features, Rating Scales, and the Clinical Course of Opsoclonus-Myoclonus-Ataxia Syndrome
Ming Lim, MD, PhD; Evelina London Children’s Hospital, King’s Health Partners Academic Health Science Centre, London, United Kingdom

Recognized Etiologies and Emerging Biomarkers in Opsoclonus-Myoclonus-Ataxia Syndrome
Russell Dale, MRCP, PhD; Children’s Hospital at Westmead, University of Sydney, Sydney, NSW, Australia

Consensus Recommendations for the Evaluation and Treatment of Opsoclonus-Myoclonus-Ataxia Syndrome
Mark Gorman, MD, Boston Children’s Hospital, Boston, Massachusetts, USA

Short and Long-term Neurodevelopmental Outcomes in Opsoclonus-Myoclonus-Ataxia Syndrome
Wendy G. Mitchell MD; Keck School of Medicine, Children’s Hospital Los Angeles, Los Angeles, California, USA

10:30 AM – 12:45 PM
SYMPOSIUM: STROKE: PEDIATRIC STROKE: Hot Topics, Global Challenges

Course Description:
Our aim is to provide practical updates and strategies to address the most pressing and controversial issues related to pediatric stroke. A focus on infectious/inflammatory mechanisms and acute management will emphasize practical clinical issues combined with distinct but universal considerations of mechanism. Speakers will be experts within an emerging childhood cerebrovascular disease global network and will address the challenges of stroke management in resource-limited settings.

Learning Objectives:
1. Approach the acute management of a child with stroke with confidence based on modern evidence-based best clinical practice, and
2. Appreciate the possible roles of specific infections and inflammation in the pathogenesis of childhood arterial ischemic stroke and resultant treatment implications.

Impact Statements:
2. Offering children hyperacute stroke therapy.

Organizer:
Adam Kirton, MD; University of Calgary, Calgary, Alberta, Canada

Acute Stroke Management in Children: An Overview with a Global Perspective
Mark MacKay, MBBS, PhD; Royal Children’s Hospital, Melbourne, Australia

Pilipino Perspective on Pediatric Stroke: Differences in Etiologies and Management
Marilyn Tan, MD, FCNSP, FPNA, FPPS; University of the Philippines, Philippine General Hospital, Manila, Philippines

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OCTOBER 12-23, 2020
**African Perspective on Pediatric Stroke: Stroke in Children with HIV**
Alvin Ndondo, MBChB, FCPaed (SA); Red Cross War Memorial Children’s Hospital, University of Cape Town, Cape Town, Western Cape Province, South Africa

**Infectious Mechanisms of Childhood Arterial Ischemic Stroke: Overview and Update on New Global Efforts**
Heather J. Fullerton, MD, MAS; University of California, San Francisco, San Francisco, California, USA

**Course Description:**
Pediatric mixed neuronal-glial tumors are an increasingly recognized subtype of childhood brain tumors (BTs), frequently causing seizures. The most recent WHO classification of pediatric BTs identifies 13 different neuronal-glial tumor types. Over the past decades there has been an explosion of knowledge concerning their molecular makeup, with the majority having distinct molecular signatures. This session will review the clinical, radiographic, histopathologic and molecular aspects of neuronal-glial BTs and closely aligned low-grade gliomas and summarize new data concerning the effectiveness of novel molecular targeted approaches.

**Learning Objectives:**
1. To inform attendees of the new understandings of the molecular constitution of pediatric neuronal-glial BTs and closely aligned pediatric gliomas, so as to better direct therapies.
2. To summarize the potential molecular therapies available for pediatric neuronal-glial BTs and how such therapy can dramatically affect outcome; the potential toxicities of these new agents will also be discussed.

**Impact Statements:**
1. Understand the molecular differences between the different subtypes of pediatric low-grade neuronal-glial tumors and how these differences affect management and prognosis
2. Understand the potential new therapies available for these lesions, the indications for molecular-targeted therapy and the common side effects of such treatment.

** Organizer:**
Roger J. Packer, MD;
Children’s National Hospital, Washington, DC, USA

**Histologic and Histoimmunologic Classification of Pediatric Mixed Neuronal-Glial Tumors**
Brent Orr, MD, PhD; St. Jude’s Children’s Research Hospital, Memphis, Tennessee, USA

**Neuroradiographic Features of Pediatric Neuronal-Glial Tumors**
Gilbert Vézina, MD, FACR; Children’s National Hospital, Washington, DC, USA

**Molecular Classification and Resultant Therapeutic Implications of Pediatric Mixed Neuronal-Glial Tumors**
David T. W. Jones, PhD; Hopp Children’s Cancer Center, Heidelberg, Germany

**New Understandings and Molecular-Targeted Therapies for Pediatric Neuronal-Glial Tumors**
Roger J. Packer, MD

**Course Description:**
Charcot-Marie-Tooth disease (CMT) is a heterogenous group of peripheral nerve diseases and it is the most prevalent genetic neuromuscular disease caused by mutations in more than one hundred various genes. The onset of disease often falls into the pediatric age group and may lead to significant disability. The Symposium will provide many updates regarding the causes of CMT, and will discuss validated assessment tools as well as new therapeutic approaches:
1. The genetic basis of various forms of CMTs including novel rare forms will be presented. A rational strategy for genetic testing will be provided.
2. New developments in standardized clinical evaluation tools (CMPTPeds, CMTInf) will be discussed. These tools are employed for natural history data collection in pediatric CMT and they may serve as outcome measures in emerging treatment trials.
3. Electrophysiology evaluation continues to be important in differential diagnosis of various CMTs from other types of neuropathies, moreover some parameters like CMAP may serve as biomarkers in clinical trial. Quantitative muscle MRI techniques are emerging as potential biomarkers along with some other biological measurements.
4. In vitro disease models and transgenic animal research are aimed at understanding the molecular pathology of CMTs leading to developments of new therapeutic targets.
Learning Objectives:
1. Learn about the genetic causes of CMT and acquire validated evaluation tools that can be used neuromuscular clinics.

Impact Statements:
1. Will help the audience to learn about proper diagnostic strategies, which could make their neuromuscular practice more efficient. Employing the validated functional assessment tools will make the long term progression of CMT more accurate to assess.

Organizer:
Gyula Acsadi MD, PhD; Connecticut Children’s Medical Center, University of Connecticut School of Medicine, Farmington, Connecticut, USA

Introduction to Charcot-Marie-Tooth Disease (CMT)
Gyula Acsadi MD, PhD

Genetic Basis of Charcot-Marie-Tooth Disease (CMT)
Shawna Feely, MS, LGC; University of Iowa Hospitals & Clinics, Iowa City, Iowa, USA

Validated Assessment Tools in Natural History for CMT
Timothy Estilow OTR/L; The Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania, USA

Electrophysiology and Biomarkers
Richard A. Lewis, MD; Cedars-Sinai Medical Center, Los Angeles, California, USA

Molecular Basis of CMTs and Cellular Drug Targets
Mario Saporta, MD, PhD, MBA, FAAN, University of Miami, Miami, Florida, USA

3:30 PM – 5:45 PM
SYMPOSIUM:
NEONATAL SEIZURES: Practical Approaches to Classification, Diagnosis and Management

Course Description:
The educational objective of this symposium is to present key findings from the International League Against Epilepsy’s Task Force on the Classification, Diagnosis and Treatment of Neonatal Seizures. Speakers will emphasize key concepts and management strategies that can be applied across a variety of practice settings, including resource-limited locations.

Learning Objectives:
1. Accurately diagnose and classify neonatal seizures using clinical signs, amplitude-integrated EEG and conventional EEG, and assign a level of certainty to their diagnosis.
2. Apply current evidence to optimally manage neonatal seizures across a wide range of practice settings.

Learner Outcomes:
This education workshop helped me to identify changes I could make in my practice related to:
1. Recognizing when to suspect neonatal seizures and how to confirm the diagnosis using available resources.

Organizer:
Courtney J. Wusthoff, MD; Stanford University, Stanford, California, USA

Definition and Classification of Neonatal Seizures: Insights from the ILAE Task Force
Ronit Pressler, MD, PhD; Great Ormond Street Hospital for Children, London, UK

Diagnosis of Neonatal Seizures by Clinical Signs, Amplitude-Integrated EEG and Conventional EEG
Cecil D. Hahn, MD, MPH; The Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada

Treatment of Neonatal Seizures Informed by Current Evidence
Hans Hartmann, MD; Hannover Medical School, Clinic for Pediatric Kidney, Liver and Metabolic Diseases, Hannover, Germany

Management of Neonatal Seizures in Resource-Limited Settings
Jo M. Wilmshurst, MB, BS, MD, Red Cross War Memorial Children’s Hospital, University of Cape Town, Cape Town, Western Cape, South Africa
6:00 PM – 8:15 PM
SYMPOSIUM: NEUROINFECTIONOUS DISEASE:
Tropical Infections of the CNS: A Worldwide Problem

Course Description:
Globalization, communications, and technology, have improved the mobility of populations around the world. Infectious diseases previously limited to specific geographic areas are no longer restricted to their geographic location or origin. Due to immigration and the popularity of international travel, patients affected by infectious diseases including malaria, tuberculosis, zika, dengue, chikungunya, and Ebola can be found anywhere in the world. These infections may have devastating consequences for both individuals and society, especially if clinicians are not aware of them and do not consider them in their differential diagnosis. Important advances have been made in both diagnosis and treatment of many of these infectious diseases. In this symposium we will:

• An update in clinical care, diagnosis and research in some of the most frequent and lethal infection diseases affecting CNS, like TB and Malaria,
• Discuss the acute neurological manifestations associated with Arbovirus infections,
• Understand implementation challenges for clinical trials conducted in Low and Middle Income Countries investigating new therapeutic modalities for tropical central nervous system infectious diseases

Learning Objectives:
1. To learn to identify some of the most common tropical neurological infectious diseases and how to establish the proper, diagnosis and treatment.
2. To learn about the neurological manifestations of acute infections for arbovirus.

