On behalf of the CNS, we would like to thank the American Board of Psychiatry and Neurology (ABPN) for a generous $100,000 grant in support of non-CNS member educational access in 2022 to the CNS Lifelong Learning website and annual meeting. Recognizing the disruptive impact COVID-19 has had and continues to have on continuing education and recertification plans for child and adult neurologists, the ABPN grant will enable all ABPN diplomates (whether or not they are CNS members) to access CNS remote self-assessment exams and CNS annual meeting CME content at member rates.

Bruce Cohen, MD  
President  

Roger Larson, CAE  
Executive Director

Bruce Cohen, MD  
President  

Roger Larson, CAE  
Executive Director
1. **IT’S A HYBRID MEETING, WITH A FEW TWISTS**

Not everyone can come to Cincinnati to attend the annual meeting live, in-person. Few have the time, money, or motivation to attend the full meeting virtually. Striking a balance between cost, convenience, and value, this year’s meeting offers a scaled-back version of last year’s hybrid meeting. Ultimately, all CME content will be available to all registrants—in-person or virtual—from October 12 - November 15 as follows:

In-Person Meeting registrants will have access to all in-person sessions staged in Cincinnati (I), all posters and exhibits, and all virtual/live-streamed sessions (V). All recorded award lectures, symposia and seminars will be available 24/7 On Demand (O) on the virtual platform thru November 15, making it easy to choose between parallel sessions, attending one live, then watching the other two on-line later, earning the maximum # of CME credits.

Virtual Meeting registrants will have live-streamed access to all award lectures and Symposia 2-6. All recorded award lectures, symposia and seminars will be available 24/7 On Demand (O) on the virtual platform thru November 15, making it easy to attend the full program over the course of a month and earn the maximum # of CME credits.

2. **REGISTRANTS GET 50% OFF FOUNDERS BOOK**

All registrants are eligible to purchase the special 50th CNS Anniversary edition of *Child Neurology: It’s Origins, Founders, Growth and Evolution* at 50% off list price. Registrants can order a hard copy to be sent to their home or office ($25 shipping charge added), or read immediately in eBook format.

3. **CLINICAL RESEARCH WORKSHOP**

Building on the success of last year’s debut clinical investigator bootcamp, the CNS Research Committee will reprise this 4-hour Saturday afternoon workshop giving researchers of all ages, stages and interests the tools and resources needed to turbo-charge their clinical research projects and ambitions. Enrollment limited to 80.

4. **KENNETH F. SWAIMAN LEGACY LUNCHEON**

Reserve a seat for Wednesday’s Legacy Luncheon to honor this year’s award recipients. Awards presented: Roger & Mary Brumback Lifetime Achievement, Arnold P. Gold Foundation Humanism, CNS-PECN Training Director, Tauen Chang Junior Member, Bhuwan Garg High School Neuroscience.

5. **SPECIAL INTEREST GROUP (SIG) GATHERINGS**

Special Interest Groups will have two opportunities to meet and recruit new members and network with longtime SIG colleagues:

**Dialogue Alley:** Each SIG will occupy one of three Meet-and-Greet pods for up to 3-hours in Dialogue Alley (outside Junior Ballrooms) on Wednesday afternoon, Thursday afternoon, Friday morning and afternoon, or Saturday morning (15 total slots available).

**End of Day Wrap and Rap Sessions:** Each SIG will have a meeting room for one hour on Wednesday, Thursday or Friday night to network face-to-face in small groups before stepping outside to sample Cincinnati night life. These sessions are not meant to be AV-oriented lecture/education sessions, but the hour can be used to plan one or more live-streamed SIG-organized session to present the coming year.

6. **A NEW HOPE: INTRODUCING JEDI (Junior and Early Career Development Initiative)**

The newly formed JEDI Program (Junior and Early Career Development Initiative) will feature 15-20 lobby talks throughout the meeting covering topics from “Launching & Managing Your Career” to “Meet the Editors & Award Winners” to “Making New Friends,” “Following the Money,” and “Finding Your Yoda.”

7. **PAID MEMBERS QUALIFY FOR LOWEST RATES**

In tandem with the new website launch, we have made things starkly simple: CNS Active Members are members who have paid their annual dues. Period. If you haven’t paid 2022 dues by now – *or by August 20 at the very very latest* – the registration system will not recognize you as a CNS Member and you won’t qualify for member rates, member reservation priority, or member access to the website.
Learning Objectives

The 2022 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 Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Minnesota Medical Association designates this live and enduring activity for a maximum of 30.75 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.
SESSIONS highlighted in maroon are designated for CME credit.
Agenda and amount of CME credits available are subject to change.

**WEDNESDAY**

**October 12**

**SESSION DESCRIPTION**

This 3-hour interactive symposium, is designed to raise participant awareness of the importance of clinical trials to the child neurology community and to identify strategies to overcome existing barriers to accessing clinical trials for children with neurologic conditions. We will discuss ethical considerations in clinical trials and possible patient participation. Participants will also learn best practices for engaging and supporting patients before, during and after their clinical trial journey.

**LEARNING OBJECTIVES**

As a result of this educational session, participants will be able to:
- Identify strategies to overcome existing barriers to accessing clinical trials for children with neurologic conditions.
- Utilize best practices for engaging and supporting patients before, during and after their clinical trial journey.

**IMPACT STATEMENTS**

This educational session helped me to identify changes I could make in my practice related to:
- Identifying clinical trials that will benefit my patients.

