



North American Neuro-Ophthalmology Society

49TH ANNUAL MEETING **NANOS**

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

ON DEMAND ACCESS
April 5 - August 31, 2023

SATURDAY, MARCH 11th*

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]	International Ballroom I-II
6:00 pm – 9:00 pm	Welcome Reception and Awards Ceremony (with support from Viridian Therapeutics, Inc.)	International Ballroom III

SUNDAY, MARCH 12th

6:30 am – 7:30 am	Breakfast	National Ballroom
6:30 am – 5:30 pm	Registration/Help Desk	Rotunda
7:30 am – 9:30 am	Frank B. Walsh (I): “Adventureland” [2.0 CME]	International Ballroom I-II
9:30 am – 10:00 am	Coffee Break	National Ballroom
10:00 am – 11:45 am	Frank B. Walsh (II): “Frontierland” [1.75 CME]	International Ballroom I-II
11:45 am – 12:30 pm	Lunch	National Ballroom
12:00 pm – 1:00 pm	Fellowship Directors Committee Meeting	Oakmont
12:00 pm – 2:30 pm	Meet the Poster Author: Descriptive Studies	National Ballroom
2:30 pm – 3:00 pm	Business Meeting	International Ballroom I-II
3:00 pm – 5:00 pm	Frank B. Walsh (III): “Tomorrowland” [2.0 CME]	International Ballroom I-II
5:15 pm – 5:45 pm	Walsh Committee Meeting	Oakmont
5:45 pm – 6:45 pm	Members-in-Training Reception	International Ballroom III

MONDAY – MARCH 13th

6:00 am – 6:45 am	Yoga	Augusta
6:45 am – 7:15 am	OMIC Breakfast Symposium	International Ballroom III
6:30 am – 7:30 am	Breakfast with Exhibitors	National Ballroom
6:30 am – 7:30 am	Breakfast with the Novices	National Ballroom
6:30 am – 5:00 pm	Registration/Help Desk	Rotunda
6:30 am – 7:30 am	NOVEL/Editorial Board/Curriculum Committee Meeting	Oakmont
6:30 am – 7:15 am	DEI Committee Meeting	St. Andrews B
7:30 am – 9:30 am	Hot Topics [2.0 CME]	International Ballroom I-II
9:30 am – 10:00 am	Coffee with Exhibitors	National Ballroom
10:00 am – 12:00 pm	State of the Art - Global Perspectives [2.0 CME]	International Ballroom I-II
12:00 pm – 12:10 pm	NOVEL Update	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)*	International Ballroom III
	<i>*This lunch symposium is organized by Horizon Therapeutics.</i>	
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
5:00 pm – 7:00 pm	Scientific Platform Session I [2.0 CME]	International Ballroom I-II

TUESDAY – MARCH 14th

6:00 am – 6:45 am	Yoga	Augusta
6:30 am – 7:30 am	Breakfast with Exhibitors	National Ballroom
6:30 am – 7:30 am	Breakfast with the Novices	National Ballroom
6:30 am – 6:00 pm	Registration/Help Desk	Rotunda
6:30 am – 7:30 am	JNO Editorial Board Meeting	Oakmont
6:30 am – 7:15 am	International Relations Committee Meeting	St. Andrews B
6:45 am – 7:15 am	Don't Miss the Diagnosis: A Case Examination of a Rare and Devastating Demyelinating Disease*	International Ballroom III
	<i>*This breakfast symposium is organized by Horizon Therapeutics. Breakfast is provided by NANOS.</i>	
7:30 am – 9:30 am	Scientific Platform Session II [2.0 CME]	International Ballroom I-II
9:30 am – 10:00 am	Coffee with Exhibitors (with support from GenSight Biologics)	National Ballroom
10:00 am – 12:00 pm	Scientific Platform Session III [2.0 CME]	International Ballroom I-II
12:00 pm – 12:10 pm	JNO Update	International Ballroom I-II
12:20 pm – 1:20 pm	Neuromyelitis Optica Spectrum Disorder: Management Updates and Challenging Clinical Cases*	International Ballroom III
	<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>	
3:00 pm – 5:00 pm	Young Neuro-Ophthalmologists (YONO) Forum	International Ballroom III
6:00 pm – 8:30 pm	Meet the Poster Author: Analytical Studies	National Ballroom
8:30 pm – 9:30 pm	Abstract Committee Meeting	Oakmont

WEDNESDAY – MARCH 15th

6:00 am – 6:45 am	Yoga	Augusta
6:30 am – 7:30 am	Breakfast with Exhibitors	National Ballroom
6:30 am – 7:30 am	Breakfast with the Novices	National Ballroom
6:30 am – 12:30 pm	Registration/Help Desk	Rotunda
6:45 am – 7:15 am	An Often Misdiagnosed Disease with Specific Ocular-Related Symptoms Featuring Dr. Daniel Lee*	International Ballroom III
	<i>*This breakfast symposium is organized by Catalyst Pharmaceuticals, Inc. Breakfast is provided by NANOS.</i>	
7:30 am – 9:30 am	Neuroimmunology [2.0 CME]	International Ballroom I-II
9:30 am – 10:00 am	Coffee with Exhibitors	National Ballroom
10:00 am – 11:30 am	Ophthalmic Surgery in the Neuro-Ophthalmic Patient [1.5 CME]	International Ballroom I-II
11:30 am – 12:00 pm	Jacobson Lecture - Pediatric Pseudotumor Cerebri Syndrome: A Journey [0.5 CME]	International Ballroom I-II
12:10 pm – 1:10 pm	Thyroid Eye Disease: Hiding in Plain Sight?*	International Ballroom III
	<i>*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.</i>	
1:15 pm – 2:45 pm	Time to Ask (organized by the Women in Neuro-Ophthalmology Steering Committee)	National Ballroom CD
2:45 pm – 4:15 pm	Optional Symposium - Management of Neurologically Based Adult Strabismus [1.5 CME]	International Ballroom I-II
4:45 pm – 5:45 pm	Consortium of Pediatric Neuro-Ophthalmologists (CPNO)	Oakmont
6:30 pm – 11:00 pm	Banquet	International Ballroom I-II

THURSDAY – MARCH 16th

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
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



MISSION :

NANOS is dedicated to achieving excellence in care of patients with neuro-ophthalmic diseases by the support and promotion of education, research, and the practice of neuro-ophthalmology.