Impact Statements:
1. This educational session helped me to identify changes I could make in my practice related to identify some of the most common tropical neurological infectious diseases and how to establish the proper, diagnosis and treatment.
2. This educational session helped me to identify changes I could make in my practice related to learn about the neurological manifestations of acute infections for arbovirus.

Organizer:
Maria Teresa Acosta, MD; National Human Genome Research Institute, National Institutes of Health, Bethesda, Maryland, USA

Co-Organizer:
Alfredo Cerisola, MD; University of the Republic, Uruguay

CNS Tuberculosis: Recent Concepts in Diagnosis and Treatment
Pratibha Singhi MBBS, MD, FIAP, FNAMS; Medanta, The Medicity, Gurgaon, Haryana, India, Post Graduate Institute of Medical Education and Research Chandigarh, India

Cerebral Malaria: Recent Concepts in Diagnosis and Treatment
Charles Newton, MD; University of Oxford, Oxford, United Kingdom, KEMRI-Wellcome Trust Collaborative Programme, Kilifi, Kenya

Dengue, Zika and Chickungunya: Acute Neuroinfections
Marco T. Medina, Chevalier, FAAN; National Autonomous University of Honduras, Tegucigalpa, Honduras

Clinical Trials in Tropical Infections: Challenges and Successes
Douglas G. Postels, MD, MS; Children’s National Medical Center, George Washington University, Washington, DC, USA

Impact Statements:
1. This educational session helped me to identify changes I could make in my practice related to identify some of the most common tropical neurological infectious diseases and how to establish the proper, diagnosis and treatment.
2. This educational session helped me to identify changes I could make in my practice related to learn about the neurological manifestations of acute infections for arbovirus.

Organizer:
Huei-Shyong Wang, MD; Chang Gung Children’s Hospital, Chang Gung University, Taoyuan, Taiwan
**Beneath the Tip of the Iceberg: Comorbidities of Tourette Syndrome**  
Jennifer Vermilion, MD,  
University of Rochester,  
Rochester, New York, USA

**Non-Pharmacological Management: Anti-Boring Lifestyles for Children with Tourette Syndrome**  
Huei-Shyong Wang, MD

**Pharmacological Therapy for Tourette Syndrome: What Medicines Can and Cannot Do**  
Yoshiko Nomura, MD PhD;  
Yoshiko Nomura Neurological Clinic for Children,  
Tokyo, Japan

**Deep Brain Stimulation in Tourette Syndrome**  
Jonathan W. Mink, MD, PhD;  
University of Rochester,  
Rochester, New York, USA

6:00 PM – 8:15 PM  
**SYMPOSIUM: EPILEPSY: Infantile Spasms – Current Management – A Global Perspective; The Way Forward**

**Course Description:**  
This symposium will deal with an important epileptic encephalopathy: Infantile Spasms. Even Infantile Spasms constitute the commonest devastating infantile epilepsy worldwide, there is a wide variability in their etiology, clinical spectrum, and diagnostic and management protocols across the world. Despite some large clinical trials, several challenges and uncertainties continue to exist. There is lack of consensus even among experts as to what exactly constitutes hypsarrhythmia, and the certainty with which one can diagnose infantile spasms. Also, there are several unanswered questions not only whether ACTH or oral steroids should be used, but also regarding the doses, dosing, tapering, and duration of ACTH therapy and whether synthetic and natural ACTH should be used. Similar questions also exist regarding the use of Vigabatrin, other antiepileptics, special diets and even surgery for the control of IS. In this symposium, experts from across the globe will try to address these issues in light of the current scientific evidence and present the state of art information on the subject, with a global perspective. Some new drugs in pipeline and newer ways to conduct clinical trials will also be discussed. Since children with infantile spasms are managed not only by child neurologists, but also by paediatricians and adult neurologists in many parts of the world, this topic is relevant for all. It is hoped that it would provide current information with an international perspective and opportunities for collaborative research.

**Learning Objectives:**
1. Make a correct diagnosis and plan a rational evaluation of a child with suspected infantile spasms
2. Make evidence based, rational choices for the management of Infantile Spasms, keeping in mind a global perspective.

**Impact Statements:**
1. Making an early and correct diagnosis in a child with suspected infantile spasms.
2. Formulating appropriate management protocols for children with infantile spasms.

**Organizer:**
Pratibha Singhi MBBS, MD, FIAP, FNAMS; Medanta, The Medicity, Gurgaon, Haryana, India, Post Graduate Institute of Medical Education and Research, Chandigarh, India

**Infantile Spasms – Concepts and Differential Diagnosis; the European Approach Towards Management**  
Alexis Arzimanoglou, MD;  
University Hospitals of Lyon, Lyon, France and Children’s Hospital San Juan de Dios, Barcelona, Spain

**Evaluation of Infantile Spasms – Role of Genetics; Approach to a Child with IS in Japan**  
Shinichi Hirose, MD, PhD;  
Fukuoka University, Fukuoka, Japan

**Infantile Spasms: Peculiarities and Challenges in Resource Limited Countries; Role of ACTH, Steroids, and Other Antiepileptic Drugs**  
Pratibha Singhi, MBBS, MD, FIAP, FNAMS

**Diagnosis and Management of Infantile Spasms in the USA – New Drugs in the Pipeline; What is the Way Forward?**  
Shaun Hussain, MD, MS;  
University of California Los Angeles, Los Angeles, California, USA
Wednesday, October 21

6:00 AM – 6:55 AM
SHEILA WALLACE
AWARD LECTURE:
Dietary Therapies for Epilepsy in Low Resource Settings: Challenges and Successes
Suvasini Sharma, MD, DM; Lady Hardinge Medical College and Associated Kalawati Saran Children’s Hospital, New Delhi, India

Course Description:
I have been working in the field of Dietary therapies of childhood epilepsy for the last 15 years. I will share my experience with the use of ketogenic diets and its modifications in India. I work in a low resource setting, and in a cultural milieu which is very unfamiliar with ketogenic diet. In this talk, I will discuss the challenges faced by pediatric neurologists and parents who wish to use the diet in children with refractory epilepsy; and how we have used simple low cost innovations to overcome these challenges. We have evolved from the use of the classic ketogenic diet to the flexible use of the modified Atkins diet, which we have demonstrated to be efficacious in randomized controlled trials.

Learning Objectives:
1. Understand the problems faced in low resource settings, for prescribing and administering dietary therapies for refractory childhood epilepsy.
2. Learn strategies for low cost delivery of the diet in resource constrained and underprivileged populations.

Impact Statements:
1. Consider and offer the option of ketogenic diet if medically indicated, even in low socioeconomic populations, if the caregivers are motivated.
2. Use simple and flexible approaches to the use of the ketogenic diet for low resource settings

7:00 AM – 7:55 AM
PHILIP R. DODGE
YOUNG INVESTIGATOR
AWARD LECTURE:
The Impact of Serendipity: From “Rare” Neurodevelopmental Disorders to Common Insights
Hsiao-Tuan Chao, MD, PhD; Baylor College of Medicine, Houston, Texas, USA

Course Description:
Discuss genetic, cellular, and neural circuit mechanisms underlying neurodevelopmental conditions characterized by autism, intellectual disability, and epilepsy. Focus on integrating multidisciplinary approaches in model organisms including fruit flies and mice with genetic investigation based on clinical findings.

Learning Objectives:
1. Recognize how the identification and study of the genetic underpinnings of “rare” disorders can uncover biological pathways shared with more common conditions.
2. Understand the application of functional studies in fruit fly and mouse model organisms and their power to reveal pathogenic gene alterations and underlying disease mechanisms.

Impact Statements:
1. Approaches and limitations in the evaluation, diagnosis, and prognosis of children with neurodevelopmental disorders.
2. Approaches to identifying genetic etiologies underlying neurodevelopmental disorders.

10:30 AM – 12:45 PM
SYMPOSIUM: NEUROGENETICS:
Current Status of Developmental Encephalopathies: Rett Syndrome, MECP2 Duplication Disorder, CDKL5 Deficiency Disorder, and FOXG1 Disorder

Course Description:
• To understand the recent advances in the developmental encephalopathies, namely, Rett syndrome, MECP2 Duplication Disorder, CDKL5 Deficiency Disorder and FOXG1 Disorder through comparison of the important similarities and critical differentiating features of this expanding group of neurodevelopmental disorders;
• To understand the phenotype-genotype relationships that characterize each disorder; and
• To promote the existing and emerging clinical trials that offer the potential for disease-modifying or curative promise.

Learning Objectives:
1. To understand the recent advances in the developmental encephalopathies, namely, Rett syndrome, MECP2 Duplication Disorder, CDKL5 Deficiency Disorder and FOXG1 Disorder through comparison of the important similarities and critical differentiating features of this expanding group of neurodevelopmental disorders including clinical trajectories and phenotype-genotype correlations
2. Understand the current strategies and challenges to develop and promote clinical trials that offer the potential for disease-modifying or curative therapeutics.