**ORGANIZER:**
Child Neurology Foundation

**Welcome**
Anup D. Patel, MD, FAAN, FAES
Nationwide Children’s Hospital,
The Ohio State University,
Columbus, OH

Erika Fullwood Augustine, MD, MS
Kennedy Krieger Institute,
Baltimore, MD

**The Importance of Clinical Trials to Patients**

**How Clinical Trials can Impact Patient Outcomes**
Tracy Dixon-Salazar, PhD
Lennox-Gastaut Syndrome (LGS) Foundation, San Diego, CA

**Common Barriers to Patient Involvement in Clinical Trials**
Kimbra Edwards, PhD
CISCRP, Boston, MA

**The Critical Roles of the Provider**

**The Importance of Clinician Involvement and Possible Roles**
Bruce H. Cohen, MD, FAAN
Akron Children’s Hospital; Akron, OH

**Typical Barriers and Practical Considerations to Clinicians in Fulfiling these Roles**
E. Martina Bebin, MD, MPA
University of Alabama at Birmingham, Birmingham, AL

**Supporting Patients:**
Best Practices for Discussing Clinical Trials with Patients
Shafali Spurling Jeste, MD
Children’s Hospital Los Angeles,
Los Angeles, CA

Avoiding Common Mistakes in Discussions
Ariel M Lyons-Warren, MD PhD
Baylor College of Medicine,
Houston, TX

**11:30 AM – 1:30 PM**

KENNETH F. SWAIMAN
CNS LEGACY LUNCHEON (I/V/O)

**Awards Presented**

Arnold P. Gold Foundation
Humanism in Medicine Award
Jorge Vidaurre, MD
Columbus, OH

Bernard D’Souza
International Fellowship Awards
Paulina C. Tejada, MD
Pontificia Universidad Católica de Chile, Santiago, Chile

Robert K. Sebunya, M.D, M.phil
Uganda Martyrs University Nkozi,
Mother Kevin Post Graduate School,
Kampala, Uganda

CNS/PECN Training Director Award
Tim Lotze, MD
Baylor College of Medicine,
Texas Children’s Hospital,
Houston, TX

Roger & Mary Brumback
Lifetime Achievement Award
Jeffrey Buchhalter, MD
Phoenix, AZ

Michael Noetzel, MD
St. Louis, MO
(presented posthumously)

Roger Larson, CAE
St. Paul, MN
BLINK – A Festival of Light & Art: October 13-16, 2022

Sometimes you get lucky. This is one of those times. Blink is a four-night annual outdoor art festival in Cincinnati that just happens to kick off on the 2nd night (Thursday) of the CNS Annual Meeting. The combination of innovative street art, projection mapping and light-based transformation of the city’s classic architectural facades has become a nationally celebrated cultural magnet drawing ambulatory crowds and creating a vibe not unlike Austin, TX in 2013 on Halloween. (BTW: the city will fill up fast, so book your flights and sleeping rooms early).
3:30 PM – 5:30 PM
PECN: CME PROGRAM:
EDUCATIONAL TOOLS (I/O)

COURSE DESCRIPTION
Since 2020 educational tools have evolved to include the best of both worlds including the virtual/digital platforms, exponential use of social media, and the sharing of resources across institutions. Many trainees across the country have taken advantage of participating in didactic lectures given virtually in numerous institutions. Webinars and podcasts have made their way into the day to day education of trainees and practicing child neurologists alike. Understanding and navigating the digital and social media milieu has never been more vital to our profession. Our first session aims to arm the participant with the knowledge to navigate these tools. In addition, new innovative ways of combining forces for education of our trainees as well as hybrid learning and interviewing is here to stay. With changes in harmonized milestones for resident education, ensuring trainees are receiving comprehensive exposure to the significance of equity and diversity is of vital importance. In addition, training directors have expressed the difficulty they experience in covering all the topics that are vital to residency education. In this course, the importance and impact of social media in various aspects of the career of a child neurologist, a review of a proposed curriculum in ethics for our trainees and the incorporation of topics around LGBTQ+ education will be presented.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Upon completion of this session, attendees will be able to identify the roles and benefits of the most commonly used social media platforms in child neurology.
2. Upon completion of this session, attendees will learn important features of a child neurology ethics curriculum and the ways to implement this in their current training programs.
3. Upon completion of this session, attendees will demonstrate knowledge of LGBTQ+ topics relating to resident education and how to implement these topics into their training curriculum.

IMPACT STATEMENT
This educational session will help attendees to identify changes they can make in their practices and resident education related to:
1. Innovative use of social media platforms, development and implementation of an ethics curriculum specific to child neurology concerns as well as increasing their own knowledge of matters surrounding LGBTQ+ issues in residency education and patient care to result in improvements in their current practice.

PECN Digital Committee and Social Media Tools
Jaclyn Martindale, DO
Wake Forest University School of Medicine, Winston-Salem, NC
Kathryn Idol Xixis, MD
University of Virginia, Charlottesville, VA
Jessica Goldstein, MD
University of Minnesota, M Health Fairview Masonic Children’s Hospital, Minneapolis, MN

Development of a Child Neurology Ethics Curriculum
William D. Graf, MD
Connecticut Children’s, University of Connecticut, Farmington, CT

LGBTQ: Tools for Residency Education
Jonathan Strober, MD
UCSF Benioff Children’s Hospital, San Francisco, CA

2:00 PM – 7:30 PM
EXHIBIT HALL (I)

6:00 PM – 7:30 PM
WELCOME RECEPTION (I)
Hosted by select Ohio training programs

8:00 PM – 10:00 PM
MOVEMENT DISORDERS VIDEO ROUNDS (I)
(Formerly Movement Disorders SIG)
THURSDAY
October 13

7:00 AM – 9:00 AM
PLATFORM I, II & III (I)

9:30 AM – 12:15 PM
SYMPOSIUM II:
PRESIDENTIAL SYMPOSIUM:
QUALITY AND CAPITATED CARE
(I/V/O)

COURSE DESCRIPTION
Just as healthcare has been dramatically changed by advances in molecular, genetic and systems neurosciences, there have been concurrent changes in methods of healthcare delivery and reimbursement that affect the practicing child neurologist.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Understand how quality improvement methodology can improve the clinical outcomes of patients and potentially result in increased reimbursement for clinical services.
2. Understand how the American Academy of Neurology develops and implements quality measures.
3. Know how learning healthcare systems can provide knowledge to improve patient outcomes that is not possible with single center efforts.