Welcome

Hello! On behalf of the North American Neuro-Ophthalmology Society (NANOS), we are excited to welcome you to the 49th Annual Meeting in Orlando, Florida.

The NANOS Annual Meeting continues to be the premier meeting for cutting-edge innovation and advances in Neuro-Ophthalmology. This year's meeting will provide a forum for everyone to come together from across the globe to share expertise and advance the field of Neuro-Ophthalmology through case discussions, didactic sessions, workshops, and networking opportunities. We look forward to your being part of it!

The NANOS Scientific Program Committee has developed a spectacular program. This year's meeting covers many topics and features symposia on *Hot Topics!*, *State of the Art- Global Perspectives*, *Neuro-Ophthalmic Genetics: When, How, in Whom, and Why to do Genetic Testing*, *Neuroimmunology*, *Ophthalmic Surgery in the Neuro-Ophthalmic Patient*, *Management of Neurologically Based Adult Strabismus*, *The Future of NO – Diversity, Equity, and Inclusion*, *Insight Into Neuroanatomy: Learning from Pediatric Neuro-Ophthalmic Disorders*, and more. To accommodate the continual growth of high-quality abstract submissions, NANOS will host two Meet the Poster Author Sessions that will include both Descriptive Studies and Analytical Studies in Neuro-Ophthalmology. By popular demand, our posters will be featured virtually to allow for more viewing time prior to the Meet the Poster Author sessions. Our platform sessions will feature the highest caliber of innovative scientific presentations.

Please join us at the Welcome Reception and Awards Ceremony (supported by Viridian Therapeutics, Inc.) on Saturday, March 11 at 6:00 pm. Heavy hors d'oeuvres and two drink tickets are provided. **NEW THIS YEAR!** The Awards Ceremony will begin at 7:30 pm. The Distinguished Service Award, Merit Awards, Neuro-Ophthalmology Champion Award, Dr. Ivy Dreizin WIN Leadership Grant, Hoyt Lecture Award, J. Lawton Smith Award, Top NOVEL Contributors, Pilot Research Grant, and Travel Grant recipients will be presented. Join us for the NANOS Open Mic that will start at 8:00 pm. Guest tickets are available for \$150. Discounted children's guest tickets are also available.

Be sure to attend the Business Meeting on Sunday, March 12 at 2:30 pm.

Breakfast for registrants only will be provided daily. Lunch will be provided on Sunday, March 12. All registered attendees are invited to participate in the industry breakfast symposiums provided by Horizon Therapeutics (Tuesday) and Catalyst Pharmaceuticals, Inc. (Wednesday) and the lunch symposiums presented by Horizon Therapeutics (Monday) and Vindico Medical Education (Tuesday and Wednesday; CME credit offered).

Finally, join us for a fun night of networking and dancing at the Annual Banquet on Wednesday, March 15! Dinner will begin at 6:30 pm, followed by music and dancing at 7:30 pm. Abstract awards will be presented. Guest tickets are available for purchase for \$150 with online registration or onsite. Discounted children's guest tickets are also available.

I want to personally thank the Scientific Program Committee, Walsh Committee and Organizers, Abstract Committee, Development Committee, NANOS Board of Directors, Meeting Faculty, NANOS Executive Office, and everyone else who has generously donated their time and efforts to put together this outstanding meeting.

I hope you enjoy the 2023 NANOS Annual Meeting!

Prem S. Subramanian, MD, PhD
NANOS President



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GENERAL INFORMATION

EXHIBITOR HOURS:

This year's Exhibit Hall is in **National Ballroom**. The Exhibit Hall will be open during the days and times listed below. Be sure to visit the exhibitors during breakfast and coffee breaks, as they help make this meeting possible!

Monday, March 13 th	6:30 am – 10:00 am
Tuesday, March 14 th	6:30 am – 10:00 am
	6:00 pm – 8:30 pm (optional)
Wednesday, March 15 th	6:30 am – 10:00 am

NANOS REGISTRATION/HELP DESK HOURS:

Location:	Rotunda
Saturday:	2:00 pm – 7:30 pm
Sunday:	6:30 am – 5:30 pm
Monday:	6:30 am – 5:00 pm
Tuesday:	6:30 am – 6:00 pm
Wednesday:	6:30 am – 12:30 pm
Thursday:	6:30 am – 12:00 pm

WIFI INSTRUCTIONS:

Network name: **NANOS**
Passcode: **NANOS2023**



ANNUAL MEETING FUNDRAISER

LIVE DONATION DRIVE

Join NANOS live donation drive at the NANOS 2023 Annual Meeting and make a difference today!

Visit

<https://www.giveonsite.com/nanos/>
or scan QR code to learn more.

NANOS is a 501(c)(3) not-for-profit organization and contributions are deductible to the extent allowed by law.