Impact Statements:
1. Evaluation, diagnosis, and management of these developmental encephalopathies including directing these children to clinical centers focusing on these disorders.
2. Educate and advocate for parents and other caregivers regarding the therapeutic opportunities available or under development for these developmental encephalopathies.

Organizer:
Alan Percy, MD;
University of Alabama at Birmingham,
Birmingham, Alabama, USA

10:30 AM – 12:45 PM
SYMPOSIUM:
NEUROIMMUNOLOGY:
Cutting Edge Technology in Neuroinflammation: Advancing Science and Increasing Capacity in Low and Middle-income Countries

Course Description:
This symposium will provide an overview of advanced technologies, such as metagenomic next-generation sequencing, phage display and enhanced virome sequencing, to identify evidence of infection or autoantibodies in patients with neuroinflammation such as infectious encephalitis (IE) and autoimmune encephalitis (AE). We will also discuss the high mortality and morbidity of IE and AE in low and middle-income countries (LMIC) and potential application of these technologies as well as capacity building in LMIC. Upon completion of this symposium, participants will become familiar with new technologies for pathogen and antibody discovery; understand the impact of infectious and autoimmune encephalitis in LMIC and potential usage of technology to advance science, to save brains and to build capacity in LMIC.
1:00 PM – 3:15 PM  
SYMPOSIUM: COGNITIVE-BEHAVIORAL NEUROLOGY: The Molecular & Cellular Basis of Developmental Cognitive & Behavioral Disorders

Course Description:
- The overall educational objective of this symposium is to expose child neurologists to cutting-edge insights into the developmental roots of pediatric neurological disorders, particularly those influencing cognition, language, and behavior.
- Many disorders in child neurology – particularly those that are manifest by cognitive and behavioral dysfunction, the failure to reach developmental milestones, dysmorphisms, and congenital epilepsies – are attributable to fundamental aberrations during cerebrogenesis, whether genetic or acquired. To that extent, a child neurologist might actually be viewed as a “translational developmental biologist”. Newer insights and tools in cell and molecular biology (e.g., human induced pluripotent stem cells, genome editing, organoids, whole genome sequencing, single cell ‘omics, epigenetic modeling, live cell imaging, high-throughput high content screening, etc.), have increased our ability to understand both normal cerebrogenic processes and the types of abnormalities that might occur in those processes which might produce the disorders we, as child neurologists, treat. Although many of these insights are so new that they have not yet yielded concrete treatments, they certainly have started to suggest ways to diagnose and stratify patients early and to offer potential drug targets. This symposium seeks to discuss some of the cutting-edge research that might yield a better understanding of the cellular and molecular basis of some categories in this class of disorders.
- The format for each of the 4 representative categories below will be as follows: (1) a 5 min. introduction to the clinical entity; (2) a 20 min. synopsis of some of the cutting-edge molecular and cellular research and/or modeling ongoing in that entity; (3) a 5 min. conclusion by the first speaker with an emphasis on the therapeutic implications of the new scientific insights.

Learning Objectives:
1. Understand how and why a particular clinical entity emerged as an aberration of normal developmental processes
2. Envision where future diagnostic and therapeutic options may lie.

Impact Statements:
1. Counseling patients and their families with regard to the cause of a disorder and the likelihood of it’s being observed in future offspring or future generations
2. Explaining to families where the cutting-edge scientific understanding (based on the latest cellular and genetic techniques) lies for a particular disorder and what novel diagnostic and therapeutic options may lie ahead based on these understandings (new early tests, new drugs, new rehab strategies, etc.)

Organizer:  
Evan Y. Snyder MD, PhD, FAAP;  
Sanford Burnham Prebys Medical Discovery Institute,  
UC San Diego School of Medicine, San Diego, California, USA

Co-Organizer:  
Doris Trauner MD;  
UC San Diego, La Jolla, California, USA
Genetic Epilepsy Syndromes
Annapurna Poduri, MD, MPH; 
Boston Children’s Hospital, 
Harvard Medical School, 
Boston, Massachusetts, USA
Joseph G. Gleeson, MD; 
University of California San Diego, 
Rady Children’s Institute 
for Genomic Medicine, 
San Diego, California, USA

Autism
Adi Aran, MD, 
Shaare Zedek Medical Center, 
Hebrew University, 
Jerusalem, Israel
Alysson R. Muotri, PhD; 
UC San Diego School of Medicine, 
San Diego, California, USA

Neuropsychiatric Disorders
Shafali Jeste, MD; 
David Geffen School of Medicine, 
University of California, 
Los Angeles, California, USA
Evan Y. Snyder MD, PhD, FAAP

Cerebral Migrational, 
‘Connectomic’, and 
Dysgenetic Defects
Harvey B. Sarnat, MS, MD, FRCPC; 
Alberta Children’s Hospital 
Research Institute, 
University of Calgary, 
Calgary, Alberta, Canada
Jeffrey D. Macklis, MD, Dr.Sci.Tech; 
Harvard University, 
Cambridge, Massachusetts, USA

Learning Objectives:
1. Incorporate better screening questions and order appropriate diagnostic tests in their evaluation of children in child neurology clinics to assess and confirm the underlying sleep disorder.
2. Initiate management strategies to treat the underlying sleep disorder

Impact Statements:
1. Diagnose and manage comorbid or primary sleep problems in child neurology
2. Appropriate referral to sleep physician

Evaluation of a Sleepy Child
Joseph Kaleyias, MD, PhD; 
East Sussex Healthcare 
NHS Trust, Eastbourne, 
East Sussex, England, UK

Evaluation of Nocturnal Events: 
Seizures, Parasomnias and More
Sanjeev V. Kothare, MD, FAAN, 
FAASM

Evaluation of Sleep in 
Neurodevelopmental Disorders
Joanna Wrede, MD; 
Seattle Children’s Hospital, 
University of Washington, 
Seattle, Washington, USA

Sleep Pharmacology in 
Pediatric Insomnia
Ann Marie Morse, DO; 
Geisinger Commonwealth School of Medicine, Geisinger, 
Commonwealth School of Medicine, Geisinger Medical Center, 
Janet Weis Children’s Hospital, 
Danville, Pennsylvania, USA

1:00 PM – 3:15 PM
SYMPOSIUM: SLEEP: 
Integrating Pediatric Sleep Medicine into Child Neurology

Course Description:
Better understanding of various sleep disorders encountered in the child neurology practice, how to read the sleep study report that will be generated by the sleep physician and sent to the referring child neurologist, what treatment options are available for these sleep disorders including insomnia, and finally, when these patient should be referred to a sleep physician.

3:30 PM – 5:45 PM
SYMPOSIUM: CEREBRAL PALSY: 
An Open Discussion on the Definition of Cerebral Palsy

Course Description:
Participants will gain an awareness of the historical evolution of the definition of cerebral palsy including the current (2007) consensus definition. Potential amplification and clarification of this definition suggesting continuity will be presented from the perspectives of epidemiology, genomics, health care limitations, rehabilitation and the lifespan. This will frame an open discussion with parental input about what challenges may lie ahead in any modification of the established definition.

Learning Objectives:
1. Identify potential challenges to the current definition of cerebral palsy from a variety of perspectives
2. Identify more clearly children with and without cerebral palsy and those that do not fit clearly into an either-or dichotomy

Impact Statements:
1. To accurately diagnosing cerebral palsy
2. Counselling families about what a diagnosis of cerebral means and does not mean for their child

Organizer:
Michael Shevell, MDCM, FRCP, 
FCAHS; McGill University, 
Montreal Children’s Hospital, 
Montreal, Quebec, Canada
The History of the Definition of Cerebral Palsy & Epidemiologic Considerations
Michael Shevell, MDCM, FRCP, FCAHS

The Emergence of Genomics in Cerebral Palsy and Its Potential Impact on Definition
Michael Kruer MD; Barrow Neurological Institute, Phoenix Children’s Hospital, Phoenix, Arizona, USA

Low Resource Settings and Defining Cerebral Palsy
Gulam Khandakar, MBBS, MPH, DCH, PhD, FAFPHM; Central Queensland Hospital and Health Service, Rockhampton, Australia

Rehabilitation, Lifespan, ICF Considerations in Defining Cerebral Palsy
Annette Majnemer OT, PhD; McGill University, Montreal, Quebec, Canada

3:30 PM – 5:45 PM
SYMPOSIUM: EPILEPSY: Epilepsy and Psychiatric Comorbidities

Course Description:
This educational symposium has the objective to review the main psychiatric and behaviour disorders in children with epilepsy. Importantly, the symposium will focus on the difficulties of diagnosis and optimal management of ADHD, anxiety and depression in children with epilepsy.

Learning Objectives:
1. Understand the difficulties and the auxiliary tests for the diagnosis of ADHD, depression and anxiety in children with epilepsy.
2. Understand the optimal management of psychiatric and behaviour disorders in children with epilepsy.

Impact Statements:
1. The diagnosis of ADHD, depression and anxiety in children with epilepsy.
2. The optimal management of ADHD, depression and anxiety in children with epilepsy.