IMPACT STATEMENTS
This educational session will help attendees to identify changes they can make in their practices related to:
1. Implement quality improvement projects based upon established pediatric quality measures.
2. Joining or creating pediatric learning healthcare systems to improve patient outcomes.
3. Assuring that care is provided in a manner that is equitable in order to eliminate existing disparities.

ORGANIZER
Bruce H. Cohen, MD, FAAN

CO-ORGANIZER
Jeffrey Buchhalter, MD, PhD
University of Calgary, Cumming School of Medicine, Calgary, Canada

Introduction and Discussion of the Importance of QI/QM to CNS Members
Bruce H. Cohen, MD, FAAN

Creating a Quality Improvement Ecosystem at AAN
Lyell K. Jones, Jr. MD
Mayo Clinic, Rochester, MN

Development of Child Neurology QMs at AAN
Bhooma Aravamuthan MD, DPhil
Washington University School of Medicine, St. Louis, MO

Description of Rationale and Requirements for a Learning Health System (LHS)
Jeffrey Buchhalter, MD, PhD
University of Calgary, Cumming School of Medicine, Calgary, Canada

Descriptions of LHS in Pediatrics
Anup D. Patel, MD, FAAN, FAES

LHS for Peds/Adult Epilepsy: Early Wins
Zachary M. Grinspan, MD, MS
Weill Cornell Medicine, New York, NY

Leveraging LHS to Study Health Care Disparities
Fiona Baumer, MD, MS
Stanford University School of Medicine, Palo Alto, CA

Q&A
Bruce H. Cohen, MD, FAAN

11:30 AM – 7:00 PM
EXHIBIT HALL (I)

12:30 PM – 2:00 PM
EXHIBITS, POSTER REVIEW & GUIDED POSTER TOUR #1 (I)

2:30 PM – 3:00 PM
MARTHA BRIDGE DENCKLA AWARD LECTURE (I/V/O)
Michael Shevell, MDCM, FRCP, FCAHS
Montreal Children’s Hospital, McGill University Montreal, Quebec, Canada

Where the Next 50 Years Begins
SYMPOSIUM III: GLOBAL NEUROLOGY: THE GLOBAL SITUATION OF CHILD NEUROLOGY PRACTICE DURING THE COVID 19 PANDEMIC AND OTHER NATURAL DISASTERS. CLINICAL CARE AND EDUCATION (I/V/O)

COURSE DESCRIPTION
This symposium will provide a global overview of the status of the child neurology practice during the COVID 19 pandemic, with emphasis in poor resource regions (low, middle, and high-income countries). The diverse panel of speakers have extensive experience in international neurology and practice in different regions, including Latin America, Africa, Caribbean, and USA. Therefore, they will present an expanded view of the current situation of pediatric neurology.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Describe the impact of the actual COVID 19 pandemic in the practice of Child Neurology, globally
2. Understand the use of technology in providing neurological care, specially to children and families with restricted access to care

IMPACT STATEMENTS
This educational session will help attendees to identify changes they can make in their practices related to:
1. Use of virtual platforms to facilitate access to care
2. Delivering neurological care during the current pandemic, when access may be limited by use of available technology

ORGANIZER
Jorge Vidaurre, MD
Nationwide Children’s Hospital, The Ohio State University, Columbus, OH

Chikungunya, Zika and COVID: Neurological Consequences and Impact in Child Neurology Care Across Latin America
Paulina C. Tejada, MD
Bernard D’Souza International Fellow
Pontificia Universidad Católica de Chile, Santiago, Chile

Building Child Neurology Capacity in Africa During Disruptive Disasters: Ideas for Low Resourced Communities
Robert K. Sebunya, M.D, M.phil
Uganda Martyrs University Nkozi, Mother Kevin Post Graduate School, Kampala, Uganda

Practicing Child Neurology on Conflict Zones. Lessons Learned.
Volodymyr Kharytonov, MD PhD
Clinical Hospital “Psychiatry”, Kyiv, Ukraine

The Potential for Device Technology Use in Healthcare: Applicability During Times of Reduced Access
Dave Clarke, MBBS
Dell Medical School, University of Texas at Austin, Austin, TX

EXHIBITS, POSTER REVIEW (WINE & CHEESE) & GUIDED POSTER TOUR #2 (I)

Cincinnati Note of Interest
The National Underground Railroad Freedom Center is described as “a museum of conscience, an education center, a convener of dialogue, and a beacon of light for inclusive freedom around the globe.” The museum is located in downtown Cincinnati, a short walk away from the CNS Meeting, on the banks of the Ohio River, the great natural barrier that separated the slave states of the South from the free states of the North.
FRIDAY
October 14

8:00 AM – 8:15 AM
AWARD PRESENTATIONS & GENERAL SESSION (I/V/O)
Child Neurology Foundation/PERF Scientific Grant & Award Announcements

8:15 AM – 8:45 AM
PHILIP R. DODGE YOUNG INVESTIGATOR AWARD LECTURE (I/V/O)
Bhooma Aravamuthan MD, DPhil
Washington University School of Medicine, St. Louis, MO

8:45 AM – 9:30 AM
BERNARD SACHS AWARD LECTURE (I/V/O)
Steven Paul Miller, MDCM, MAS, FRCPC
University of British Columbia (BC), BC Children’s Hospital, Vancouver, British Columbia, Canada

9:45 AM – 12:00 PM
SYMPOSIUM IV: ETHICS: NEUROPALLIATIVE CARE ACROSS THE AGE SPECTRUM (I/V/O)