CME



JOINT ACCREDITATION™
INTERPROFESSIONAL CONTINUING EDUCATION

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.

Claiming CME is easy:

Click on the Evaluations icon in the mobile app and complete the evaluation icon OR visit the Annual Meeting Website (login required) and click on the Evaluations link to complete the evaluations for each session you attended.

Complete the Meeting Evaluation. Once you submit the evaluation, you will be given a link to download your CME Certificate and receive an email confirmation with the link to download your certificate.

If claiming MOC credits, you must complete the Pre-Test and Post-Test. MOC credits should be self-reported directly in your ABO/ABPN account.

Total Annual Meeting Credits:

28.25 AMA PRA Category 1 Credits™

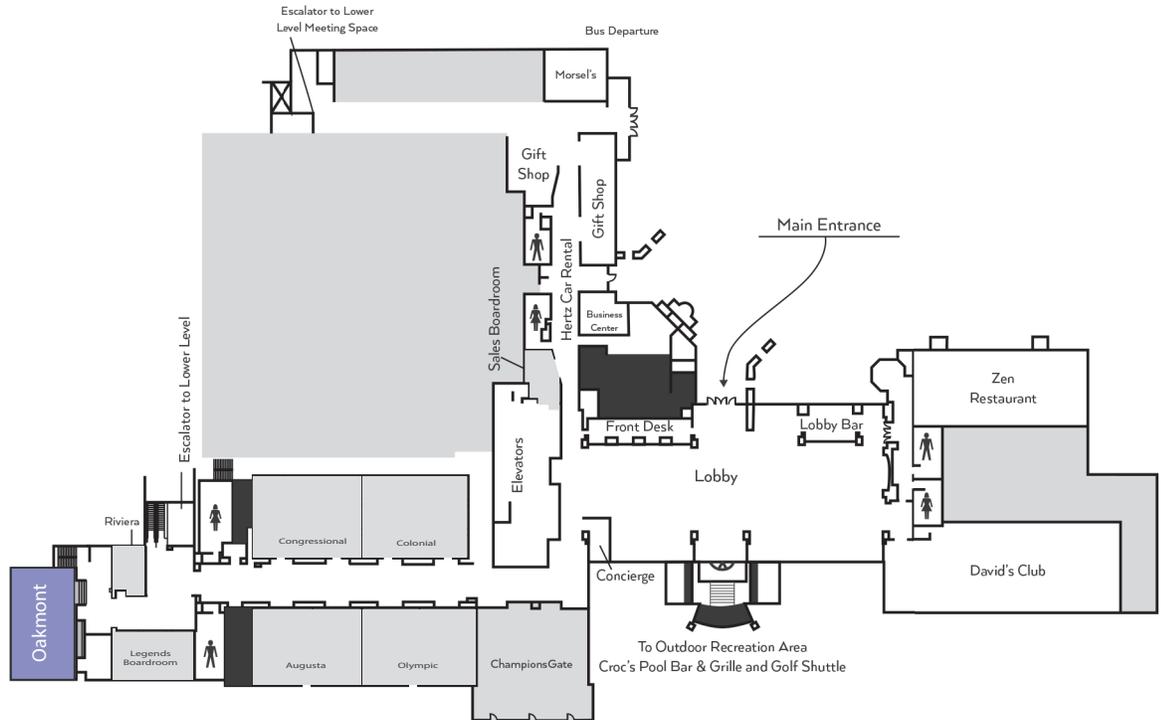
ABPN Self-Assessment CME

The American Board of Psychiatry and Neurology has reviewed the NANOS Annual Meeting and has approved this activity as part of a comprehensive self-assessment activity, which is managed by the ABMS as a necessary component of continuing certification. More information can be found at www.abpn.com.