Organizer:
Ana Carolina Coan, MD, PhD, University of São Paulo, São Paulo, Brazil

Epilepsy in Children – Beyond Seizure Control
Marilisa Guerreiro, MD, PhD, Campinas University, Campinas, Brazil

How to Differentiate ADHD from its Mimics in Children with Epilepsy?
Stéphane Auvin, MD, PhD, Hôpital Universitaire Robert-Debré, Université de Paris, Paris, France

Depression and Anxiety in Children with Epilepsy – How to Improve the Diagnosis?
Kette Valente, MD, PhD, University of São Paulo, São Paulo, Brazil

Management of Psychiatric and Behavior Disorders in Children with Epilepsy
Kirsten A. Donald MD, PhD, University of Cape Town, Cape Town, South Africa

6:00 PM – 8:15 PM
SYMPOSIUM: GLOBAL NEUROLOGY: Global Challenges and Opportunities in Inpatient Child Neurology

Course Description:
The objective of this symposium is to highlight and understand the reasons behind the differences in management of commonly encountered pediatric neurological conditions across the globe. Discussants from three diverse settings (a resource-intense US academic medical center, a managed care non-North American but developed academic center setting, and a developing nation with limited resources) will compare and contrast their approach to three common acute neurologic conditions: status epilepticus, anti-NMDA receptor encephalitis, and stroke. After each discussant comments on the evaluation, diagnosis, and management of each condition, the panel will have an open discussion to identify themes and practices that can be improved, barriers that could be overcome from a healthcare systems perspective and shared and implemented across international settings. The discussion will highlight the need for development of global networks and collaborations to systematically harmonize clinical care pathways as well inform the potential for research opportunities in common acute pediatric neurologic conditions.

Learning Objectives:
1. Explore and understand the approach to workup and treatment of three common acute neurologic conditions in each of the following settings: 1) Resource-intense academic medical center, 2) a managed care non-North American but developed academic center setting, and 3) Developing Nation with limited resources
2. Conceptualize how to provide high-quality, research-informed care depending on the resources available in each individual’s setting.

Impact Statements:
1. The resources I have available to investigate, diagnose and manage status epilepticus.
2. The resources I have available to investigate, diagnose and manage anti-NMDA receptor encephalitis.
3. The resources I have available to investigate, diagnose and manage acute arterial ischemic stroke.
Symposium: Epilepsy: Ketogenic Diets in Child Neurology – A Tale of 100 Years: What Does the Future Hold?

Organizer:
Suvasini Sharma, MD, DM;
Lady Hardinge Medical College and Associated Kalawati Saran Children's Hospital,
New Delhi, India

Dietary Therapy at a Century: From Popularity to Obscurity and Back Again
Eric H. W. Kossoff, MD;
Johns Hopkins Hospital,
Baltimore, Maryland, USA

Ketogenic Diet in Genetic and Metabolic Epilepsies
Hoon-Chun Kang, MD, DM;
Severance Children's Hospital,
Yonsei University College of Medicine,
Seoul, South Korea

New Insights into the Mechanisms of Action and Implications for Utilization
Helen Cross, MB, ChB, PhD;
University College London,
Great Ormond Street Institute of Child Health,
London, UK

Non-epilepsy Uses and Other Benefits of the Ketogenic Diet
Suvasini Sharma, MD, DM

Impact Statements:
1. Early identification of childhood neurological conditions which are likely to respond to the ketogenic diet.

Course Description:
As ketogenic diet completes a century of its use in child neurology, this symposium proposal will summarize the current and future perspectives of the use of ketogenic diet and its variants in epilepsy and other neurological disorders in children. The symposium will cover the recently published International consensus guidelines, the use of the diet in genetic and metabolic epilepsies, use in neurological disorders other than epilepsy, and new insights into the mechanism of action of the diet and implications for clinical utilization. The speakers include Dr Eric Kossoff (USA), Dr Helen Cross (UK), Dr Hoon-Chul Kang (South Korea) and Dr Suvasini Sharma (India). As ketogenic diet completes a century of its use in child neurology, this symposium proposal will summarize the current and future perspectives of the use of ketogenic diet and its variants in epilepsy and other neurological disorders in children. The symposium will cover the recently published International consensus guidelines, the use of the diet in genetic and metabolic epilepsies, use in neurological disorders other than epilepsy, and new insights into the mechanism of action of the diet and implications for clinical utilization.

Learning Objectives:
1. Be aware of the recent international consensus guidelines on the use of KD, and its uses in metabolic and genetic epilepsies and non-epilepsy neurodevelopmental conditions in children.
2. Understand the current thinking on the mechanisms of action of the diet, and how we can potentially use this to optimize patient outcomes.
Thursday, October 22

6:00 AM – 6:55 AM
LINDA DE MEIRLEIR
NEUROMETABOLIC
AWARD LECTURE:
Update in Pediatric Neumetabolic Disorders 2020
Lance Rodan, MD, FRCP(C);
Boston Children's Hospital,
Harvard Medical School,
Boston, Massachusetts, USA

Course Description:
• Discussion of metabolic disease discovery in the post-genomic era: what are the tools we have?
• Discussion of metabolic pathway analysis in the discovery of future disease modifying therapies.
• Illustrative examples, through review of recently described neurometabolic disorders, including a novel disorder of cerebral folate metabolism and a disorder of polyamine metabolism, among others.

Learning Objectives:
1. Identify a number of recently described neurometabolic disorders
2. Become familiar with currently available clinical tests that can aid in the diagnosis of rare neurometabolic disorders

Impact Statements:
1. The recognition of neurometabolic disorders
2. The interpretation of metabolic test results

7:00 AM – 7:55 AM
HOWER AWARD LECTURE:
Migraine, Vertigo, and Dizziness
Kenneth J. Mack, MD, PhD;
Mayo Clinic,
Rochester, Minnesota, USA

Course Description:
This session will help attendees to identify changes they could make in their practice related to addressing the multiple target symptoms of migraine, which include dizziness and vertigo.

Learning Objectives:
1. Better organize the components of the migraine attack
2. Understand the multiple forms of vertigo and dizziness that patients experience

Impact Statements:
1. Addressing the multiple target symptoms of migraine, which include dizziness and vertigo

10:30 AM – 12:45 PM
SYMPOSIUM:
NEONATAL NEUROLOGY:
Neurodevelopmental Outcomes in Congenital Heart Disease:
From Fetal Pathogenesis to Prevention

Course Description:
This symposium will bring participants up-to-date on the critical role of fetal risk factors for neurodevelopmental disabilities arising from congenital heart disease including the key contributions of chronic fetal hypoxemia and maternal-fetal stress. Emerging insights from fetal and neonatal human imaging and experimental models will define the impact of fetal hypoxemia on brain growth and neuronal dysmaturatation. We will explore emerging potential interventions ranging from maternal-fetal hyperoxygenation to early life environmental enrichment.

Learning Objectives:
1. Recognize the spectrum of neurodevelopmental disabilities associated with various forms of congenital heart disease and their key fetal and neonatal neuroimaging findings.
2. Recognize the relative impact of pre- and postnatal factors, including maternal-fetal stress and chronic in utero hypoxemia on long-term neurodevelopmental outcomes associated with various forms of congenital heart disease

Impact Statements:
1. Counselling parents on risks for adverse neurodevelopmental outcomes associated with various forms of congenital heart disease.
2. The indications and interpretation of fetal or neonatal imaging for patients with various forms of congenital heart disease

Organizer:
Stephen A. Back, MD, PhD,
Oregon Health & Science University,
Portland, Oregon, USA
Fetal Oxygenation in Utero of Human Fetuses with Congenital Heart Disease
Mette Høj Lauridsen, MD, PhD; Aarhus University Hospital, Aarhus, Denmark

Advanced Brain Imaging – From Fetus to Neonate with Congenital Heart Disease
Serena J. Counsell, PhD; King’s College London, London, UK

Pathogenetic Mechanisms of Hypoxia-mediated Cerebral Dysmaturation
Stephen A. Back, MD, PhD

Where to Next: Potential Interventions from the Fetus to the Environment
Steven Paul Miller, MD, MAS, FRCPC; The Hospital for Sick Children, The University of Toronto, Toronto, Ontario, Canada

10:30 AM – 12:45 PM
SYMPOSIUM:
NEURODEVELOPMENTAL DISORDERS:
IN SPANISH: Beyond Pharmacological Treatment for Neurodevelopmental Disorders: What Parents and Physicians Want to Know About the Available Options

Course Description:
Neurodevelopmental disorders such as ADHD, ASD and learning disabilities are the most common cause of consultation in Pediatric Neurology in all countries. While pharmacological treatment has been extensively studied, in some conditions like ADHD, the access to stimulant medications in many countries is very limited and with very selective options. In addition, the high cost of medications makes them of inaccessible for many populations around the world. In other conditions, like ASD and LD, the benefits of medications are more controversial. Non-pharmacological and alternative interventions have been used extensively around the world without clear evidence of the benefits that they can provide to patients and families. Some of these alternative interventions are more expensive and have side effects that are often not disclosed. Parents have strongly advocated for research to demonstrate the real impact of those interventions. In this symposium we aim:

1. To present an update on therapeutic alternatives, beyond pharmacological interventions, for treating neurodevelopmental disorders like ADHD, ASD and learning disabilities
2. To discuss the evidence base available about the benefits of those interventions
3. To present a clinical model for the care of neurodevelopmental disorders that can be adapted by practitioners, worldwide.