COURSE DESCRIPTION
Palliative care emphasizes a holistic interdisciplinary approach to the physical, psychological, social, and spiritual health and well-being of neonates, children, adolescents, and adults living with serious illness, and support for their families and caregivers. Although the lay public often equates palliative care to hospice care, the clinical domains of palliative care encompass more than end-of-life care. This symposium reviews clinical palliative care practice guidelines and addresses important questions about “specialty” palliative care: How is neuropalliative care different than primary palliative care? How is pediatric neuropalliative care different than traditional care in child neurology? Can neuropalliative care begin at birth – or even before birth? Do we “palliate” symptoms when we offer patients promising new therapies? Do the goals of neuropalliative care vary depending on the diagnosis, stage, or severity of a neurological disorder? We discuss essential elements of neuropalliative care including diagnostic certainty, prognostic certainty (versus managing clinical uncertainty), family-centered communication, shared decision-making, and the management of pain and suffering in any care setting. This symposium will emphasize many special ethical issues in neuropalliative care such as those relating to disorders of consciousness, progressive loss of cognitive abilities or decisional capacity, and irreversible paralysis. The symposium stratifies neuropalliative care across the age spectrum. A neuro-oncologist will discuss methods of delivering bad news, assessing and explaining prognosis, assisting patients and families in the process of decision-making, and setting limits when certain types of care are objectively futile. Three child neurologists will respectively discuss pediatric, neonatal, and antenatal neuropalliative care issues such as severe neurological impairment in children and adolescents; withdrawal of life-sustaining interventions in neonates in the NICU; and care options for parents whose mid-trimester fetus has been diagnosed with a major malformation or life-limiting neurogenetic disorder. We highlight the 2022 “Clinical Guidance in Neuropalliative Care Position Statement” endorsed by the CNS.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Identify the various domains of palliative care and their key themes.
2. Integrate essential elements of communication, prognostication and shared decision-making into clinical practice along with special ethical considerations in neuropalliative care as it relates to disorders of consciousness.

IMPACT STATEMENTS
This educational session will help attendees to identify changes they can make in their practices related to:
1. The domains of specialty palliative care.
2. Communicating prognostic certainty versus clinical uncertainty.

ORGANIZER
William D. Graf, MD
Connecticut Children’s, University of Connecticut, Farmington, CT

Neuropalliative Care in Adults
Lynne P. Taylor, MD
 Alvord Brain Tumor Center, University of Washington, Seattle, WA

Antenatal Neuropalliative Care
William D. Graf, MD

Neuropalliative Care in Neonates
Monica Lemmon, MD
 Duke University School of Medicine, Durham, NC

Neuropalliative Care in Children with Severe Neurological Disorders and Neurodevelopmental Disabilities
Audrey Foster-Barber, MD, PhD
 University of California, San Francisco, San Francisco, CA

SESSIONS highlighted in maroon are designated for CME credit. Agenda and amount of CME credits available are subject to change.
12:30 PM – 1:45 PM
SEMINAR 1:
CEREBRAL PALSY: WHAT IS CP?
A CONSENSUS-BASED APPROACH
(I/O)

COURSE DESCRIPTION
Cerebral palsy (CP) is the most common motor disability of childhood and is formally defined as “a group of permanent disorders of the development of movement and posture, causing activity limitation, that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain” (Dev Med Child Neurol 2007). Yet, we have shown ongoing variability in how we diagnose CP (Pediatrics 2021). We have demonstrated that neurologists and neurodevelopmentalists play an important role in CP diagnosis (Neurology 2020) and that the diagnostic views of people with CP differ from the views of these practitioners (Dev Med Child Neurol 2022). Parallel to this work, a recent CNS Open Forum Thread exemplifies the passion that our membership has in reaching a new consensus on a key question: “What is CP?”. Though previous symposia and seminar presentations at CNS have established that this question remains an open one and have provided didactic discussions on the topic, this year we propose addressing this question directly with involvement of the CNS membership – a gap highlighted by the Open Forum thread. The goal of our workshop is to use a group-think approach to determine the key uncertainties held by the CNS membership regarding the definition of CP. We will summarize the breakout group discussions at the end of the workshop to reach a new comprehensive consensus on what the CNS membership’s addressable concerns are regarding the current definition of CP.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Outline the current consensus definition of CP
2. List the key uncertainties regarding interpretation of the current consensus definition of CP

IMPACT STATEMENTS
This educational session will help attendees to identify changes they can make in their practices related to:
1. Conferring a CP diagnosis
2. Understanding the meaning of a CP diagnosis for the patients I treat and their caregivers

ORGANIZER
Bhooma Aravamuthan MD, DPhil
Washington University School of Medicine, St. Louis, MO

The Meaning of “Non-progressive” – Michael Shevell, MDCM, FRCP, FCAHS
Montreal Children’s Hospital, McGill University Montreal, Quebec, Canada

The Meaning of “Developing Fetal or Infant Brain” – Ann Tilton
LSU Health Sciences Center New Orleans, New Orleans, LA

Contributions of Different Etiologies to CP – Michael Kruer, MD
Phoenix Children’s Hospital, Phoenix, AZ

The Meaning of a CP Diagnosis for Community Members and Other Stakeholders – Paul Gross, BA
President, CEO & Co-Founder; Cerebral Palsy Research Network, Greenville, SC

12:30 PM – 1:45 PM
SEMINAR 2:
NEURODEVELOPMENTAL DISORDERS: NEUROLOGICAL AND NEURODEVELOPMENTAL CHALLENGES IN SICKLE CELL DISEASE: STROKE AND BEYOND
(I/O)