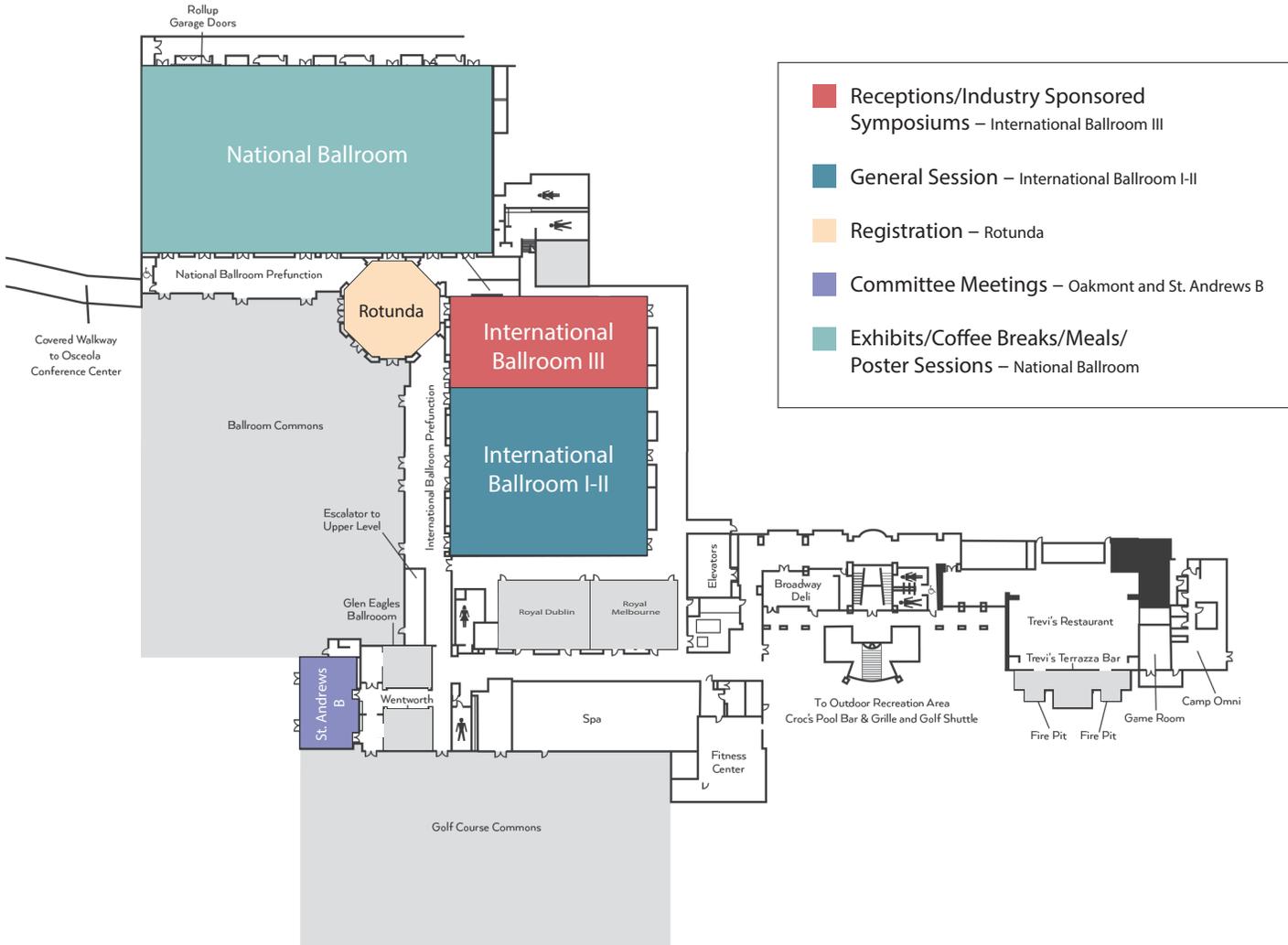
ABO Self-Assessment CME

Successful completion of this CME activity, which includes participation in the evaluation component, earns credit toward the Lifelong Learning Self-Assessment requirement for the American Board of Ophthalmology's Continuing Certification program.

LOBBY LEVEL



LOWER LOBBY LEVEL





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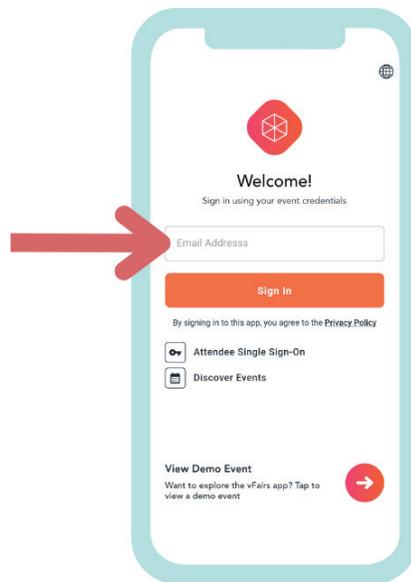


Google Play Store

Log in & Enter Event Space

Open the vFairs app and enter the email address and password you used to register for the 49th NANOS Annual Meeting.

Once you have successfully logged in, you must agree to abide by the NANOS Code of Conduct in order to enter the mobile app event space.



WELCOME TO NANOS 2023

PROGRAM



• • • TIMES ARE LISTED IN EASTERN DAYLIGHT TIME • • •

SATURDAY, MARCH 11th*

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	International Ballroom III
	<i>(with support from Viridian Therapeutics Inc.)</i>	

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 12th.
Don't forget to change your clock forward one hour!**



SUNDAY, MARCH 12th

6:30 am – 7:30 am	Breakfast	National Ballroom
6:30 am – 5:30 pm	Registration/Help Desk	Rotunda
7:30 am – 9:30 am	Frank B. Walsh (I): “Adventureland” [2.0 CME]	International Ballroom I-II
	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>	

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	Welcome/Introduction	
7:45 am – 8:05 am	Under Pressure to Find a Diagnosis , Deena Tajfirouz, MD	
8:05 am – 8:25 am	We Can Hardly Believe Our Eyes , Andrew Dugue, MD	
8:25 am – 8:45 am	Check Your Assumptions at the Door , Mazin Elsarrag, MD	
8:45 am – 9:05 am	The Guts of the Matter , Lauren Colwell, MD	
9:05 am – 9:25 am	NMO or NOT NMO, That Is the Question , Carolyne Riehle, DO	
9:25 am – 9:30 am	Wrap-Up	
9:30 am – 10:00 am	Coffee Break	National Ballroom
10:00 am – 11:45 am	Frank B. Walsh (II): “Frontierland” [1.75 CME]	International Ballroom I-II
	Moderators: Lakshmi Leishangthem, MD and Valerie Purvin, MD	
10:00 am – 10:20 am	Doctor, I Am Pregnant and My Eye Is Blind , Misha Pless, MD	
10:20 am – 10:40 am	When You Hear Hoofbeat.... Sachin Kedar, MD	
10:40 am – 11:00 am	Double, Double, Toil and Trouble , Kathleen Louis-Gray, MD, PhD	
11:00 am – 11:20 am	Crossed Signals: Double and Unsteady , Aishwarya Sriram, MD	
11:20 am – 11:40 am	Do Not Touch Me! Armin Handzic, MD	
11:40 am – 11:45 am	Morning Wrap-Up	
11:45 am – 12:30 pm	Lunch	National Ballroom
12:00 pm – 1:00 pm	Fellowship Directors Committee Meeting	Oakmont
12:00 pm – 2:30 pm	Meet the Poster Author: Descriptive Studies	National Ballroom
12:00 pm – 1:00 pm	Odd Numbered Posters	
1:30 pm – 2:30 pm	Even Numbered Posters	
2:30 pm – 3:00 pm	Business Meeting	International Ballroom I-II
3:00 pm – 5:00 pm	Frank B. Walsh (III): “Tomorrowland” [2.0 CME]	International Ballroom I-II
	Moderators: Melissa W. Ko, MD, MBA, CPE and Kevin E. Lai, MD	
3:00 pm – 3:20 pm	Late Blooming Blindness , Kevin Chodnicki, MD	
3:20 pm – 3:40 pm	Bumping Into Bottlenecks , Frank Abella Ayala, MD	
3:40 pm – 4:00 pm	A Not So Sweet Case of Papilledema , Meari Taguchi, MD	
4:00 pm – 4:20 pm	Lost in the Sauce , Jessica Kraker, MD, MS	
4:20 pm – 4:40 pm	Gaslight , Michael Vaphiades, DO	
4:40 pm – 5:00 pm	Closing	
5:15 pm – 5:45 pm	Walsh Committee Meeting	Oakmont
5:45 pm – 6:45 pm	Members-in-Training Reception	International Ballroom III

