



NORTH AMERICAN NEURO-OPHTHALMOLOGY SOCIETY

# PROGRAM OVERVIEW

## **49TH** ANNUAL MEETING **NANOS**

OMNI ORLANDO RESORT AT CHAMPIONSGATE,  
ORLANDO, FL, MARCH 11-16, 2023



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In support of improving patient care, this activity has been planned and implemented by Medical Education Resources (MER) and North American Neuro-Ophthalmology Society. MER is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

### Target Audience

This activity has been designed to meet the educational needs of neurologists and ophthalmologists involved in the care of patients with neuro-ophthalmic disorders.

### Statement of Need

The purpose of the North American Neuro-Ophthalmology Society's Continuing Medical Education (CME) program is to present neuro-ophthalmologists with quality lifelong learning opportunities to promote improvement and change in physician practices, performance, and competence needed to provide the best possible neuro-ophthalmic care for their patients.

### Educational Objectives

After completing this activity, the participant should be better able to:

- Identify recent advances in the diagnosis and treatment of neuro-ophthalmic diseases.
- Identify advances in key areas of cutting-edge research and technology in neuro-ophthalmology.
- Apply skills and techniques from the Optional Symposia sessions into their daily practice.

Times are listed in Eastern Daylight Time

### Saturday, March 11<sup>th</sup>\*

8:00 am – 12:00 pm

**NANOS Board of Directors Meeting**

**Oakmont**

2:00 pm – 7:30 pm

**Registration/Help Desk**

**Rotunda**

4:00 pm – 5:00 pm

**Neuro-Radiology Symposium: Imaging Diseases of the Chiasm [1.0 CME], Aaron Kamer, MD**

**International Ballroom I-II**

Upon completion of this session, participants should be able to: 1) identify the optic chiasm and its surrounding structures on CT and multiple MRI sequences, 2) describe the value of several advanced and conventional imaging modalities to diagnose diseases of the chiasm, and 3) prepare an appropriate imaging differential diagnosis for common and uncommon causes of chiasm symptoms.

6:00 pm – 9:00 pm

**Welcome Reception and Awards Ceremony**  
*(with support from Viridian Therapeutics, Inc.)*

**International Ballroom III**

All are welcome! Reconnect with your NANOS colleagues during the reception from 6:00 – 7:30 pm. Awards Ceremony at 7:30 pm. **NEW THIS YEAR!** Distinguished Service Award, Dr. Ivy Dreizin WIN Leadership Grant, Hoyt Lecture Award, Merit Awards, Pilot Research Grant, Lawton Smith Award (JNO), Top NOVEL Contributors, Travel Grant recipients, and Neuro-Ophthalmology Champion Award will be presented at the Welcome Reception. Join us as we celebrate some of our NANOS colleagues. Following the Awards Ceremony, NANOS Open Mic will take place featuring a variety of musical acts from NANOS members. Heavy hors d'oeuvres buffet and two drink tickets included. Guest tickets available for \$150 per person. Children's tickets are available for \$50 and can be purchased at the Registration Desk.

**\*Saturday's times are listed in EST. Daylight savings begins at midnight on March 12<sup>th</sup>. Don't forget to change your clock forward one hour!**

**Sunday, March 12<sup>th</sup>**

6:30 am – 7:30 am	<b>Breakfast</b>	<b>National Ballroom</b>
6:30 am – 5:30 pm	<b>Registration/Help Desk</b>	<b>Rotunda</b>
7:30 am – 9:30 am	<b>Frank B. Walsh (I): “Adventureland” [2.0 CME]</b> Host: <i>Indiana University School of Medicine</i> <i>Melissa W. Ko, MD, MBA, CPE</i> Committee Members: <i>Kevin E. Lai, MD, Devin Mackay, MD, and Valerie Purvin, MD</i> Expert Panel: Neuro-radiologist: <i>Aaron Kamer, MD</i> Neuro-pathologist: <i>Charles Eberhart, MD, PhD</i>	<b>International Ballroom I-II</b>

This session is designed to present complex neuro-ophthalmic cases that impact the human visual pathways and ocular motor systems. The format is a clinicopathologic conference. Clinical cases will be presented by neuro-ophthalmologists with comments by a neuro-radiologist, neuro-pathologist and other selected experts. Neuroimaging, laboratory and surgical pathology data will help illustrate clinical points. Cases will be discussed from clinical, anatomic, radiologic and pathologic aspects with emphasis on diagnosis, pathophysiology and management.

Upon completion of this session, participants should be able to: (1) identify the varied presentations of neuro-ophthalmic disease, (2) relate the anatomic localization and histopathologic appearance with the clinical presentations, (3) use radiologic procedures in diagnosis effectively, (4) distinguish both the value and limitations of neuropathology, and (5) discuss newly described diseases and their connection.