COURSE DESCRIPTION
Sickle cell disease is an inherited hematological disorder that affects millions of people globally. Despite sickle cell disease being one of the first genetic diseases discovered, many child neurologists and neurodevelopmental physicians are not aware of the heavy neurological burden of this disease and therapeutic options with neurological and developmental implications. While increased risk of stroke and stroke prevention recommendations are widely known, people living with sickle cell disease also have high rates of other neurological and neurodevelopmental complications, even in the absence of brain injury. We will describe the neurological complications, neuroimaging findings, and neurodevelopmental challenges in sickle cell disease across the lifespan. Our first
speaker will discuss current research and guidelines with regards to stroke risk and prevention in children and adults with sickle cell disease, nationally and globally, as well as other neurological complications seen in this disorder, including seizures and headaches. Our second speaker will discuss current neuroimaging research exploring cerebral physiology, metabolism, and fMRI and new and existing sickle cell disease therapeutics and their impact on the brain in sickle cell disease. Our third speaker will discuss rates and features of neurodevelopmental disorders in sickle cell disease and current neurodevelopmental screening guidelines. Due to therapeutic advances in the last 50 years, more people with sickle cell disease are surviving into adolescence and adulthood. It is essential that child neurologists and neurodevelopmental physicians are aware of the neurological, neurocognitive, and neurodevelopmental complications of this common inherited disease as appropriate medical, developmental, and cognitive screening practices are essential to improving care and reducing health disparities for these patients across the lifespan.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Identify current guidelines and practice regarding management of stroke, headache, and seizures in sickle cell disease.
2. Discuss current research regarding neuroimaging in sickle cell disease.
3. Identify current guidelines and practice regarding recommendations for neurocognitive and developmental screening in sickle cell disease.

IMPACT STATEMENTS
This educational session will help attendees to identify changes they can make in their practices related to:
1. Care of children with sickle cell disease and stroke, seizures, and headaches.
2. Care of children with sickle cell disease and neurocognitive and/or developmental issues.

ORGANIZER
Eboni Lance, MD, PhD, Kennedy Krieger Institute, Baltimore, MD

Update on Neurological Complications of Sickle Cell Disease: Stroke Risk and Prevention, Headaches, and Seizures
Lori Jordan, MD, PhD
Vanderbilt University Medical Center, Nashville, TN

Advanced Neuroimaging and New Therapeutics in Sickle Cell Disease
Melanie Fields, MD, MSCI
Washington University, St. Louis, MO

Neurodevelopmental Disorders and Developmental Screening in Sickle Cell Disease
Eboni Lance, MD, PhD

12:30 PM – 1:45 PM
SEMINAR 3: NEURO-ONCOLOGY: A CASE-BASED APPROACH TO ACUTE NEURO-TOXICITIES IN CHILDHOOD CANCER PATIENTS (I/O)

COURSE DESCRIPTION
As new and effective treatments emerge, neurologists are increasingly called upon to recognize, evaluate, and treat acute and chronic neurologic toxicities of both traditional and newer therapies for childhood cancer and brain tumors. These therapies can include the newer targeted agents as well as immunotherapies that are used in a broad range of pediatric cancers. Emerging treatments are also used for treatment of complications associated with the tumor predisposition syndromes such as neurofibromatosis type 1 and tuberous sclerosis complex (TSC), both of which are disorders commonly managed by child neurologists. In this symposium, we offer an overview of the main acute neurological toxicities of medical treatments for childhood cancers, including traditional chemotherapy, targeted chemotherapies, and immunotherapies. We will use a case-based approach to discuss acute neurotoxicities of traditional chemotherapy agents such as methotrexate, targeted agents such as MEK and mTOR inhibitors, and immunotherapies such as check-point inhibitors and CAR-T cell therapies. As use of these newer agents increases, there are increasing data available regarding the breadth of these toxicities as well as up-to-date management recommendations.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Identify and treat acute toxicities of the treatments for nervous system tumors
2. Identify and treat the acute neurological toxicities of agents used to treat pediatric cancers.

IMPACT STATEMENTS
This educational session helped me to identify changes I could make in my practice related to:
1. Targeted agents
2. The diagnosis and management of acute neurological toxicities of chemotherapy for childhood cancers.

ORGANIZER
Cynthia J. Campen, MD, MSCE
Stanford University, Stanford, CA
2:15 PM – 4:30 PM
SYMPOSIUM V:
NEUROIMMUNOLOGY:
ADVANCEMENTS IN PEDIATRIC
NEUROIMMUNOLOGICAL DISEASES
(I/V/O)

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Describe characteristics and evaluation of different demyelinating and neuroinflammatory disorders in children
2. Discuss treatment and management of different neuroinflammatory diseases in children, including multiple sclerosis, neuromyelitis optica spectrum disorders, anti-MOG associated disorder, acute flaccid myelitis (AFM) and mimickers of AFM, and autoimmune encephalitis

IMPACT STATEMENTS
This educational session will help attendees to identify changes they can make in their practices related to:
1. Evaluation of a patient with suspected neuroinflammatory disease, including which ancillary tests are useful and interpretation of test results
2. Management of pediatric inflammatory diseases, including inpatient and outpatient evidence-based treatments, based upon recent research studies
LEARNING OBJECTIVES

As a result of this educational session, participants will be able to:
1. Outline key principles of patient-centered research
2. Identify ways to incorporate parents and advocacy groups into all aspects of research, including study design, protocol implementation, analysis, and results dissemination.

IMPACT STATEMENTS

This educational session will help attendees to identify changes they can make in their practices related to:
1. Identifying key principles of patient-engaged research design
2. Incorporating parents and advocacy groups into study design, protocol implementation, data analysis, and results dissemination

COURSE DESCRIPTION

Historically, patients and their families have primarily served as the subjects and beneficiaries of research in child neurology. It is increasingly clear that parents and patients should also play a key role in defining research priorities, study conception and design, data analysis and interpretation, and helping results reach a broad audience. Yet, questions remain about how to best include parents and patients in the research process. In this seminar, we will discuss how to practically involve parents in research. Our three speakers have first-hand experience in patient-centered research and dissemination. Betsy Pilon, Executive Director of Hope for HIE, will use her expertise to highlight the power of patient and caregiver advocacy groups in facilitating and disseminating research. Dr. Renee Shellhaas will share her experience working with diverse stakeholders, including her experience co-leading the PERF, PCORI, and NIH-funded studies of the Neonatal Seizure Registry. Dr. Adam Hartman, will share how to align proposals with funding priorities in patient-centered design. The session will conclude with a panel question and answer session, moderated by Dr. Monica Lemmon.