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.



PROGRAM



MONDAY, MARCH 13th

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

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	Breakfast with Exhibitors	National Ballroom
6:30 am – 7:30 am	Breakfast with the Novices	National Ballroom

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	Registration/Help Desk	Rotunda
6:30 am – 7:30 am	NOVEL/Editorial Board/Curriculum Committee Meeting	Oakmont
6:30 am – 7:15 am	DEI Committee Meeting	St. Andrews B
7:30 am – 9:30 am	Hot Topics [2.0 CME]	International Ballroom I-II

Moderators: Marc Dinkin, MD, and Meagan D. Seay, DO

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	Welcome, Peter Quiros, MD
7:35 am – 7:55 am	Acute Therapeutic Options for CRAO: To TPA or Not? Oana M. Dumitrascu, MD, MS
7:55 am – 8:05 am	The Real-World Experience in a Single Health System (Kaiser Protocol and Effectiveness of Protocol), Guy Jirawuthiworavong, MD, MA
8:05 am – 8:20 am	Physician Use of Social Media - Hazards and Opportunities, Melissa W. Ko, MD, MBA, CPE
8:20 am – 8:35 am	Ocular Imaging, EDI, OCTA and Beyond: Where Are We, What Good Is It? Randy Kardon, MD, PhD
8:35 am – 9:05 am	Visual Snow Syndrome
8:35 am – 8:50 am	Differential Diagnosis and Workup, Michael Vaphiades, DO
8:50 am – 9:05 am	Pathophysiology/Treatment, Owen B. White, MD, PhD, FRACP
9:05 am – 9:30 am	Q&A

9:30 am – 10:00 am	Coffee with Exhibitors	National Ballroom
10:00 am – 12:00 pm	State of the Art - Global Perspectives [2.0 CME]	International Ballroom I-II
	<i>Moderators: Claire Fraser, MBBS, FRANZCO, Karl Golnik, MD, Med, and Hadas Stiebel-Kalish, MD</i>	

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

PROGRAM

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 **Chiasmal Misrouting in Infantile Nystagmus Syndrome (INS): Phenotypes in Patients With Molecular Diagnoses, Michael James Gilhooley, MB, PhD, FRCOphth**
5:45 pm – 6:00 pm **Artificial Intelligence to Classify Fundus Photographs of Pediatric Pseudopapilledema and True Papilledema, Melinda Chang, MD**
6:00 pm – 6:15 pm **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, Valerie Biousse, MD**
6:15 pm – 6:30 pm **Ocular Deformities in Spaceflight-Associated Neuro-Ocular Syndrome and Idiopathic Intracranial Hypertension, Patrick Sibony, MD**
6:30 pm – 6:45 pm **Impact of Valsalva and Exercise in Idiopathic Intracranial Hypertension, Alex Sinclair, MD, PhD**
6:45 pm – 7:00 pm **Swelling of Atrophic Optic Discs in Idiopathic Intracranial Hypertension, Jim Xie, BHSc**





TUESDAY, MARCH 14th

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

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

**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	Scientific Platform Session II [2.0 CME]	International Ballroom I-II
	<i>Moderators: Robert Avery, DO, MSCE and Kimberly Gokoffski, MD, PhD</i>	
7:30 am – 7:45 am	VRDN-001, a Full Antagonist Antibody to IGF-1 Receptor for Thyroid Eye Disease (TED): Phase 1/2 Clinical Study in Patients , <i>Raymond Douglas, MD, PhD</i>	
7:45 am – 8:00 am	Horizontal Eye Movement as Retrolaminar Cerebrospinal Fluid (CSF) Pump in Primary Open Angle Glaucoma (POAG) , <i>Joseph Demer, MD, PhD</i>	
8:00 am – 8:15 am	In Vivo Application of Electric Fields Collaborate With rRHEB to Direct Optic Nerve Regeneration , <i>Timothy Kim, JD</i>	
8:15 am – 8:30 am	Epigenetic Reprogramming- A Novel Gene Therapy to Rejuvenate Injury-Induced Dysfunction of Retinal Ganglion Cells in Optic Neuropathies , <i>Drenushe Krasniqi, BA</i>	
8:30 am – 8:45 am	Functional and Structural ipRGC Alterations Across Alzheimer's Disease Pathological Stages , <i>Nicolae Sanda, MD, PhD</i>	
8:45 am – 9:00 am	Novel Cellular and Animal Models of Optic Disc Drusen , <i>Y. Joyce Liao, MD, PhD</i>	
9:00 am – 9:15 am	Elevated Intracranial Pressures and Papilledema in a Mouse Model of Glucocorticoid Induced Adrenal Insufficiency , <i>Kevin Zhang, MD, PhD</i>	
9:15 am – 9:30 am	Glucagon-Like Peptide-1 and Lipid Metabolism Are Associated With a Reduction in Intracranial Pressure in Idiopathic Intracranial Hypertension , <i>Susan P. Mollan, FRCOphth</i>	