Learning Objectives:
1. Learn how to evaluate and recommend common non-pharmacological interventions and technology aids as part of the treatment of patients with neurodevelopmental disorders.
2. Learn how to develop programs to provide comprehensive evaluation and treatment for patients with neurodevelopmental conditions that decrease the long-term impact on their mental and physical health as they grow up.

Impact Statements:
1. The use of some common non-pharmacological interventions and alternative therapies in Neurodevelopment disorders, especially Autism.
2. How to coordinate chronic and long-term care for patients with neurodevelopment disorders, especially ADHD.
1:00 PM – 3:15 PM
SYMPOSIUM: ETHICS: HUMANISM IN CHILD NEUROLOGY: The Time is Now!

Course Description:
Goal: The primary goal of this symposium is to increase global awareness about the importance of humanism in child neurology for our patients and for ourselves.

Secondary Goals:
1. Recognize the humanistic needs of our patients with neurological disorders
2. Understand how to live a humanistic professional life while facing many challenges
3. Learn what humanism means in every continent and country throughout the world

Learning Objectives:
1. Understand the importance of humanism in child neurology
2. Understand what humanism means in different global settings

Impact Statements:
1. Being more aware and supportive of the humanism of my patients and their families and more responsive to them
2. Being more sensitive to the different meanings of humanism in my patients who come from various cultural backgrounds

Organizer:
David L. Coulter, MD;
Harvard Medical School,
Boston Children’s Hospital,
Boston, Massachusetts, USA

Definitions and History of Humanism
Alcy R. Torres, MD;
Boston University School of Medicine, Boston Medical Center,
Boston, Massachusetts, USA

Obstacles to Practice Humanism in Child Neurology in Global Health
Ornella Ciccone; MD, DTM&H, MMED;
University Teaching Hospital,
Lusaka, Zambia

Neurology and Longevity: A Critical Care Pediatrician’s Perspective
Kam Lun Ellis Hon; MBBS, MD, FAAP, FCCM, The Hong Kong Children’s Hospital,
Hong Kong

The Time is Now!
Humanism as the Global Bedrock of Child Neurology
David L. Coulter, MD

1:00 PM – 3:15 PM
SYMPOSIUM: HEADACHE: Migraine Management in 2020: New Options for Treatment and How to Incorporate Recent Guidelines and Novel Treatments in Clinical Practice

Course Description:
This session will cover recent developments in migraine management. Dr. Lewis and Dr. Oakley will review new medications (including anti-CGRP medications) and neuromodulatory devices designed for the acute and preventive treatment of migraine. Speakers will discuss the mechanisms of action, evidence of efficacy, potential side effects, and pediatric specific issues for these novel treatments. Dr. Guidetti will review recently published guidelines for the treatment of pediatric migraine and discuss how to integrate these recommendations into the clinical practice treating youth with chronic migraine. He will also consider similarities and differences between European and US migraine treatment so we can each learn from others’ experience. Together these topics will enhance participants’ ability to manage episodic and chronic migraine in clinical practice.

Learning Objectives:
1. Understand the role of CGRP in migraine and how anti-CGRP medications may be used to treat migraine.
2. Understand and describe the role of neuromodulation in the management of migraine and how these devices may be used to treat migraine in the pediatric population.
3. Discuss how the new AAN guidelines on the treatment of pediatric migraine can be applied to clinical practice.

Impact Statements:
1. The management of chronic migraine in pediatrics.
2. Acute or abortive treatment of migraine in pediatrics.

Organizer:
Heidi K. Blume, MD, MPH;
Seattle Children’s Hospital,
University of Washington,
Seattle, Washington, USA

Novel Medications for the Treatment of Migraine: Anti-GGRP Therapies and Other Medications in the Migraine Pipeline
Kara Stuart Lewis, MD, FAHS, FAAN;
Barrow Neurological Institute at Phoenix Children’s Hospital,
Phoenix, Arizona, USA

Neuromodulation for Migraine: What is the Role for Devices in the Treatment of Childhood Migraine?
Christopher B. Oakley, MD;
Johns Hopkins Hospital,
Baltimore, Maryland, USA

New Guidelines for Treatment of Pediatric Migraine: How to Apply These Recommendations and Novel Treatments to Manage Chronic Migraine in Clinical Practice
Vincenzo Guidetti, MD;
University of Rome “La Sapienza,” Rome, Italy
3:30 PM – 5:45 PM
SYMPOSIUM: NEUROMUSCULAR DISEASE: Gene Transfer for Children: What We Know Now

Course Description:
The promise of gene therapy is now a reality for several neuromuscular conditions. This symposium will address four educational objectives including 1) to understand treatment implementation for commercially available gene transfer 2) to understand the status of ongoing clinical trials in Spinal Muscular Atrophy, X-linked myotubular myopathy, Duchenne and limb girdle muscular dystrophy; 3) to understand future gene therapy for other neuromuscular disorders and 4) to understand the critical role of Newborn screening if gene therapy is to succeed.

Learning Objectives:
1. Understand the current status of approved, ongoing, and future clinical gene transfer trials for children with neuromuscular disorders.
2. Understand the role of the Newborn Screening in the translation of these clinical trials to implementation across all populations.

Impact Statements:
1. Understanding the treatment and care of a child before, during and after gene transfer and the role of Newborn screening as therapies are approved.
2. Understanding and describing risk/benefit considerations of gene replacement therapy in a non-progressive muscle disease such as X-linked myotubular myopathy.

Organizer:
Anne M. Connolly, MD, FAAN; Nationwide Children's Hospital, The Ohio State University College of Medicine, Columbus, Ohio, USA

Gene Therapy for SMA and DMD: Where are we Now?
Anne M. Connolly, MD, FAAN

Gene Replacement Therapy in X-linked Myotubular Myopathy
Nancy L. Kunz, MD, FAAN; Ann & Robert H Lurie Children's Hospital of Chicago, Chicago, Illinois, USA

Is Gene Replacement a Viable Option for my Favorite Disease?
Katherine D. Mathews, MD; University of Iowa Carver College of Medicine, Iowa City, Iowa, USA

Newborn Screening in the Era of Gene Therapy
Margie Ream, MD, PhD; Nationwide Children's Hospital, Columbus, Ohio, USA

3:30 PM – 5:45 PM
SYMPOSIUM: EPILEPSY: IN SPANISH: Pediatric Epilepsy. When Drugs Don’t Work

Course Description:
To present current data on drug resistant epilepsy and therapeutic options when pharmacological treatment is not a choice. This program will explore latest information about pediatric epilepsy surgery. Speaker from Cleveland Clinic, a center with extensive expertise in surgical epilepsy will present available surgical techniques and outcomes. This will be followed by a discussion about the challenges experienced in Latin America for the creation of surgical programs. Finally, the symposia will address current therapeutic options for children with drug resistant epilepsy, when surgery is not an option. Target audience: Latin America and Spanish speaking countries, with the goal to raise awareness about importance of developing alternative therapies (including surgery) for children with drug resistance epilepsy.

Learning Objectives:
1. As a result of this educational session, participants will be able to: learn relevant data about pediatric drug refractory epilepsy and understand that medications are not the best option.
2. As a result of this educational session, participants will be able to learn about importance of creating epilepsy surgery programs in Latin America to care for children with drug refractory epilepsy and alternative options when surgery is not a possibility.

Impact Statements:
1. This educational session helped me to identify changes I could make in my practice related to patients who present to my clinic with drug refractory epilepsy.
2. This educational session helped me to identify changes I could make in my practice related to referral for epilepsy surgery evaluation in children with drug refractory epilepsy, who are appropriate candidates.

Organizer:
Jorge Vidaurre, MD; Nationwide Children’s Hospital, The Ohio State University, Columbus, Ohio, USA

Elia M. Pestana-Knight, DO; Cleveland Clinic Epilepsy Center, Cleveland, Ohio, USA

Vanegas, from Mexico has been a leader and advocate in the initiative of creating surgical centers in Latin America and is a representative of ILAE (International League against Epilepsy). This symposium is also intended to educate audience about need to develop such programs in poor resource regions.
Thursday, October 22 · continued

Co-Organizer:
Mario A. Genel Castillo, MD; Clinica de Epilepsia, Hospital de Salud Mental, Tijuana B.C., Mexico

Epidemiology of Drug Resistant Epilepsy. Data You Should Know. What to Tell our Families?
Loreto Ríos-Pohl, MD; Clínica Integral de Epilepsia Infanto-Juvenil (CIEI), Santiago, Chile

Pediatric Epilepsy Surgery in the Stereo EEG Era. Cleveland Clinic Experience
Elia M. Pestana-Knight, DO

Establishing Epilepsy Surgical Programs in Low-income Countries. The Latin America Experience
Mario A. Alonso Vanegas MD, FAES; Internacional Epilepsy Surgery Center, HMG-Coyoacán Hospital, México City, México

Drug Refractory Epilepsy. When Surgery is not an Option
Juan Carlos Perez-Poveda, MD; Pontificia Universidad Javeriana, Hospital Universitario San Ignacio, Fundacion Hospital Pediatrico, Bogotá, D. C., Colombia

6:00 PM – 8:15 PM
SYMPOSIUM:
NEURO-METABOLIC DISORDERS: Vitamin Responsive Conditions in Child Neurology: What’s New?