*Moderators: Ore-Ofe Adesina, MD and Devin Mackey, MD*

7:30 am – 7:45 am	<b>Welcome/Introduction</b>	
7:45 am – 8:05 am	<b>Under Pressure to Find a Diagnosis, Deena Tajfirouz, MD</b>	
8:05 am – 8:25 am	<b>We Can Hardly Believe Our Eyes, Andrew Dugue, MD</b>	
8:25 am – 8:45 am	<b>Check Your Assumptions at the Door, Mazin Elsarrag, MD</b>	
8:45 am – 9:05 am	<b>The Guts of the Matter, Lauren Colwell, MD</b>	
9:05 am – 9:25 am	<b>NMO or NOT NMO, That Is the Question, Carolyne Riehle, DO</b>	
9:25 am – 9:30 am	<b>Wrap-Up</b>	
9:30 am – 10:00 am	<b>Coffee Break</b>	<b>National Ballroom</b>
10:00 am – 11:45 am	<b>Frank B. Walsh (II): “Frontierland” [1.75 CME]</b> <i>Moderators: Lakshmi Leishangthem, MD and Valerie Purvin, MD</i>	<b>International Ballroom I-II</b>
10:00 am – 10:20 am	<b>Doctor, I Am Pregnant and My Eye Is Blind, Misha Pless, MD</b>	
10:20 am – 10:40 am	<b>When You Hear Hoofbeat.... Sachin Kedar, MD</b>	
10:40 am – 11:00 am	<b>Double, Double, Toil and Trouble, Kathleen Louis-Gray, MD, PhD</b>	
11:00 am – 11:20 am	<b>Crossed Signals: Double and Unsteady, Aishwarya Sriram, MD</b>	
11:20 am – 11:40 am	<b>Do Not Touch Me! Armin Handzic, MD</b>	
11:40 am – 11:45 am	<b>Morning Wrap-Up</b>	
11:45 am – 12:30 pm	<b>Lunch</b>	<b>National Ballroom</b>
12:00 pm – 1:00 pm	<b>Fellowship Directors Committee Meeting</b>	<b>Oakmont</b>
12:00 pm – 2:30 pm	<b>Meet the Poster Author: Descriptive Studies</b>	<b>National Ballroom</b>
12:00 pm – 1:00 pm	Odd Numbered Posters	
1:30 pm – 2:30 pm	Even Numbered Posters	

2:30 pm – 3:00 pm	<b>Business Meeting</b>	<b>International Ballroom I-II</b>
3:00 pm – 5:00 pm	<b>Frank B. Walsh (III): “Tomorrowland” [2.0 CME]</b> <i>Moderators: Melissa W. Ko, MD, MBA, CPE and Kevin E. Lai, MD</i>	<b>International Ballroom I-II</b>
3:00 pm – 3:20 pm	<b>Late Blooming Blindness, Kevin Chodnicki, MD</b>	
3:20 pm – 3:40 pm	<b>Bumping Into Bottlenecks, Frank Abella Ayala, MD</b>	
3:40 pm – 4:00 pm	<b>A Not So Sweet Case of Papilledema, Meari Taguchi, MD</b>	
4:00 pm – 4:20 pm	<b>Lost in the Sauce, Jessica Kraker, MD, MS</b>	
4:20 pm – 4:40 pm	<b>Gaslight, Michael Vaphiades, DO</b>	
4:40 pm – 5:00 pm	<b>Closing</b>	
5:15 pm – 5:45 pm	<b>Walsh Committee Meeting</b>	<b>Oakmont</b>
5:45 pm – 6:45 pm	<b>Members-in-Training Reception</b>	<b>International Ballroom III</b>

This reception is for all Students, Residents, Fellows-in-Training, NANOS Board of Directors members, Fellowship Directors, Student Clerkship, and Neurology and Ophthalmology Residency Directors.

**Monday – March 13<sup>th</sup>**

6:00 am – 6:45 am	<b>Yoga</b>	<b>Augusta</b>
6:45 am – 7:15 am	<b>OMIC Breakfast Symposium</b>	<b>International Ballroom III</b>

The lecture will present a review of recent lawsuits alleging failure to diagnose giant cell arteritis (GCA) and the challenges of defending those claims. We will offer risk management recommendations for preventing GCA claims, including how a thorough medical history, quality of communication between staff and physicians, and coordination of care with other providers can lead to earlier diagnosis. OMIC’s sample GCA checklist will also be discussed.

6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b>	<b>National Ballroom</b>
6:30 am – 7:30 am	<b>Breakfast with the Novices</b>	<b>National Ballroom</b>

Join us in the reserved Young Neuro-Ophthalmologists (YONO) area at breakfast for table discussions led by senior members and/or YONOs to discuss topics relevant to aspiring or current YONOs: (1) Designing a Career in Clinical Neuro-Ophthalmology, (2) Designing a Career in Surgical Neuro-Ophthalmology, and (3) Medical Students and Residents - Neuro-Ophthalmology as a Career and Routes to Get There.

6:30 am – 5:00 pm	<b>Registration/Help Desk</b>	<b>Rotunda</b>
6:30 am – 7:30 am	<b>NOVEL/Editorial Board/Curriculum Committee Meeting</b>	<b>Oakmont</b>
6:30 am – 7:15 am	<b>DEI Committee Meeting</b>	<b>St. Andrews B</b>
7:30 am – 9:30 am	<b>Hot Topics [2.0 CME]</b> <i>Moderators: Marc Dinkin, MD, and Meagan D. Seay, DO</i>	<b>International Ballroom I-II</b>

This session will review a variety of up-to-date, clinically relevant, neuro-ophthalmic topics. Presenters will discuss the utility of tPA in acute treatment of central retinal artery occlusions (CRAO) and present data from a large single-health-system regarding experience with acute treatment of CRAO. The session will then transition to physician use of social media where attendees will learn about the evolution of social media, potential adverse effects, followed by the future of social media in practice development and education. This will be followed by a presentation on ocular imaging, with focus on optical coherence tomography angiography (OCT-A) and OCT enhanced depth imaging (EDI), along with a flash overview of additional future clinically useful imaging modalities. The session will wrap up with two presentations on visual snow syndrome, including appropriate workup and differential diagnoses to ensure we are not missing a secondary etiology of visual snow syndrome, along with updates on pathophysiology and treatments.