PROGRAM

9:30 am – 10:00 am	Coffee with Exhibitors National Ballroom <i>(with support from GenSight Biologics)</i>
10:00 am – 12:00 pm	Scientific Platform Session III [2.0 CME] International Ballroom I-II <i>Moderators: Nagham Al-Zubidi, MD and Hong Jiang, MD, PhD</i>
10:00 am – 10:15 am	Assessing the Impact of Idebenone in Leber’s Hereditary Optic Neuropathy According to Primary Mitochondrial DNA Mutation: Results From the LEROS Study , <i>Nancy J. Newman, MD</i>
10:15 am – 10:30 am	Histopathological and Molecular Characterization in Ocular Post-Mortem Analyses Following AAV2 Gene Therapy for LHON , <i>Alfredo Sadun, MD, PhD</i>
10:30 am – 10:45 am	Ophthalmic Features and Prevalence of Systemic Disorders in Participants in the QRK07 NAION Treatment Trial , <i>Neil Miller, MD, FACS</i>
10:45 am – 11:00 am	Is There a Racial Predisposition Among Non-Arteritic Anterior Ischemic Optic Neuropathy Patients in the US? <i>Ana Banc, MD, PhD</i>
11:00 am – 11:15 am	Arteritic or Not? A Deep Learning System Can Accurately Distinguish Between Anterior Ischemic Optic Neuropathies on Ocular Fundus Photographs , <i>Dan Milea, MD</i>
11:15 am – 11:30 am	Characterization of Subclinical Optic Nerve MRI Lesions in the N-Momentum Trial , <i>Jeffrey Bennett, MD, PhD</i>
11:30 am – 11:45 am	Resting State Functional Connectivity Analysis Using Magnetoencephalography (MEG) Differs Between Visual Snow Patients and Controls , <i>Jenny L. Hepschke, MBBS, BSc(Med), DM</i>
11:45 am – 12:00 pm	MBCT-Vision Improves Visual Snow Syndrome and Modulates Resting-State Functional MRI Connectivity of the Visual Network , <i>Sui Wong, MBBS, MD</i>
12:00 pm – 12:10 pm	JNO Update International Ballroom I-II
12:20 pm – 1:20 pm	Neuromyelitis Optica Spectrum Disorder: Management Updates and Challenging Clinical Cases* International Ballroom III <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>
<p>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.</p>	
12:20 pm – 12:25 pm	Introduction and Pre-test , <i>Prem S. Subramanian, MD, PhD</i>
12:25 pm – 12:40 pm	2023 NMOSD Management Updates , <i>Benjamin M. Greenberg, MD, MHS, FANA, FAAN, CRND</i>
12:40 pm – 12:50 pm	Challenging Case 1: Differential Diagnosis of NMOSD , <i>Fiona Costello, MD, FRCPC</i>
12:50 pm – 12:55 pm	Panel Discussion and Q&A
12:55 pm – 1:05 pm	Challenging Case 2: Treatment of NMOSD , <i>Prem S. Subramanian, MD, PhD</i>
1:05 pm – 1:10 pm	Panel Discussion and Q&A
1:10 pm – 1:20 pm	Post-test and Q&A , <i>Prem S. Subramanian, MD, PhD</i>
3:00 pm – 5:00 pm	Young Neuro-Ophthalmologists (YONO) Forum International Ballroom III
6:00 pm – 8:30 pm	Meet the Poster Author: Analytical Studies National Ballroom
<p>Heavy hors d’oeuvres buffet and two drink tickets included. Guest must purchase tickets for \$150 per person online or onsite.</p>	
6:30 pm – 7:30 pm	Odd Numbered Posters
7:30 pm – 8:30 pm	Even Numbered Posters
8:30 pm – 9:30 pm	Abstract Committee Meeting Oakmont



WEDNESDAY, MARCH 15th

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

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

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

PROGRAM

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

9:30 am – 10:00 am	Coffee with Exhibitors	National Ballroom
10:00 am – 11:30 am	Ophthalmic Surgery in the Neuro-Ophthalmic Patient [1.5 CME]	International Ballroom I-II
	<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	I Had Optic Neuritis: Can I Get a Premium Lens? Bradley Katz, MD, PhD
10:12 am – 10:24 am	I Have Diplopia: Can I Get LASIK? Chantal Boisvert, OD, MD
10:24 am – 10:36 am	I Have Blepharospasm: Can I Get Lid Surgery? What About PSP? Valerie Elmalem, MD
10:36 am – 10:48 am	I Had NAION: Should I Be Worried About Cataract Surgery? Anthony Arnold, MD
10:48 am – 11:00 am	Can We Repeat an ONSF? Peter MacIntosh, MD
11:00 am – 11:12 am	Should I Have Teprotumumab or Surgery? Alison V. Crum, MD
11:12 am – 11:30 am	Q&A

11:30 am – 12:00 pm	Jacobson Lecture - Pediatric Pseudotumor Cerebri Syndrome: A Journey [0.5 CME]	International Ballroom I-II
	<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.