ORGANIZER

Monica Lemmon, MD
Duke University School of Medicine, Durham, NC

The Power of Parents and Advocacy Groups

Betsy Pilon, Executive Director
Hope for HIE, West Bloomfield, MI

Incorporating Stakeholders into Study Design and Analysis: Lessons from the Neonatal Seizure Registry

Renee Shellhaas, MD, MS
Michigan Medicine, University of Michigan, Ann Arbor, MI

Aligning Proposals with Funding Priorities in Patient-centered Design

Adam L. Hartman, MD
NINDS, NIH, Rockville, MD

7:00 AM – 8:15 AM

SEMINAR 4:
STUDYING WHAT MATTERS: INCORPORATING PATIENTS AND FAMILIES INTO PEDIATRIC NEUROLOGY RESEARCH
(I/O)

7:00 AM – 8:15 AM

SEMINAR 5:
FETAL NEUROLOGY: ADVANCES IN FETAL NEUROLOGY: EMERGING IDEAS AND FUTURE LANDSCAPE
(I/O)

LEARNING OBJECTIVES

As a result of this educational session, participants will be able to:
1. Define advances in the field of fetal neurology focusing on neuroimaging and neurogenetics.
2. Identify emerging neurotherapeutics for prenatally diagnosed neurologic disorders.
 impact statements
This educational session will help attendees to identify changes they can make in their practices related to:
1. Diagnostic work up for fetal neurologic disorders.
2. Complexities in prenatal counselling and management of fetal neurologic disorders.

organizer
Sonika Agarwal, MBBS, MD
Children’s Hospital of Philadelphia, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

Fetal Neurology Consortium and Registry Workgroup – Fetal Neurology Program Survey Results
Sonika Agarwal, MBBS, MD

Advances in Fetal Neurogenetics: Emerging Ideas and Future Landscape
Lisa Emrick, MD
Baylor College of Medicine, Houston, TX

Advances in Fetal Neuroimaging: Emerging Ideas and Future Landscape
Tomo Tarui, MD
Tufts Medical Center, Boston, MA

Advances in Fetal Neurotherapeutics and Interventions
David Neal Franz, MD
Cincinnati Children’s Hospital/University of Cincinnati College of Medicine, Cincinnati, OH

7:00 AM – 8:15 AM SEMINAR 6: DIVERSITY: DISABILITY IN CHILD NEUROLOGY: SOCIETY, MEDICINE AND THE PERSON (I/O)

Course Description
Health care disparities are real and profound for people with disabilities. Just as racism plays an important role in perpetuating health care disparities, so does ableism. For example, a recent survey of physicians found that only 41% were very confident about their ability to provide the same quality of care to patients with disability (Iezzoni et al. 2021). As child neurologists, our intimate roles caring for disabled children make addressing ableism in our field an imperative. In this symposium, we will consider disability and ableism in the contexts of society, medicine and self/family. Appropriate language and frameworks for thinking about disability will be introduced. Participants will learn practical tools so that their child neurology practice can progress beyond disease management and include optimizing function and promoting inclusion in society as part of routine neurologic care.

Specifically, Dr. Kim will introduce our topic by defining ableism, providing examples, and introduce different models for framing disability. Dr. Christy will discuss ableism in medicine, including the historical evolution of the language we use to describe disability, and how ableism from physicians contributes to health disparities for disabled people (Lezzoni et al. 2021). Dr. Cejas will discuss personal/internal ableism: how disabled people holding these views about themselves impacts their health, and how physicians can help, as well as introducing tools that can help us think about an individual’s function(International Classification of Function…; Rosenbaum and Gorter 2012).

Finally, Dr. Barber will offer discussions of two illustrative cases to highlight these various perspectives on disability and moderate a discussion among the audience and all speakers.

Learning Objectives
As a result of this educational session, participants will be able to:
1. Recognize that ableism is omnipresent and identify ableism in society, in medicine, and in personal/family dynamics.
2. Begin the process of changing the culture of child neurology to decrease ableism and improve neurologic care for children with disabilities.

impact statements
This educational session will help attendees to identify changes they can make in their practices related to:
1. Using up-to-date, precise and respectful language when talking about disability with professional colleagues, patients, their families, and in society.
2. Moving beyond disease management for our patients to include optimizing function and promoting inclusion in society as part of routine neurologic care.

Organizer
Danielle Guez Barber, MD PhD
Children’s Hospital of Philadelphia, Philadelphia, PA

An Introduction to Disability and Ableism
Young-Min Kim, MD
Loma Linda University Children’s Hospital, Loma Linda, CA

History of Ableism in Child Neurology
Alison Christy, MD, PhD
Providence Health and Services, Portland, OR
Ableism and the Individual
Diana M. Cejas, MD, MPH
University of North Carolina at Chapel Hill, Carolina Institute for Developmental Disabilities, Chapel Hill, NC

Panel Discussion, Q&A and Case Studies

MODERATOR
Danielle Guez Barber, MD PhD

• Diana M. Cejas
• Alison Christy, MD, PhD
• Young-Min Kim, MD

8:45 AM – 9:30 AM
HOWER AWARD LECTURE (I/V/O)
Leon G. Epstein, MD
Ann & Robert Lurie’s Children’s Hospital of Chicago, Chicago, IL