Upon completion of this sessions, participants should be able to: (1) review the latest data and real-world experience from a single-health-system regarding acute treatment of central retinal artery occlusions, (2) describe the impact that physician use of social media has, for better and worse, on patient care and education, (3) review modern ocular imaging modalities and identify use of these modalities for better patient care, and (4) review appropriate diagnostic techniques, pathophysiology, and treatment of visual snow syndrome.

7:30 am – 7:35 am	<b>Welcome</b> , Peter Quiros, MD	
7:35 am – 7:55 am	<b>Acute Therapeutic Options for CRAO: To TPA or Not?</b> <i>Oana M. Dumitrascu, MD, MS</i>	
7:55 am – 8:05 am	<b>The Real-World Experience in a Single Health System (Kaiser Protocol and Effectiveness of Protocol)</b> , <i>Guy Jirawuthiworavong, MD, MA</i>	
8:05 am- 8:20 am	<b>Physician Use of Social Media - Hazards and Opportunities</b> , <i>Melissa W. Ko, MD, MBA, CPE</i>	
8:20 am – 8:35 am	<b>Ocular Imaging, EDI, OCTA and Beyond: Where Are We, What Good Is It?</b> <i>Randy Kardon, MD, PhD</i>	
8:35 am – 9:05 am	<b>Visual Snow Syndrome</b>	
8:35 am – 8:50 am	<b>Differential Diagnosis and Workup</b> , <i>Michael Vaphiades, DO</i>	
8:50 am – 9:05 am	<b>Pathophysiology/Treatment</b> , <i>Owen B. White, MD, PhD, FRACP</i>	
9:05 am – 9:30 am	<b>Q&amp;A</b>	
9:30 am – 10:00 am	<b>Coffee with Exhibitors</b>	<b>National Ballroom</b>
10:00 am – 12:00 pm	<b>State of the Art - Global Perspectives [2.0 CME]</b> <i>Moderators: Claire Fraser, MBBS, FRANZCO, Karl Golnik, MD, Med, and Hadas Stiebel-Kalish, MD</i>	<b>International Ballroom I-II</b>

In this session we will hear the international perspective on the diagnosis and management of two common neuro-ophthalmic presentations. First, we will discuss a case of optic neuritis. Each speaker will approach this case from the perspective of the underlying diagnosis and associated management that is most common in their local hospitals. Our European speaker will discuss ON related to multiple sclerosis. From America and Asia ON related to myelin oligodendrocyte glycoprotein and neuro-myelitis optica will be discussed. We will hear about infective optic neuritis and the presentations seen in an Indian setting. This will highlight all major causes of optic neuritis from an international perspective and provide an insight into management of patients that might come to our clinics from different geographical areas and ethnic backgrounds. Second, we will discuss a case of idiopathic intracranial hypertension (IIH). Our two speakers will discuss similarities and differences in management style between their institutions. This will allow us to critically evaluate our own practices and how the experience of other centers might help in our own management.

Upon completion of this session, participants should be able to: (1) appraise different types of optic neuritis presentations, (2) employ different management strategies in patients with IIH and (3) formulate different management options depending on the type of optic neuritis.

10:00 am – 10:05 am	<b>Optic Neuritis (Case Presentation)</b>
10:05 am – 10:20 am	<b>African/Indian Perspective – It Could Be Infective</b> , <i>Selvakumar Ambika, DO, DNB</i>
10:20 am – 10:35 am	<b>European Perspective – It Could Be MS</b> , <i>Axel Petzold, MD, PhD, FRCP, FRCPath, FRCOphth</i>
10:35 am – 10:50 am	<b>Asian Perspective – It Could Be NMO</b> , <i>Dan Milea, MD, PhD</i>
10:50 am – 11:05 am	<b>American Perspective - It Could Be MOG</b> , <i>Eric Eggenberger, DO, MSEpi</i>
11:05 am – 11:15 am	<b>Q&amp;A</b>
11:15 am – 11:20 am	<b>IIH (Case Presentation)</b>
11:20 am – 11:35 am	<b>Idiopathic Intracranial Hypertension - The US Viewpoint</b> , <i>Deborah Friedman, MD, MPH</i>
11:35 am – 11:50 am	<b>Idiopathic Intracranial Hypertension: Management Challenges</b> ,

Susan P. Mollan, FRCOphth

11:50 am – 12:00 pm

**Q&A**

12:00 pm – 12:10 pm

**NOVEL Update, Kathleen Digre, MD**

**International Ballroom I-II**

12:10 pm – 1:30 pm

**Lunch Break**

12:20 pm – 1:20 pm

**Real World Experience with a Treatment for Thyroid Eye Disease (TED)\*, Kimberly Cockerham, MD, FACS**

**International Ballroom III**

*\*This lunch symposium is organized by Horizon Therapeutics.*

Learn about key clinical data and explore case studies of chronic TED and compressive optic neuropathy (CON) patients. This presentation is intended for U.S.-based healthcare professionals.