PROGRAM

THURSDAY, FEBRUARY 16th

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 , <i>Larry Frohman, MD</i>	
7:38 am – 7:46 am	Mismatch in Supply and Demand , <i>Adam DeBusk, DO</i>	
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 , <i>Lynn Gordon, MD, PhD</i>	
8:05 am – 8:35 am	Culturally Responsive Health Care Delivery , <i>César Briceño, MD</i>	
8:35 am – 8:45 am	Diversity Report , <i>Ore-ofe Adesina, MD</i>	
8:45 am – 8:55 am	Telehealth: A Potential Solution to the Workforce and Diversity Problem or Not? , <i>Kevin E. Lai, MD</i>	
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 , <i>Courtney E. Francis, MD, and Aimee Szewka, MD</i>	
9:20 am – 9:30 am	Pipeline Solutions , <i>Collin McClelland, MD</i>	
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	Embryology & Result of Pathway Disruption
	<i>Moderator: Shannon Beres, MD</i>
10:00 am – 10:15 am	Embryology of the Optic Nerve and Related Pathologies , <i>Chaow Charoenkijajorn, MD</i>
10:15 am – 10:30 am	Optic Nerve Hypoplasia: Controversies in Embryogenesis , <i>Michael Brodsky, MD</i>
10:30 am – 10:40 am	Q&A
10:40 am – 11:20 am	Postganglionic Tract Disruption
	<i>Moderator: Melinda Chang, MD</i>
10:40 am – 10:55 am	Insights Into the Neuroanatomy of Cerebral (Cortical) Visual Impairments , <i>Corinna Bauer, PhD</i>
10:55 am – 11:10 am	Transynaptic Retrograde Degeneration , <i>Jonathan C. Horton, MD, PhD</i>
11:10 am – 11:20 am	Q&A
11:20 am – 12:00 pm	Amblyopia and Strabismus
	<i>Moderator: Jason Peragallo, MD</i>
11:20 am – 11:35 am	Structural Correlates of Amblyopia , <i>Eric Gaier, MD, PhD</i>
11:35 am – 11:50 am	Congenital Cranial Dysinnervation Disorders , <i>Mary C. Whitman, MD</i>
11:50 am – 12:00 pm	Q&A

INDUSTRY SYMPOSIUMS

LOCATION: INTERNATIONAL BALLROOM III

MONDAY, MARCH 13

6:45 am – 7:15 am

OMIC Breakfast Symposium

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.

12:20 pm – 1:20 pm

Real World Experience with a Treatment for Thyroid Eye Disease (TED)*

**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.

Scan the QR code to register:



TUESDAY, MARCH 14

6:45 am – 7:15 am

Don't Miss the Diagnosis: A Case Examination of a Rare and Devastating Demyelinating Disease*

**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.

12:20 pm – 1:20 pm

Neuromyelitis Optica Spectrum Disorder: Management Updates and Challenging Clinical Cases*

**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.*

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.

Scan the QR code to register:



WEDNESDAY, MARCH 15

6:45 am – 7:15 am

An Often Misdiagnosed Disease with Specific Ocular-Related Symptoms Featuring Dr. Daniel Lee

**This breakfast symposium is organized by Catalyst Pharmaceuticals, Inc. 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.

Scan the QR code to register:



12:10 pm – 1:10 pm

Thyroid Eye Disease: Hiding in Plain Sight?*

**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.*

Scan the QR code to register:



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1

Electrophysiology done right! We can localize disorder and characterize dysfunction using retinal ERG, optic nerve VEP, psychophysical testing, and objective visual acuity (sweep VEP). Our complete visual electrophysiology suite of tests is suitable for both children and adults.

Horizon Therapeutics

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2

Horizon is a global biotechnology company focused on the discovery, development and commercialization of medicines that address critical needs for people impacted by rare, autoimmune and severe inflammatory diseases. Our pipeline is purposeful: We apply scientific expertise and courage to bring clinically meaningful therapies to patients. We believe science and compassion must work together to transform lives. For more information on how we go to incredible lengths to impact lives, visit www.horizontherapeutics.com and follow us on Twitter, LinkedIn, Instagram and Facebook.

Catalyst Pharmaceuticals, Inc.

<https://catalystpharma.com>
lglus@catalystpharma.com
305-420-3200



3

Catalyst Pharmaceuticals is a commercial-stage biopharmaceutical company focused on in-licensing, developing, and commercializing novel medicines for patients living with rare diseases. With exceptional patient focus, Catalyst is committed to developing a robust pipeline of cutting-edge, best-in-class medicines for rare diseases.

GenSight Biologics

www.gensight-biologics.com
jbenedicto@gensight-biologics.com
+33 1 76 21 72 20



4

GenSight Biologics is the first European biopharma company to develop and combine gene therapy with pioneering technology to create and give access to new therapeutic solutions for patients with severe ophthalmic diseases. Founded ten years ago, the company has a singular focus: to provide patients suffering from vision loss with access to innovative treatments. The company targets serious degenerative diseases of the eye and central nervous system by developing, testing and bringing to market leading-edge therapeutic approaches. To date, the company's therapeutic approaches have drawn upon two proprietary technology platforms: Mitochondrial Targeting Sequence, or MTS, and optogenetics.

M&S Technologies

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847-763-0500



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M&S sets the standard in computerized vision testing for 30+ years with its Smart System[®], a visual acuity system optimized with randomizable charts, contrast sensitivity and more. Our latest Smart System[®] VR Headset provides a more efficient and reliable approach to visual field testing. Lightweight, portable design with intuitive testing.