Course Description:
Vitamin responsive conditions are a “must know” area for every child neurologist, as vitamin treatments are simple, inexpensive and safe treatments for a host of neurological conditions. Child neurologists need to be able to promptly recognize and treat these entities. In this session, the speakers will discuss the latest developments in vitamin responsive epilepsies, encephalopathies, movement disorders and neuromuscular conditions. The four speakers will be Dr Ingrid Tein (Canada), Dr Haluk Topaloglu (Turkey), Dr Naveen Sankhyan (India) and Dr Suvasini Sharma (India).

Dr Tein’s lecture will be focused on vitamin responsive early Infantile epileptic encephalopathies with special reference to pyridoxine dependent epilepsy and related disorders. The current guidelines on recognition and treatment of these conditions as well as the new genetic conditions now recognized to causing pyridoxine dependent epilepsy will be discussed. Dr Topaloglu will discuss riboflavin responsive conditions with special emphasis on riboflavin transporter deficiency. The recent advances in clinical and genetic diagnosis and treatment strategies for riboflavin responsive disorders will be discussed.

Dr Sankhyan will be discussing inherited and acquired neurological disorders responsive to vitamin B12 and Folate treatment. There will be a special focus on infantile tremor syndrome, an interesting condition characterized by infantile onset neuroregression, tremors, skin and hair changes, which responds very well to vitamin B12 therapy. Dr Sharma will cover the recognition, diagnosis and management of inborn errors of metabolism which respond to thiamine and biotin supplementation with special focus on the recently described biotin and thiamine responsive basal ganglia disease, caused by mutations in the SLC19A3 gene. Acquired neurological disorders caused by thiamine deficiency, such as Wernicke encephalopathy will also be discussed.

Learning Objectives:
1. Recognize common as well as rare and newly described vitamin responsive conditions in child neurology.
2. Understand the diagnostic approach and treatment strategies.

Impact Statements:
1. Trial of high dose riboflavin supplementation unexplained progressive peripheral and cranial neuropathies and neuronopathies
2. Vitamin trials in unexplained refractory seizures in young infants, and high dose vitamin trials in acute metabolic decompensations.
Organizer:
Suvasini Sharma, MD, DM; Lady Hardinge Medical College and Associated Kalawati Saran Children’s Hospital, New Delhi, India

Pyridoxine Dependent Epilepsy and Related Disorders: Recent Advances
Ingrid Tein, MD; The Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada

Riboflavin Responsive Disorders
Haluk Topaloğlu, MD; Hacettepe Children’s Hospital, Ankara, Turkey

Vitamin B12 and Folate Responsive Disorders
Naveen Sankhyan, MD, DM; Post Graduate Institute of Medical education and Research, Chandigarh, India

Thiamine and Biotin Responsive Disorders
Suvasini Sharma, MD, DM

6:00 PM – 8:15 PM
SYMPOSIUM:
GLOBAL NEUROLOGY: Pediatric Neurology, A Global Perspective

Course Description:
To educate audience about the global situation of pediatric neurology, using data and statistics from the World Health Organization (WHO). The program brings international leaders and speakers with extensive experience in international outreach/collaborative projects directed to reduce gap in medical knowledge and access to neurological care. The symposium will educate audience about importance of collaborative efforts between medical societies (including CNS), to support local efforts in low income countries.

The panel of speakers (which includes current president of the international Child Neurology Association and past president of the international League against Epilepsy) will share their wide experience working with poor-resource regions in Africa and other poor-resource regions and will educate audience with potential solutions to improve access to neurological care for children living in these areas.

Learning Objectives:
1. Learn about the global situation of pediatric neurology and understand the situation of pediatric neurology practice in low income countries.
2. Learn about importance of collaborative international projects directed to improve education and clinical care in low income countries.

Impact Statements:
1. Learning about the global situation of pediatric neurology and becoming more active in supporting international educational programs
2. Recognizing importance of international outreach programs directed to improve pediatric neurological care, and finding ways to collaborate, as a CNS member

Organizer:
Jorge Vidaurre, MD; Nationwide Children’s Hospital, The Ohio State University, Columbus, Ohio, USA

Co-Organizer:
Agustin Legido, MD, PHD, MBA; Philadelphia, Pennsylvania, USA

Introduction: A Global Perspective of Child Neurology
Agustin Legido, MD, PHD, MBA
Jorge Vidaurre, MD

Child Neurology in Africa. Narrowing the Gap in Access to Medical Care
Jo M. Wilmshurst, MB, BS, MD, Red Cross War Memorial Children’s Hospital, University of Cape Town, Cape Town, Western Cape, South Africa

Yes. There are Global Disparities in Epilepsy Care. Can we do Something?
Solomon L. Moshé, MD; Albert Einstein College of Medicine, Montefiore Medical Center, Bronx, New York, USA

Practicing Pediatric Neurology in Poor Resource Regions. Importance of Collaborative Efforts
Arushi G. Saini, MD, DM; Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India
Friday, October 23

6:00 AM – 6:55 AM
FRANK FORD AWARD LECTURE: The Global Burden of Paediatric Neurological Disorders
Charles Newton, MD; University of Oxford, Oxford, United Kingdom, KEMRI-Wellcome Trust Collaborative Programme, Kilifi, Kenya

Course Description:
An invited lecture that assess the global burden of Pediatric Neurology Disorders, discussing disability adjusted life years

Learning Objectives:
1. Meaning of the Disability Adjusted Life Years in terms of Global Burden of Diseases
2. Identify the neurological complications of diseases usually associated with low income countries and immigrant populations

Impact Statements:
1. Make Pediatric Neurologists more aware of neurological conditions in low income countries and immigrant populations
2. Introduce cultural awareness of neurological conditions in the immigrant populations.

10:30 AM – 12:45 PM
SYMPOSIUM: TRAUMATIC BRAIN INJURY: New Advances in Management, Treatment and Rehabilitation

Course Description:
Each year, TBI causes a substantial number of deaths and leads to life-long disability for many children around the world. Every year, 830,000 children die from unintentional or “accidental” injuries and TBI represents about 30%. 2270 children die every day as a result of an unintentional injury and the vast majority of these injuries occur in low-income and middle-income countries.

Child injuries are a growing global public health problem. They are a significant area of concern from the age of one year. Among older children they represent almost half of the deaths. The effects of a TBI can vary significantly, but individuals with a moderate or severe TBI may have long-term or life-long effects from the injury. A severe TBI not only impacts the life of an individual and their family, but it also has a large societal and economic toll. The lifetime economic cost of TBI, including direct and indirect medical costs, was estimated to be approximately $76.5 billion in 2010 is the US only.

Additionally, the cost of fatal TBIs and TBIs requiring hospitalization, many of which are severe, account for approximately 90% of total TBI medical costs. Falls are one of the leading causes of TBI-related ED visits, hospitalizations, and deaths, and recent data shows that ver 25% of fall-related TBIs were among the youngest (0-4 years).

Goal: The main objective of this symposium is to increase awareness about importance of practicing humanism in child neurology not only for our patients but for ourselves.

Secondary Goals:
1. Recognize the humanistic needs of our patients with neurological diseases
2. Understand how to live a humanistic professional life facing so many challenges
3. Be familiar with difficult situations and how to solve them in current times and different areas of the world.

Learning Objectives:
1. Recognize the symptoms of patients with mild or severe Traumatic Brain Injury and design comprehensive therapeutic plans for each group according to their needs
2. Implement timely, appropriate supportive critical care, neurological therapy and rehabilitation for patients with traumatic brain injury

Impact Statements:
1. Diagnosis and management of children with mild or severe traumatic brain injury
2. Rehabilitation of children with traumatic brain injury with long term sequelae
Organizer & Moderator: Christopher C. Giza, MD; UCLA – Mattel Children's Hospital, Los Angeles, California, USA

Co-Organizer: Alcy Torres, MD; Boston University School of Medicine, Boston Medical Center, Boston, Massachusetts, USA

Basic Science and Translational Research Relating to Pediatric TBI
Christopher C. Giza, MD

Pediatric Concussion and Mild TBI
Alcy Torres, MD

Severe TBI: Evaluation and Managing of Children in the ICU
Biju Hameed, MRCPI, MRCPCH, PhD; Great Ormond Street Hospital for Children, London, England, UK

Innovative and Practical Methods of Rehabilitation
Lucia Braga, Neuroscientist, PhD; SARAH Network of Rehabilitation Hospitals, Brasilia, Brazil

Impact Statements:
1. The recognition of clinical features of certain rare neurogenetic and neurometabolic diseases.
2. Knowledge about recent advances in the treatment of neurogenetic and neurometabolic diseases.

Organizer:
Wang-Tso Lee, MD, PhD, National Taiwan University Children's Hospital, Taipei, Taiwan

Recent Advances in SSADH Deficiency, a Disorder of GABA Metabolism
Phillip L. Pearl, MD; Boston Children's Hospital, Harvard Medical School, Boston, Massachusetts, USA

Recent Advance in Possible Probiotic Treatment for Neurogenetic Disorders
Wang-Tso Lee, MD, PhD

Gene Therapy for AADC Deficiency and other Neurogenetic Disorders
Toni Pearson, MBBS, Washington University School of Medicine, St. Louis, Missouri, USA

Recent Advance in Targeted Treatment in Children with NCLs
Nicola Specchio, MD, PhD, Bambino Gesu' Children's Hospital, IRCCS, Rome, Italy

1:00 PM – 3:15 PM
SYMPOSIUM: NEUROIMMUNOLOGY: MOG Antibody Associated Neurological Disease – An Update for the Clinician

Course Description: This symposium's objective is to update the child neurology community on the emerging and rapidly expanding spectrum of MOG AB associated neurological disease. This would be predominantly clinician-centric and would help the participants in getting updated information on the diagnostic and therapeutic challenges the clinician faces in taking care of this newly described inflammatory demyelination disorder (IDD) of the central nervous system with myriad presentations.