1:30 pm – 3:15 pm

**Optional Symposium - Neuro-Ophthalmic Genetics: When, How, in Whom and Why to Do Genetic Testing [1.75 CME]**

**International Ballroom I-II**

*Panel: Neringa Jurkute, MD, FEBO, Andrew G. Lee, MD, and Dan Milea, MD*

This session will use a case-based format to discuss the practical genetic testing, indications, and strategies for specific ophthalmic genetic conditions in neuro-ophthalmology. The moderator will present cases followed by short scientific talks from experts in the field of ophthalmic genetics highlighting the practical and theoretic applications of modern genetic testing. Each case will end with a practical strategy from an experienced clinician in ophthalmic genetic disorders.

Upon completion of this session, participants should be able to: (1) define the different strategies for genetic testing for ophthalmic disorders, (2) list the best test for specific individual clinical presentations, (3) describe the pros and cons including cost for each testing strategy, and (4) list the common neuro-ophthalmic conditions that warrant consideration for genetic testing.

1:30 pm – 1:35 pm

**Introduction, Andrew G. Lee, MD**

1:35 pm – 1:50 pm

**When to Suspect a Hereditary Condition? Dan Milea, MD**

1:50 pm – 1:55 pm

**Q&A**

1:55 pm – 2:10 pm

**Practical Applications of Genetic Testing, Neringa Jurkute, MD, FEBO**

2:10 pm – 2:15 pm

**Q&A**

2:15 pm – 2:30 pm

**Science and Advances of Genetic Testing, Dan Milea, MD and Neringa Jurkute, MD, FEBO**

2:30 pm – 2:35 pm

**Q&A**

2:35 pm – 3:05 pm

**Clinical Cases Presentation for Panel, Andrew G. Lee, MD**

3:05 pm – 3:15 pm

**Q&A and Closing**

5:00 pm – 7:00 pm

**Scientific Platform Session I [2.0 CME]**

**International Ballroom I-II**

*Moderators: Beau Bruce, MD, PhD and Stacy Pineles, MD*

5:00 pm – 5:15 pm

**The Impact of Acetylcholine Receptor Antibody Titers in Acetylcholine Receptor Antibody-Positive Ocular Myasthenia Gravis: Generalization, Presence of Thyroid Autoimmune Antibodies, and Thymoma, Montana Supawongwattana, MD**

5:15 pm – 5:30 pm

**Visual Field Loss in Children With Sporadic and Neurofibromatosis Type 1 (NF1)-Associated Optic Pathway Gliomas: Baseline Characteristics From a Multicenter, Prospective Natural History Study, Gena Heidary, MD, PhD**

5:30 pm – 5:45 pm	<b>Chiasmal Misrouting in Infantile Nystagmus Syndrome (INS): Phenotypes in Patients With Molecular Diagnoses</b> , <i>Michael James Gilhooley, MB, PhD, FRCOphth</i>
5:45 pm – 6:00 pm	<b>Artificial Intelligence to Classify Fundus Photographs of Pediatric Pseudopapilledema and True Papilledema</b> , <i>Melinda Chang, MD</i>
6:00 pm – 6:15 pm	<b>Detection of Papilledema on Non-Mydriatic Ocular Fundus Photography In the Emergency Department: Application of the BONSAI Deep Learning System (DLS) To the FOTO-ED Study</b> , <i>Valerie Biousse, MD</i>
6:15 pm – 6:30 pm	<b>Ocular Deformities in Spaceflight-Associated Neuro-Ocular Syndrome and Idiopathic Intracranial Hypertension</b> , <i>Patrick Sibony, MD</i>
6:30 pm – 6:45 pm	<b>Impact of Valsalva and Exercise in Idiopathic Intracranial Hypertension</b> , <i>Alex Sinclair, MD, PhD</i>
6:45 pm – 7:00 pm	<b>Swelling of Atrophic Optic Discs in Idiopathic Intracranial Hypertension</b> , <i>Jim Xie, BHSc</i>

## Tuesday – March 14<sup>th</sup>

6:00 am – 6:45 am	<b>Yoga</b>	<b>Augusta</b>
6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b>	<b>National Ballroom</b>
6:30 am – 7:30 am	<b>Breakfast with the Novices</b>	<b>National Ballroom</b>

Join us in the reserved Young Neuro-Ophthalmologists (YONO) area at breakfast for table discussions led by senior members and/or YONOs to discuss topics relevant to aspiring or current YONOs: (1) Academic vs Private Practice vs Hybrid Models of Practice, (2) Negotiating/Interviewing, and (3) Career Trajectories in Neuro-Ophthalmology.

6:30 am – 6:00 pm	<b>Registration/Help Desk</b>	<b>Rotunda</b>
6:30 am – 7:30 am	<b>JNO Editorial Board Meeting</b>	<b>Oakmont</b>
6:30 am – 7:15 am	<b>International Relations Committee Meeting</b>	<b>St. Andrews B</b>
6:45 am – 7:15 am	<b>Don't Miss the Diagnosis: A Case Examination of a Rare and Devastating Demyelinating Disease*</b>	<b>International Ballroom III</b>

*\*This breakfast symposium is organized by Horizon Therapeutics.*  
Breakfast is provided by NANOS.