9:45 AM – 12:00 PM
SYMPOSIUM VI: BEHAVIORAL NEUROLOGY: SPANNING THE DIVIDE: ANXIETY AND MOOD DISORDERS CO-OCCURRING WITH NEUROLOGIC DISORDERS (I/V/O)

COURSE DESCRIPTION
Anxiety and mood disorders commonly co-occur with neurologic disorders of childhood. These psychiatric symptoms arise from shared neural circuits, often interact with neurologic symptoms, and can negatively impact quality of life in our patients. In this session, we will review the increased prevalence of mental health disorders in neurologic conditions and the role of Child Neurologists in recognizing and managing symptoms. We will discuss the shared neural mechanisms of movement, motivation, emotions and behavior. In addition, we will use movement disorders (tic disorders) and epilepsy (Tuberous Sclerosis) as models for how neurologic symptoms and psychiatric symptoms can coexist and impact each other. Finally, we will discuss the rising prevalence of anxiety and mood disorders in children and adolescents and the impact on child neurology patients. Given the high rates of co-occurring psychiatric conditions in neurologic disorders, it is important that we have the tools to recognize symptoms and understand how to approach management in our patients.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Understand the neurophysiology underlying the close relationship between neurologic disorders and psychiatric symptoms.
2. Understand the role of child neurologist in the care of patients with neurologic disorders and co-occurring psychiatric symptoms.

IMPACT STATEMENTS
This educational session will help attendees to identify changes they can make in their practices related to:
1. Identification of anxiety and mood disorders in youth with neurologic disorders
2. Understanding the relationship between psychiatric and neurologic symptoms in youth

ORGANIZER
Jennifer Vermilion, MD
University of Rochester, Rochester, NY

Tuberous Sclerosis Complex Associated Neuropsychiatric Disorders: Insights and Opportunities
Tanjala T. Gipson, MD
University of Tennessee Health Sciences Center, Memphis, TN

Understanding and Addressing Psychiatric Comorbidities in Child Neurology
Devin C. McNulty, PhD
Ann & Robert H. Lurie Children’s Hospital, Northwestern University Feinberg School of Medicine, Chicago, IL

12:15 PM – 4:15 PM
CNS CLINICAL RESEARCH ANNUAL WORKSHOP 2022 – PEDIATRIC NEUROLOGY CLINICAL TRIALS – TRIAL DESIGN (I)

COURSE DESCRIPTION
This course is a 4 hour clinical research workshop providing interactive training on specific research methodology topics to support clinical research engagement by all CNS members regardless of prior clinical research experience.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Have an understanding of different types of clinical trials including the strengths and weaknesses of each study type as it applies to their specific area of research
2. Support their clinical research by identifying correct statistical analysis methods and study design specific sources of funding.

IMPACT STATEMENTS
This educational session helped me to identify changes I could make in my practice related to:
1. Initiate new clinical research projects.
2. Meaningful engage in existing clinical research projects.
ORGANIZER
Ariel Maia Lyons-Warren, MD, PhD
Baylor College of Medicine, Houston, TX

CO-ORGANIZERS
Josh Bonkowsky, MD, PhD
University of Utah School of Medicine, Primary Children’s Hospital, Salt Lake City, UT

Janet Soul, MDCM, FRCPC
Boston Children’s Hospital, Harvard Medical School, Boston Mass, Boston, MA

Angela Hewitt, MD, PhD
University of Rochester Medical Center, Rochester, NY

Daniel Calame, MD, PhD
Baylor College of Medicine, Houston, TX

Welcome
Ariel Maia Lyons-Warren, MD, PhD

Introduction to Clinical Research Study Design
Jennifer Vermilion, MD
University of Rochester, Rochester, NY

Breakout Sessions
Finding the Right Grant for Your Clinical Research Study
Adam L. Hartman, MD

Statistics by Study Design: Selecting the Right Type of Analysis for your Clinical Research Study
Paul S. Horn, PhD
Cincinnati Children’s Hospital Medical Center, Cincinnati, OH

Coffee Break & Networking

How to Get Involved in Multi-Site Clinical Research Trials
Darcy Krueger, MD PhD
Cincinnati Children’s Hospital Medical Center, Cincinnati, OH

Q&A

12:15 PM – 4:15 PM
BIOMEDICAL WRITING WORKSHOP
(I)

COURSE DESCRIPTION
This interactive workshop for novice writers offers techniques to promote better manuscripts and enhance the likelihood of publication. Topics include avoiding writer’s block, responding effectively to revision requests, and practical techniques to improve writing clarity. Numerous text examples illustrate practical ways to improve manuscript writing and organization skills, and the relaxed atmosphere promotes audience participation.

LEARNING OBJECTIVES
As a result of this educational session, participants will be able to:
1. Recognize barriers to successful publication
2. Develop strategies for overcoming writer’s block
3. Be able to more effectively revise manuscripts and respond to reviewers and editors
4. Understand the requirements for republication, use of patient materials and privacy concerns

IMPACT STATEMENTS
This educational session helped me to identify changes I could make in my practice related to:
1. Publication of clinical and research articles that promote progress medicine by disseminating new ideas and information.
2. More efficiently planning and creating of manuscripts and interacting effectively with journal editors.

ORGANIZER AND PRESENTER
E. Steve Roach, MD
University of Texas Dell Medical School, Austin, TX

Introduction: Why Manuscripts are Rejected
E. Steve Roach, MD

Outwitting Writer’s Block
E. Steve Roach, MD

Break

Revising Manuscripts & Responding to Reviews
E. Steve Roach, MD

Rules of the Road: Permissions, Consents, and Other Potholes
Phillip L. Pearl, MD
Boston Children’s Hospital, Boston, MA

Meet the Editors
• Yasmin Khakoo, MD, FAAN
  Memorial Sloan Kettering Cancer Center, Weill Cornell Medical College, New York, NY
• E. Steve Roach, MD
• Phillip L. Pearl, MD

SESSIONS highlighted in maroon are designated for CME credit.
Agenda and amount of CME credits available are subject to change.
**TRAVEL INFORMATION**

Contact Travel Leaders at 763-231-8876 to take advantage of the many ways to save on meeting airfare by booking 60 days in advance (or more).