Learning Objectives:
1. Identify the different clinical situations where one should consider MOG antibody associated neurological diseases in the clinic and in the ICU.
2. Familiarize themselves with the imaging features that distinguish MOG AB associated IDDs from AQP-4 associated NMOSD and from MS and learn how to differentiate these different syndromes.
3. Learn about the challenges of the detection of MOG ABs and get an overview of how these antibodies cause disease.
4. Decide the why, when and how to manage these disorders in the acute stage and in the long-term.
5. Give long-term prognosis to parents about risk of relapse and any persisting deficits expected.

10:30 AM – 12:45 PM
SYMPOSIUM: NEUROMETABOLIC DISORDERS: Novel Advanced Treatment in Neurogenetic Disorders

Course Description: The aim of this symposium is to present novel treatments for neurogenetic disorders, which will enhance our understanding of the future potential for treatment of a range of neurogenetic conditions.

Learning Objectives:
1. Learn the pathogenic mechanisms of some important neurogenetic and neurometabolic diseases in children.
2. Gain knowledge about recent advances in novel treatments for some important neurogenetic and neurometabolic diseases.

ICNA • CNS | TOGETHER•APART VIRTUAL 2020
Impact Statements:
1. Diagnosis and differential diagnosis of MOG-associated Neurological Disorders
2. Treatment strategies in the different MOG associated disorders.

Organizer:
Vrajesh Udani, MD; Hinduja Hospital & Medical Research Centre, Mumbai, India

Overview of the MOG Antibody Associated IDDs and Challenges in Laboratory Diagnosis
Vrajesh Udani, MD

Clinical and Imaging Features of the MOG Associated IDDs
Russell Dale, MRCP, PhD; Children’s Hospital at Westmead, University of Sydney, Sydney, NSW, Australia

Update on Current Management Strategies and Outcome in the MOG Associated IDDs
Yael Hacohen, MD; Great Ormond Street Hospital for Children, London, United Kingdom

Panel Discussion – Case Scenarios
Neelu Desai, MD, DNB; PD Hinduja Hospital & Medical Research Centre, Mumbai, India

1:00 PM - 3:15 PM
SYMPOSIUM: GLOBAL NEUROLOGY: Integration of Global Health and Child Neurology: Perspectives and Successful Partnerships Around the World

Course Description:
In this symposium, we highlight the ways for participants to successfully partner with institutions around the world in order to integrate global health into child neurology practices. The objectives include:
1. Discuss various mechanisms and levels of involvement possible for child neurologists, including opportunities for those in training and early career phases,
2. Identifying mechanisms of involvement for child neurologists based in higher resourced settings to partner with civil and NGO organizations in the developing world with a primary educational or clinical focus,
3. Understand the perspectives of researchers in the developing world in order to build successful research collaborations, and 4. Providing an example of approaching research in global child neurology, including mechanisms for funding and partnership.

Learning Objectives:
1. Identify opportunities for getting involved in global child neurology
2. Understand the core components of successful global research collaborations, including engagement, support for researchers in the developing world, and funding strategies

Impact Statements:
1. Various mechanisms of involvement to provide effective support for child neurology practices in lower resource regions through global partnerships
2. Developing strategies to establish successful partnerships in the developing world for research collaborations

Organizer:
Archana A. Patel, MD, MPH; Harvard Medical School, Boston Children’s Hospital, Boston, Massachusetts, USA

Integrating Global Health in a Child Neurology Career
Archana A. Patel, MD, MPH

How to Get Started – Clinical and Educational Opportunities in Global Child Neurology
Douglas G. Postels, MD, MS; Children’s National Medical Center, George Washington University, Washington, DC, USA

Building a Research Collaboration- Considerations and Perspectives of Researchers from LMIC
Pauline Samia, Mphil; Aga Khan University, East Africa, Nairobi, Kenya

Building a Research Collaboration- Considerations for Funding and an Example from the US and Nigeria
Edwin Trevathan, MD, MPH; Vanderbilt University Medical Center, Nashville, Tennessee, USA

Friday, October 23 • continued
### Monday, October 12, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>1:00 PM – 2:00 PM</td>
<td>Professors of Child Neurology (PCN): Annual Business Meeting</td>
</tr>
<tr>
<td>2:00 PM – 3:30 PM</td>
<td>Professors of Child Neurology (PCN): Educational Session</td>
</tr>
<tr>
<td>2:30 PM – 4:00 PM</td>
<td>CEREBRAL PALSY SIG</td>
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### Tuesday, October 13, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30 AM – 12:30 PM</td>
<td>Industry Sponsored Product Theater: Spinal Muscular Atrophy (Genentech)</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Meet the Experts: Experimental Therapeutics; Gene Therapy for Childhood Neurological Disorders</td>
</tr>
<tr>
<td>3:30 PM – 5:30 PM</td>
<td>Workshop: Neuropsychiatry/Movement Disorders: Practical Management of Functional Neurologic Diseases in Children</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>Meet the Experts: Ethics: Costly Drugs and Healthcare – Ethics and Value Perspectives from Different Healthcare Systems</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>Meet the Experts: Neuroimmunology: Parainfections and Seronegative Autoimmune Encephalitis in Children: Updates and Controversies</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>Seminar: Epilepsy: Don't Ask Don't Tell, or Full Disclosure? Discussing SUDEP with Patients and Families in the Global Community</td>
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### Wednesday, October 14, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>8:00 AM – 10:00 AM</td>
<td>Seminar: Neuroinfectious Disease: Measles Vaccination – Current Situation and Consequences – A Global Perspective</td>
</tr>
<tr>
<td>8:00 AM – 10:00 AM</td>
<td>Seminar: Stroke: Pediatric Stroke in the Era of Advanced Genetics</td>
</tr>
<tr>
<td>10:00 AM – 12:00 PM</td>
<td>Workshop: Epilepsy: Pediatric Epilepsy Surgery: When, by Whom, and What to Expect?</td>
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<tr>
<td>10:30 AM – 12:30 PM</td>
<td>Seminar: Neurogenetics: Recent Advances in the Etiologies and Mechanisms Underlying Common Brain Malformations</td>
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<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Seminar 4: Neuroimmunology: A New Era for Patients with NMOSD, including Children</td>
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<tr>
<td>6:00 PM – 8:00 PM</td>
<td>Junior Member Seminar: Becoming a Physician Scientist in Pediatric Neurology</td>
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### Thursday, October 15, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>10:30 AM - 12:30 PM</td>
<td>Workshop: Global Neurology: Training to Bridge the Gap in Global Access to Child Neurology Care</td>
</tr>
<tr>
<td>12:30 PM - 2:00 PM</td>
<td>PEDS Demyelinating Disease SIG</td>
</tr>
<tr>
<td>12:30 PM - 2:30 PM</td>
<td>Industry Sponsored CME Seminar: Developmental and Epileptic Encephalopathies (Zogenix)</td>
</tr>
<tr>
<td>1:00 PM - 3:00 PM</td>
<td>Junior Member Seminar: Nurturing the Global Pipeline of Academic Child Neurologists</td>
</tr>
<tr>
<td>3:30 PM - 5:30 PM</td>
<td>Meet the Experts: Behavioral Neurology: Management of Behavior in Children with Neurodevelopmental Disorders</td>
</tr>
<tr>
<td>6:00 PM - 8:00 PM</td>
<td>Meet the Experts: Neurometabolic Disorders: Unravelling the Complexity of Treatable Neurometabolic Disorders: A Case-based Session</td>
</tr>
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</table>