Can you identify this rare demyelinating disease? Join Benjamin Osborne, MD, as he reviews a patient case designed to provide education on detection and diagnosis of a disorder that, if left untreated, has devastating consequences. The program will then close with an opportunity to learn about an effective monotherapy that offers extensive patient protection from this disease.

7:30 am – 9:30 am	<b>Scientific Platform Session II [2.0 CME]</b> <i>Moderators: Robert Avery, DO, MSCE and Kimberly Gokoffski, MD, PhD</i>	<b>International Ballroom I-II</b>
7:30 am – 7:45 am	<b>VRDN-001, a Full Antagonist Antibody to IGF-1 Receptor for Thyroid Eye Disease (TED): Phase 1/2 Clinical Study in Patients</b> , <i>Raymond Douglas, MD, PhD</i>	
7:45 am – 8:00 am	<b>Horizontal Eye Movement as Retrolaminar Cerebrospinal Fluid (CSF) Pump in Primary Open Angle Glaucoma (POAG)</b> , <i>Joseph Demer, MD, PhD</i>	
8:00 am – 8:15 am	<b>In Vivo Application of Electric Fields Collaborate With rRHEB to Direct Optic Nerve Regeneration</b> , <i>Timothy Kim, JD</i>	
8:15 am – 8:30 am	<b>Epigenetic Reprogramming- A Novel Gene Therapy to Rejuvenate Injury-Induced Dysfunction of Retinal Ganglion Cells in Optic Neuropathies</b> , <i>Drenushe Krasniqi, BA</i>	
8:30 am – 8:45 am	<b>Functional and Structural ipRGC Alterations Across Alzheimer's</b>	

8:45 am – 9:00 am	<b>Disease Pathological Stages, Nicolae Sanda, MD, PhD</b> <b>Novel Cellular and Animal Models of Optic Disc Drusen, Y. Joyce Liao, MD, PhD</b>	
9:00 am – 9:15 am	<b>Elevated Intracranial Pressures and Papilledema in a Mouse Model of Glucocorticoid Induced Adrenal Insufficiency, Kevin Zhang, MD, PhD</b>	
9:15 am – 9:30 am	<b>Glucagon-Like Peptide-1 and Lipid Metabolism Are Associated With a Reduction in Intracranial Pressure in Idiopathic Intracranial Hypertension, Susan P. Mollan, FRCOphth</b>	
9:30 am – 10:00 am	<b>Coffee with Exhibitors</b> <i>(with support from GenSight Biologics)</i>	<b>National Ballroom</b>
10:00 am – 12:00 pm	<b>Scientific Platform Session III [2.0 CME]</b> <i>Moderators: Nagham Al-Zubidi, MD and Hong Jiang, MD, PhD</i>	<b>International Ballroom I-II</b>
10:00 am – 10:15 am	<b>Assessing the Impact of Idebenone in Leber’s Hereditary Optic Neuropathy According to Primary Mitochondrial DNA Mutation: Results From the LEROS Study, Nancy J. Newman, MD</b>	
10:15 am – 10:30 am	<b>Histopathological and Molecular Characterization in Ocular Post-Mortem Analyses Following AAV2 Gene Therapy for LHON, Alfredo Sadun, MD, PhD</b>	
10:30 am – 10:45 am	<b>Ophthalmic Features and Prevalence of Systemic Disorders in Participants in the QRK207 NAION Treatment Trial, Neil Miller, MD, FACS</b>	
10:45 am – 11:00 am	<b>Is There a Racial Predilection Among Non-Arteritic Anterior Ischemic Optic Neuropathy Patients in the US? Ana Banc, MD, PhD</b>	
11:00 am – 11:15 am	<b>Arteritic or Not? A Deep Learning System Can Accurately Distinguish Between Anterior Ischemic Optic Neuropathies on Ocular Fundus Photographs, Dan Milea, MD</b>	
11:15 am – 11:30 am	<b>Characterization of Subclinical Optic Nerve MRI Lesions in the N-Momentum Trial, Jeffrey Bennett, MD, PhD</b>	
11:30 am – 11:45 am	<b>Resting State Functional Connectivity Analysis Using Magnetoencephalography (MEG) Differs Between Visual Snow Patients and Controls, Jenny L. Hepschke, MBBS, BSc(Med), DM</b>	
11:45 am – 12:00 pm	<b>MBCT-Vision Improves Visual Snow Syndrome and Modulates Resting-State Functional MRI Connectivity of the Visual Network, Sui Wong, MBBS, MD</b>	
12:00 pm – 12:10 pm	<b>JNO Update</b>	<b>International Ballroom I-II</b>
12:20 pm – 1:20 pm	<b>Neuromyelitis Optica Spectrum Disorder: Management Updates and Challenging Clinical Cases*</b> <i>*This lunch symposium is organized by Vindico Medical Education with grant support from Genentech. CME for this content is provided directly by Vindico Medical Education.</i>	<b>International Ballroom III</b>

Upon completion of this session, participants should be able to: (1) review evidence-based criteria for diagnosing NMOSD as well as risk factors associated with relapse frequency and prognosis and (2) select therapy for patients with NMOSD based on the latest efficacy and safety data, including the ability to control acute attacks and prevent future relapses.