The travel professionals at Travel Leaders will find the very best combination of price and schedule to suit your specific needs.

Travel Leaders  
T: 763-231-8876  
E: kristine@tvlleaders.com

**HOTEL ACCOMMODATIONS**

**ON-LINE BOOKING FOR CNS ANNUAL MEETING BEGINNING MID-JULY**

The CNS has reserved a block of rooms at the Hyatt Regency Cincinnati and Hilton Cincinnati Netherland Plaza. A direct link to group rate reservations is available upon completion of paid meeting registration.

All transactions and communications are handled directly by registrants with the hotel.

**Hyatt Regency Cincinnati**  
151 West 5th Street, Cincinnati, OH 45202 • Room Rate: $219 (+ tax) Single/Double

**Hilton Cincinnati • Netherland Plaza**  
35 West 5th Street, Cincinnati, OH 45202 • Room Rate: $229 (+ tax) Single/Double
# 2022 CNS Annual Meeting Registration

This is **NOT** a registration form to fill out and return.

All registrations will be on-line with link posted on CNS website and sent to members via eConnections.

<table>
<thead>
<tr>
<th><strong>EARLY REGISTRATION:</strong> MID-JULY – AUGUST 31</th>
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<tbody>
<tr>
<td><strong>In-Person</strong></td>
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<tr>
<td>Real-time access to all in-person and live-streamed sessions; post-meeting access to all recorded sessions On Demand thru November 15.</td>
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| **Active Member** | ☐ $650 | ☐ $650 | ☐ $50 | ☐ $50 | ☐ $50 | ☐ $125 | ☐ $100 |
| **Emeritus Member** | ☐ $250 | ☐ $250 | ☐ $25 | ☐ $25 | ☐ $25 | ☐ $125 | ☐ $100 |
| **Junior Member** | ☐ $250 | ☐ $250 | ☐ $25 | ☐ $25 | ☐ $25 | ☐ $125 | ☐ $100 |
| **Resident/Trainee (Non-CNS Member)** | ☐ $350 | ☐ $350 | ☐ $50 | ☐ $50 | ☐ $125 | ☐ $100 |
| **Medical Student (CNS Member)** | ☐ $50 | ☐ $50 | ☐ $25 | ☐ $25 | ☐ $125 | ☐ $100 |
| **Medical Student (Non-CNS Member)** | ☐ $150 | ☐ $150 | ☐ $50 | ☐ $50 | ☐ $125 | ☐ $100 |
| **ACNN Member (Nurse)** | ☐ $295 | | ☐ $50 | ☐ $75 | ☐ $125 | ☐ $100 |
| **Nurse (Non-ACNN Member)** | ☐ $395 | | ☐ $50 | ☐ $50 | ☐ $125 | ☐ $100 |
| **Non-CNS Member** | ☐ $850 | ☐ $850 | ☐ $75 | ☐ $75 | ☐ $125 | ☐ $100 |
| **Non-CNS Member (ABPN Board Certified)** | ☐ $650 | ☐ $650 | ☐ $50 | ☐ $75 | ☐ $125 | ☐ $100 |
| **Guest Fee** | ☐ $100 | | | | | |

**REGISTRATION**

All registrations will be on-line with link posted on CNS website and sent to members via eConnections.

**HOTEL RESERVATIONS**

All transactions and communications are handled directly by registrants with the hotel.

**CANCELLATIONS AND REFUNDS**

Registration may be cancelled with the following fees and penalties:

- All cancellations must be made in writing, via email and sent to registration@childneurologysociety.org.
- Cancellations received on or before September 1, 2022 are eligible for a full refund less $75 administrative fee. Cancellations received after September 1, 2022 are not eligible for a refund.
- You can change your registration from the In-Person registration to the Virtual Only option at no additional charge. Please contact registration@childneurologysociety.org.
- In the event the CNS must cancel the live meeting due to unforeseen circumstances, CNS will automatically enroll all registration to a Virtual option or give the registrant the option of a full refund within 10 business days after the meeting cancellation. In the event of cancellation of any portion, or entire event, CNS does not assume responsibility for any additional costs, charges, or expenses; to include, charges made for travel and lodging.

**SPECIAL NEEDS**

We are committed to making this CME activity accessible to all individuals. If you need auxiliary aid(s) or service(s) as identified in the American with Disabilities Act, or have a dietary restriction, please describe your needs when registering on-line. Most requests can be accommodated if notification is received by August 31.
ALL registrations will be on-line with link posted on CNS website and sent to members via eConnections.

### STANDARD REGISTRATION: SEPTEMBER 1 – OCTOBER 15

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<tr>
<th></th>
<th>In-Person</th>
<th>Virtual Only</th>
<th>Clinical Research Annual Workshop</th>
<th>CNF Fee</th>
<th>Legacy Luncheon</th>
<th>Founders Book Shipped To You Or eBook</th>
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<tr>
<td></td>
<td>Real-time access to all in-person and live-streamed sessions; post-meeting access to all recorded sessions On Demand thru November 15.</td>
<td>Real-time live-streamed access to Awards lectures &amp; Symposia II-VI; post-meeting access to all recorded sessions On Demand thru November 15.</td>
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We look forward to seeing you...

...at the Duke Energy Center in Cincinnati, Ohio and to partnering with you at future CNS Annual Meetings.

52nd CNS Annual Meeting
October 4 - October 7, 2023
Vancouver, BC, Canada

53rd CNS Annual Meeting
November 11-14, 2024
San Diego, California