### Friday, October 16, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 10:00 AM</td>
<td>Meet the Experts: Neuro-Cutaneous Disorders <em>(In Spanish)</em>: Neurocutaneous Syndrome Iberoamerican Network</td>
</tr>
<tr>
<td>10:30 AM - 12:30 PM</td>
<td>Seminar: Headache <em>(In Spanish)</em>: Migraine in Children and Adolescents - Diagnosis, Management and Treatment</td>
</tr>
<tr>
<td>10:30 AM - 12:30 PM</td>
<td>Seminar: Neuroinflammation: Interferonopathies</td>
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<tr>
<td>10:30 AM - 12:30 PM</td>
<td>Seminar: Neonatal Neurology: The Value of Magnetic Resonance Imaging in the Newborn</td>
</tr>
<tr>
<td>10:30 AM - 12:30 PM</td>
<td>Meet the Experts: Neuromuscular: The Many Faces of Pediatric Neuromuscular Diseases: Cases, Approaches, Pearls and Challenges</td>
</tr>
<tr>
<td>1:00 PM - 3:00 PM</td>
<td>Workshop: Epilepsy/General Child Neurology: Telehealth – A Means to Global Outreach</td>
</tr>
<tr>
<td>3:30 PM - 5:30 PM</td>
<td>Junior Member Seminar: International Clinical Research Consortia in Child Neurology: Get Involved!</td>
</tr>
<tr>
<td>3:30 PM - 5:30 PM</td>
<td>Child Neurology Foundation: Shortening the Diagnostic Odyssey in Children with Neurologic Conditions</td>
</tr>
<tr>
<td>3:30 PM - 5:30 PM</td>
<td>Meet the Experts: Movement Disorders: Tics, Stereotypies, and their Look-a-Likes – Understanding and Managing Repetitive Movements</td>
</tr>
<tr>
<td>6:00 PM - 8:00 PM</td>
<td>Junior Member Seminar: Choosing your Career Track – Academic, Private Practice, and NGOs</td>
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### Monday, October 19, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>7:00 AM - 3:30 PM</td>
<td>Neurobiology of Disease in Children Symposium: Traumatic Brain Injury (TBI)</td>
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<tr>
<td>5:00 PM - 6:00 PM</td>
<td>Industry Sponsored Product Theater: Spinal Muscular Atrophy (Genentech)</td>
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</table>
### Tuesday, October 20, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00 AM – 6:55 AM</td>
<td>JOHN STOBO PRITCHARD AWARD LECTURE: Nicola Specchio, MD, PhD, Bambino Gesu’ Children's Hospital, IRCCS, Rome, Italy: <em>Developmental and Epileptic Encephalopathies: What We Know and What We Do Not Know</em></td>
</tr>
<tr>
<td>7:00 AM – 7:55 AM</td>
<td>BERNARD SACHS AWARD LECTURE: Joseph G. Gleeson, MD; University of California San Diego, Rady Children’s Institute for Genomic Medicine, San Diego, CA, USA: <em>Genes as a Window into the Developing Brain</em></td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: NEUROIMMUNOLOGY: <em>Developmental and Epileptic Encephalopathies: What We Know and What We Do Not Know</em></td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: STROKE: Pediatric Stroke: Hot Topics, Global Challenges</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>SYMPOSIUM: NEURO-Oncology: Pediatric Mixed Neuronal-Glial Tumors: New Classifications, Molecular Understandings and Targeted Therapy</td>
</tr>
<tr>
<td>3:30 PM – 5:30 PM</td>
<td>SYMPOSIUM: NEUROMUSCULAR DISEASE: Advances in Pediatric Charcot-Marie-Tooth Disease</td>
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<tr>
<td>3:30 PM – 5:30 PM</td>
<td>SYMPOSIUM: NEONATAL SEIZURES: Practical Approaches to Classification, Diagnosis and Management</td>
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<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: EPILEPSY: Infantile Spasms – Current Management – A Global Perspective; The Way Forward</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: NEUROINFECTIOUS DISEASE: Tropical Infections of the CNS: A Worldwide Problem</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: MOVEMENT DISORDERS: Lessons from Tourette Syndrome – Better Understanding of Development of the Child Brain</td>
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### Wednesday, October 21, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>6:00 AM – 6:55 AM</td>
<td>SHEILA WALLACE AWARD LECTURE: Suvasini Sharma, MD, DM; Lady Hardinge Medical College and Associated Kalawati Saran Children's Hospital, New Delhi, India: <em>Dietary Therapies for Epilepsy in Low Resource Settings: Challenges and Successes</em></td>
</tr>
<tr>
<td>7:00 AM – 7:55 AM</td>
<td>PHILIP R. DODGE YOUNG INVESTIGATOR AWARD LECTURE: Hsiao-Tuan Chao, MD, PhD; Baylor College of Medicine, Houston, TX, USA: <em>The Impact of Serendipity: From “Rare” Neurodevelopmental Disorders to Common Insights</em></td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: NEUROGENETICS: Current Status of Developmental Encephalopathies: Rett Syndrome, MECP2 Duplication Disorder, CDKL5 Deficiency Disorder, and FOXG1 Disorder</td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: NEUROIMMUNOLOGY: <em>Cutting Edge Technology in Neuroinflammation: Advancing Science and Increasing Capacity in Low and Middle-income Countries</em></td>
</tr>
<tr>
<td>12:30 PM – 2:30 PM</td>
<td>Industry Sponsored CME Seminar: Developmental and Epileptic Encephalopathies (Zogenix)</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>SYMPOSIUM: COGNITIVE-BEHAVIORAL NEUROLOGY: The Molecular &amp; Cellular Basis of Developmental Cognitive &amp; Behavioral Disorders</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>SYMPOSIUM: SLEEP: Integrating Pediatric Sleep Medicine into Child Neurology</td>
</tr>
<tr>
<td>3:30 PM – 5:30 PM</td>
<td>SYMPOSIUM: CEREBRAL PALSY: An Open Discussion on the Definition of Cerebral Palsy</td>
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<tr>
<td>3:30 PM – 5:30 PM</td>
<td>SYMPOSIUM: EPILEPSY: Epilepsy and Psychiatric Comorbidities</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: GLOBAL NEUROLOGY: Global Challenges and Opportunities in Inpatient Child Neurology</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: EPILEPSY: Ketogenic Diets in Child Neurology – A Tale of 100 Years: What Does the Future Hold?</td>
</tr>
</tbody>
</table>
### Thursday, October 22, 2020

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>6:00 AM – 6:55 AM</td>
<td>LINDA DE MEIRLEIR NEUROMETABOLIC AWARD LECTURE: Lance Rodan, MD, FRCP(C); Boston Children’s Hospital, Harvard Medical School, Boston, MA, USA: <em>Update in Pediatric Neurometabolic Disorders 2020</em></td>
</tr>
<tr>
<td>7:00 AM – 7:55 AM</td>
<td>HOWER AWARD LECTURE: Kenneth J. Mack, MD, PhD; Mayo Clinic, Rochester, MN, USA: <em>Migraine, Vertigo, and Dizziness</em></td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: NEONATAL NEUROLOGY: Neurodevelopmental Outcomes in Congenital Heart Disease: From Fetal Pathogenesis to Prevention</td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: NEURODEVELOPMENTAL DISORDERS: <em>IN SPANISH</em>: Beyond Pharmacological Treatment for Neurodevelopmental Disorders: What Parents and Physicians Want to Know About the Available Options</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>SYMPOSIUM: ETHICS: Humanism in Child Neurology: The Time is Now!</td>
</tr>
<tr>
<td>3:30 PM – 5:30 PM</td>
<td>SYMPOSIUM: NEUROMUSCULAR DISEASE: Gene Transfer for Children: What We Know Now</td>
</tr>
<tr>
<td>3:30 PM – 5:30 PM</td>
<td>SYMPOSIUM: EPILEPSY: <em>IN SPANISH</em>: Pediatric Epilepsy. When Drugs Don’t Work</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: GLOBAL NEUROLOGY: Vitamin Responsive Conditions in Child Neurology: What’s New?</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: NEUROMETABOLIC DISORDERS: Vitamin Responsive Conditions in Child Neurology: What’s New?</td>
</tr>
<tr>
<td>6:00 PM – 8:00 PM</td>
<td>SYMPOSIUM: GLOBAL NEUROLOGY: Pediatric Neurology. A Global Perspective</td>
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### Friday, October 23, 2020

<table>
<thead>
<tr>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>6:00 AM – 6:55 AM</td>
<td>FRANK FORD AWARD LECTURE: Charles Newton, MD; University of Oxford, Oxford, United Kingdom, KEMRI-Wellcome Trust Collaborative Programme, Kilifi, Kenya: <em>The Global Burden of Paediatric Neurological Disorders</em></td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: TRAUMATIC BRAIN INJURY: New Advances in Management, Treatment and Rehabilitation</td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SYMPOSIUM: NEUROMETABOLIC DISORDERS: Novel Advanced Treatment in Neurogenetic Disorders</td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>SYMPOSIUM: NEUROIMMUNOLOGY: MOG Antibody Associated Neurological Disease – An Update for the Clinician</td>
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<td>1:00 PM – 3:00 PM</td>
<td>SYMPOSIUM: GLOBAL NEUROLOGY: Integration of Global Health and Child Neurology: Perspectives and Successful Partnerships Around the World</td>
</tr>
</tbody>
</table>
Registration

**REGISTRATION FEES** admit delegate to all Live Open Sessions, Live SIG Meetings, and On-Demand ePoster and Video-Poster Sessions. Junior Members also admitted to Junior Member Sessions. NDC: Traumatic Brain Injury requires additional course fee.

**PLUS....**

**REGISTRATION FEE** good for all recorded sessions available On-Demand November 2020 - March 2021.

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>REGISTRATION FEE</th>
<th>NDC COURSE FEE (ADDITIONAL - OPTIONAL)</th>
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<tbody>
<tr>
<td>ICNA High Income</td>
<td>$500</td>
<td>$60</td>
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<tr>
<td>ICNA Member Upper Middle Income</td>
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<td>ICNA Member Lower Income</td>
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<tr>
<td>CNS Active Member (Dues paid by 7/31)</td>
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</tr>
<tr>
<td>CNS Active Member (late or unpaid dues)</td>
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<tr>
<td>CNS Emeritus Member</td>
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<tr>
<td>Medical Student/Resident</td>
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<tr>
<td>Non-CNS Member/Non-ICNA Member</td>
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<tr>
<td>Non-CNS Member and Non-ICNA Member - ABPN Certified *</td>
<td>$600</td>
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</tbody>
</table>

*ABPN Certified neurologists who are not CNS or ICNA members are eligible to register at CNS Active Member rates thanks to a grant from the American Board of Psychiatry and Neurology (ABPN)*
ICNA • CNS

16th International Child Neurology Congress
49th Annual Child Neurology Society Meeting

OCTOBER 12-23, 2020

Sharing Knowledge
Sowing Friendships • Spreading Hope