12:20 pm – 12:25 pm	<b>Introduction and Pre-test</b> , <i>Prem S. Subramanian, MD, PhD</i>
12:25 pm – 12:40 pm	<b>2023 NMOSD Management Updates</b> , <i>Benjamin M. Greenberg, MD, MHS, FANA, FAAN, CRND</i>
12:40 pm – 12:50 pm	<b>Challenging Case 1: Differential Diagnosis of NMOSD</b> , <i>Fiona Costello, MD, FRCPC</i>
12:50 pm – 12:55 pm	<b>Panel Discussion and Q&amp;A</b>
12:55 pm – 1:05 pm	<b>Challenging Case 2: Treatment of NMOSD</b> , <i>Prem S. Subramanian, MD, PhD</i>
1:05 pm – 1:10 pm	<b>Panel Discussion and Q&amp;A</b>
1:10 pm – 1:20 pm	<b>Post-test and Q&amp;A</b> , <i>Prem S. Subramanian, MD, PhD</i>

3:00 pm – 5:00 pm	<b>Young Neuro-Ophthalmologists (YONO) Forum</b>	<b>International Ballroom III</b>
6:00 pm – 8:30 pm	<b>Meet the Poster Author: Analytical Studies</b>	<b>National Ballroom</b>

Heavy hors d'oeuvres buffet and two drink tickets included. Guest must purchase tickets for \$150 per person online or onsite.

6:30 pm – 7:30 pm	Odd Numbered Posters
7:30 pm – 8:30 pm	Even Numbered Posters

8:30 pm – 9:30 pm	<b>Abstract Committee Meeting</b>	<b>Oakmont</b>
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**Wednesday – March 15<sup>th</sup>**

6:00 am – 6:45 am	<b>Yoga</b>	<b>Augusta</b>
6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b>	<b>National Ballroom</b>
6:30 am – 7:30 am	<b>Breakfast with the Novices</b>	<b>National Ballroom</b>

Join us in the reserved Young Neuro-Ophthalmologists (YONO) area at breakfast for table discussions led by senior members and/or YONOs to discuss topics relevant to aspiring or current YONOs: (1) Things I Wish I Knew Early in My Practice and (2) How to Prevent Burnout- Beyond Surviving, How to Thrive in Your Career.

6:30 am – 12:30 pm	<b>Registration/Help Desk</b>	<b>Rotunda</b>
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6:45 am – 7:15 am	<b>An Often Misdiagnosed Disease with Specific Ocular-Related Symptoms Featuring Dr. Daniel Lee</b>	<b>International Ballroom III</b>
	<i>*This breakfast symposium is organized by Catalyst Pharmaceuticals, Inc.</i>	
	Breakfast is provided by NANOS.	

A presentation describing clinical features and differential diagnosis of LEMS including treatment strategies, and data regarding FIRDAPSE, the only FDA approved treatment for LEMS.

7:30 am – 9:30 am	<b>Neuroimmunology [2.0 CME]</b>	<b>International Ballroom I-II</b>
	<i>Moderators: Jeffrey Bennett, MD, PhD and Amanda D. Henderson, MD</i>	

This neuroimmunology session is designed to provide participants with education regarding the pathophysiology of multiple sclerosis and myasthenia gravis, with an emphasis on potential treatment targets. This portion will be followed by an overview of available treatments, with a focus on treatment implementation strategies and potential neuro-ophthalmic side effects of immunomodulatory therapies.

Upon completion of this session, participants should be able to: (1) describe the neuroimmunologic mechanisms contributing to multiple sclerosis and myasthenia gravis, (2) select appropriate treatment agents for these diseases, and (3) list potential neuro-ophthalmic side effects of immune modulating therapies.

7:30 am – 7:48 am	<b>MS and the Immune System</b> , <i>Jennifer Graves, MD, PhD, MAS</i>
7:48 am – 8:06 am	<b>MS Treatment/Immune System Targets</b> , <i>Robert Shin, MD</i>
8:06 am – 8:24 am	<b>Neuro-Muscular Disease and the Immune System</b> , <i>Umapathi Thirugnanam, MD</i>
8:24 am – 8:42 am	<b>Neuro – Muscular Disease Treatment</b> , <i>Wayne T. Cornblath, MD</i>
8:42 am – 9:00 am	<b>Good Therapies Gone Bad - What the Neuro-Ophthalmologist Needs to Know</b> , <i>Fiona Costello, MD, FRCP</i>
9:00 am – 9:30 am	<b>Q&amp;A</b>

9:30 am – 10:00 am	<b>Coffee with Exhibitors</b>	<b>National Ballroom</b>
10:00 am – 11:30 am	<b>Ophthalmic Surgery in the Neuro-Ophthalmic Patient [1.5 CME]</b>	<b>International Ballroom I-II</b>
	<i>Moderators: Chantal Boisvert, OD, MD and Ellen B. Mitchell, MD</i>	

Because neuro-ophthalmology encompasses so many diseases, there are diverse options for a surgical practice. Even for non-surgical neuro-ophthalmologists, it is extremely important to understand the different procedures that can be performed and be aware of potential pitfalls for the patients seeking surgical alternatives. A panel of surgical neuro-ophthalmologists that perform these procedures would address different scenarios emphasizing potential pitfalls and counseling of patient.

Upon completion of this session, participants should be able to: (1) describe the pros and cons of premium intraocular lenses in patients with a history of optic neuritis, (2) identify the limitations of LASIK surgery in patients with double vision, (3) outline the challenges of lid surgery for the treatment of blepharospasm, (4) discuss the implications of a prior NAION when counseling patients undergoing cataract surgery, (5) list the indications/limitations of performing a second ONSF, and (6) summarize the medical and surgical treatment options in Thyroid Eye Disease.

10:00 am – 10:12 am	<b>I Had Optic Neuritis: Can I Get a Premium Lens?</b> <i>Bradley Katz, MD, PhD</i>
10:12 am – 10:24 am	<b>I Have Diplopia: Can I Get LASIK?</b> <i>Chantal Boisvert, OD, MD</i>
10:24 am – 10:36 am	<b>I Have Blepharospasm: Can I Get Lid Surgery? What About PSP?</b> <i>Valerie Elmalem, MD</i>
10:36 am – 10:48 am	<b>I Had NAION: Should I Be Worried About Cataract Surgery?</b> <i>Anthony Arnold, MD</i>
10:48 am – 11:00 am	<b>Can We Repeat an ONSF?</b> <i>Peter MacIntosh, MD</i>
11:00 am – 11:12 am	<b>Should I Have Teprotumumab or Surgery?</b> <i>Alison V. Crum, MD</i>
11:12 am – 11:30 am	<b>Q&amp;A</b>

11:30 am – 12:00 pm	<b>Jacobson Lecture - Pediatric Pseudotumor Cerebri Syndrome: A Journey [0.5 CME]</b>	<b>International Ballroom I-II</b>
	<i>Grant T. Liu, MD</i>	

Many of Daniel Jacobson's papers were based upon careful observations and important questions arising in neuro-ophthalmic patients he saw in his practice. This year's speaker, Grant Liu, has emulated this approach in his academic career. This talk will highlight Dr. Liu's contributions to the understanding of the demographics, designing the diagnostic criteria, and improving the management of pediatric pseudotumor cerebri syndrome.

Upon completion of this session, participants should be able to: (1) describe the demographic differences between adults and children with pseudotumor cerebri syndrome, (2) apply the reference range for CSF opening pressure in children, and (3) employ the diagnostic criteria for pediatric pseudotumor syndrome.

**12:10 pm – 1:10 pm**

**Thyroid Eye Disease: Hiding in Plain Sight?\***

**International Ballroom III**

*\*This lunch symposium is organized by Vindico Medical Education with grant support from Horizon Therapeutics. CME for this content is provided directly by Vindico Medical Education.*

Upon completion of this session, participants should be able to: (1) employ procedures and modalities that aid in the screening and differential diagnosis of TED and (2) recognize therapeutic regimens that improve the treatment and outcomes of patients with TED.

12:10 pm – 12:15 pm

**Introduction and Pre-test, Prem S. Subramanian, MD, PhD**

12:15 pm – 12:30 pm

**TED: Hiding in Plain Sight? Jennifer M. Loh, MD**

12:30 pm – 12:35 pm

**Case Presentation: Differential Diagnosis – Patient Presenting with Diplopia, Prem S. Subramanian, MD, PhD**

12:35 pm – 12:50 pm

**TED Treatment: Today's Options, Andrea Lora Kossler, MD, FACS**

12:50 pm – 12:55 pm

**Case Presentation: Treatment of TED, Prem S. Subramanian, MD, PhD**

12:55 pm – 1:10 pm

**Post-test and Q&A, Prem S. Subramanian, MD, PhD**

**1:15 pm – 2:45 pm**

**Time to Ask** (organized by the Women in Neuro-Ophthalmology Steering Committee)

**National Ballroom CD**

Let's talk about what scares us! Empowering members through social networking to discuss common fears, have uncomfortable conversations or discuss perceived "scary" topics. **All meeting attendees are welcome!**

**2:45 pm – 4:15 pm**

**Optional Symposium - Management of Neurologically Based Adult Strabismus [1.5 CME]**

**International Ballroom I-II**

*Moderators: Jason Peragallo, MD and Mehdi Tavakoli, MD*

This symposium is co-sponsored by the American Association for Pediatric Ophthalmology and Strabismus Adult Strabismus Committee. Diplopia and strabismus are commonly encountered in neuro-ophthalmic practice. Familiarity with management of strabismus resulting from neuro-ophthalmic pathologies is important for improving outcomes and proper counseling of patients. This symposium will review strategies and describe advances in the evaluation and treatment of diplopia resulting from neuro-ophthalmic entities. Basic and advanced surgical techniques for treatment of strabismus will be discussed.

Upon completion of this session, participants should be able to (1) describe surgical and non-surgical options for managing adult strabismus, (2) describe the management of complex strabismus in neuro-ophthalmology patients, and (3) describe advances in the evaluation of suspected cranial nerve palsies.

2:45 pm – 3:05 pm

**Basic Concepts and Surgical Management of Adult Strabismus From Neuro-Ophthalmic Entities, Alexis Flowers, MD**

3:05 pm – 3:25pm

**Superior Oblique Palsy and Its Mimics, Joseph L. Demer, MD, PhD**

3:25 pm – 3:45 pm

**Advanced Techniques in Surgical Management of Adult Strabismus From Neuro-Ophthalmic Diseases, Linda Dagi, MD**

3:45 pm – 4:05pm

**Sensory and Oculomotor Outcomes of Strabismus From Neurological Diseases, Gena Heidary, MD, PhD**

4:05 pm – 4:15 pm

**Q&A**

**4:45 pm – 5:45 pm**

**Consortium of Pediatric Neuro-Ophthalmologists (CPNO)**

**Oakmont**

All are welcome to attend!

6:30 pm – 11:00 pm

**Banquet**

**International Ballroom I-II**

Join your NANOS colleagues for networking and dancing at the Annual Banquet! Abstract awards will be presented. Music and dancing begin at 7:30 pm. Guest tickets are available for purchase at \$150 with online registration or onsite. Children's tickets are available for \$75 and can be purchased at the Registration Desk.

**Thursday – March 16<sup>th</sup>**

6:30 am – 12:00 pm

**Registration/Help Desk**

**Rotunda**

6:30 am – 7:30 am

**Breakfast**

**National Ballroom CD**

**7:30 am – 9:30 am**

**The Future of NO - Diversity, Equity, and Inclusion [2.0 CME]**

**International Ballroom I-II**

*Moderators: Patricia Johnston McNussen, MD and Claudia Maria Prospero Ponce, MD*

Neuro-Ophthalmology is a specialty that often provides a global holistic integration and understanding of visual function and its disorders: a unique problem-solving specialty. This session gives an overview of the current status, diversity reports and future of neuro-ophthalmology.

Upon completion of this session, participants should be able to: (1) describe the current state of the neuro-ophthalmology profession in the USA, (2) identify the strategies taken by neuro-ophthalmology leaders to evolve in the areas of diversity, equity and inclusion for all, and (3) explain the benefit of including diversity, equity and inclusion in the current and future practice of neuro-ophthalmology.

7:30 am – 7:46 am

**Neuro-Ophthalmology: Where Are We? - Workforce Report**

7:30 am – 7:38 am

**State of the Profession, Larry Frohman, MD**

7:38 am – 7:46 am

**Mismatch in Supply and Demand, Adam DeBusk, DO**

7:46 am – 7:55 am

**Q&A**

7:55 am – 8:55 am

**The Diversity Benefit - NANOS Diversity Report**

7:55 am – 8:05 am

**Diversity Benefit, Lynn Gordon, MD, PhD**

8:05 am – 8:35 am

**Culturally Responsive Health Care Delivery, César Briceño, MD**

8:35 am – 8:45 am

**Diversity Report, Ore-ofe Adesina, MD**

8:45 am – 8:55 am

**Telehealth: A Potential Solution to the Workforce and Diversity Problem or Not?, Kevin E. Lai, MD**

8:55 am – 9:05 am

**Q&A**

9:05 am – 9:30 am

**Where Are We Going? - The Pipeline Report**

9:05 am – 9:20 am

**Pipeline State of Affairs and Issues, Courtney E. Francis, MD, and Aimee Szewka, MD**

9:20 am – 9:30 am

**Pipeline Solutions, Collin McClelland, MD**

9:30 am – 9:35 am

**Q&A**

9:35 am – 10:00 am

**Coffee Break**

**National Ballroom CD**

10:00 am – 12:00 pm

**Insight Into Neuroanatomy: Learning From Pediatric Neuro-Ophthalmic Disorders [2.0 CME]**

**International Ballroom I-II**

This session will take us on a tour of the brain's anatomy by highlighting both the normal expected brain development and the diseases that result from abnormal brain development/maturation. We will focus on clinical disease to highlight the findings of basic science research. We have chosen 6 pediatric neuro-ophthalmic diseases that provide insight into brain development and will teach the most current understanding of neuropathology/neurophysiology that effects vision.

Upon completion of this session, participants should be able to : (1) describe neuro-ophthalmic focused neuroanatomy from early neurodevelopment during embryology, (2) apply current neuroanatomic localization or physiology to common neuro-ophthalmic conditions seen in clinic, and (3) formulate research or clinical therapeutic opportunities using the current understanding of the neuroanatomy.

10:00 am – 10:40 am	<b>Embryology &amp; Result of Pathway Disruption</b> <i>Moderator: Shannon Beres, MD</i>
10:00 am – 10:15 am	<b>Embryology of the Optic Nerve and Related Pathologies</b> , <i>Chaow Charoenkijakajorn, MD</i>
10:15 am – 10:30 am	<b>Optic Nerve Hypoplasia: Controversies in Embryogenesis</b> , <i>Michael Brodsky, MD</i>
10:30 am – 10:40 am	<b>Q&amp;A</b>
10:40 am – 11:20 am	<b>Postganglionic Tract Disruption</b> <i>Moderator: Melinda Chang, MD</i>
10:40 am – 10:55 am	<b>Insights Into the Neuroanatomy of Cerebral (Cortical) Visual Impairments</b> , <i>Corinna Bauer, PhD</i>
10:55 am – 11:10 am	<b>Transynaptic Retrograde Degeneration</b> , <i>Jonathan C. Horton, MD, PhD</i>
11:10 am – 11:20 am	<b>Q&amp;A</b>
11:20 am – 12:00 pm	<b>Amblyopia and Strabismus</b> <i>Moderator: Jason Peragallo, MD</i>
11:20 am – 11:35 am	<b>Structural Correlates of Amblyopia</b> , <i>Eric Gaier, MD, PhD</i>
11:35 am – 11:50 am	<b>Congenital Cranial Dysinnervation Disorders</b> , <i>Mary C. Whitman, MD</i>
11:50 am – 12:00 pm	<b>Q&amp;A</b>