Nextech

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j.williams@nextech.com
800-868-3694



6

Nextech's Ophthalmology-specific EHR, improves patient care, simplifies compliance and comes fully integrated with an intuitive, user-friendly Practice Management solution. Experience the freedom of adaptable templates and intuitive workflows that streamline operations, improve performance and take the grunt work out of compliance. Visit www.nextech.com to learn more.

neuroClues (P3 Lab)

neuroclues.com
jean-baptiste.dehanne@neuroclues.com
+32 47 268 10 16



7

In a world where neurological disorders will affect 1 person in 3, neuroClues' mission is to empower clinicians with biomarkers allowing them to identify neurological disorders (Parkinson's Disease, Alzheimer's Disease, and Multiple Sclerosis) years before visible symptoms. Our goal is to support 10M patients by 2030.

Alexion, Astra Zeneca Rare Disease

www.alexion.com
Herman.Genderson@alexion.com
475-230-2596



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Alexion, AstraZeneca Rare Disease, is the group within AstraZeneca focused on rare diseases, created following the 2021 acquisition of Alexion Pharmaceuticals, Inc. As a leader in rare diseases for 30 years, Alexion is focused on serving patients and families affected by rare diseases and devastating conditions through the discovery, development and commercialization of life-changing medicines. Alexion focuses its research efforts on novel molecules and targets in the complement cascade and its development efforts on hematology, nephrology, neurology, metabolic disorders, cardiology and ophthalmology. Headquartered in Boston, Massachusetts, Alexion has offices around the globe and serves patients in more than 50 countries. For more information, please visit www.alexion.com.

machineMD

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MachineMD was founded by a neuro-ophthalmologist to radically improve the early detection of neurological disorders. Our unique combination of Virtual Reality and Artificial Intelligence empowers neurologists and ophthalmologists with reliable diagnostic data based on objective, reproducible and quantifiable measurements of oculomotor and pupillary function induced by visual stimuli.

Horizon Therapeutics

www.horizontherapeutics.com
224-383-3000

 HORIZON. 10

Horizon is a global biotechnology company focused on the discovery, development and commercialization of medicines that address critical needs for people impacted by rare, autoimmune and severe inflammatory diseases. Our pipeline is purposeful: We apply scientific expertise and courage to bring clinically meaningful therapies to patients. We believe science and compassion must work together to transform lives. For more information on how we go to incredible lengths to impact lives, visit www.horizontherapeutics.com and follow us on Twitter, LinkedIn, Instagram and Facebook.

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Journal of Neuro-Ophthalmology (JNO)

<https://journals.lww.com/jneuro-ophthalmology/pages/default.aspx>

Journal of Neuro-Ophthalmology 12

Journal of Neuro-Ophthalmology (JNO) is the official Journal of the North American Neuro-Ophthalmology Society. The Journal of Neuro-Ophthalmology keeps pace with important advances in all spheres of the neurologic and ophthalmologic sciences. Clinicians and researchers worldwide report on recent development in diagnosing and treating ophthalmologic, neurologic, endocrine, inflammatory, and neoplastic conditions affecting the oculomotor and visual systems.

LHON Project

www.LHON.org
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 LHON 13
Lower Inflammation Optic Neuropathy

The LHON Project provides education and support to LHON families through Zoom events on Navigating Education, Navigating Employment and Assistive Technology and more, as well as Regional Zoom events and an annual LHON Conference. We support LHON research and guide patients to clinical trials and neuro-ophthalmologists interested in LHON.

The MOG Project

<https://mogproject.org/>
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 THE MOG PROJECT 14

The MOG Project is a 501(c)3 organization devoted to patients and their caregivers suffering from Myelin Oligodendrocyte Glycoprotein Antibody Disease (MOGAD). We raise awareness, educate doctors, patients and caregivers, advance research through expert collaboration and fundraising, and provide support and advocacy for our community in hopes of finding a cure.

Benign Essential Blepharospasm Research Foundation

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409-832-0788

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Benign Essential Blepharospasm Research Foundation funds and promotes medical research in the search for the cause, treatments, and cure of blepharospasm and other related disorders, provides support, education, and referrals to persons with these disorders, and disseminates information and serves as an authoritative resource to the medical community and the general public.

Thrive Health IV

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909-256-9199

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Thrive Health is a premiere Infusion Center that focuses on rare and specifically ophthalmic diseases by providing expert concierge care for patients. Thrive Health, is the world leader in treating patients with thyroid eye disease and clinical trials. We offer concierge expert patient care by partnering with regional KOLs, cutting edge clinical research and a patient centric approach. Because we focus on Ophthalmic Rare Diseases, we offer the best patient experience through our tailored treatment protocols.

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Optomed is a medical technology company and a leading provider of handheld fundus cameras for Neuro-Ophthalmology and ED applications. Optomed's handheld fundus camera is designed to optimize the diagnostic process of visual disorders.

EMD Serono

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EMD Serono is the healthcare business of Merck KGaA, Darmstadt, Germany in the U.S. and Canada. EMD Serono's experience in MS dates back more than 20 years. We're committed to understanding the journey people living with MS face and delivering meaningful solutions that help address therapeutic needs of individual patients.

Fresnel Prism and Lens

www.fresnel-prism.com
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Fresnel Prism and Lens Co. is an international supplier of specialty eye care products utilized by professionals to diagnose & treat patients afflicted by various vision disorders.

Alexion Pharmaceuticals, AstraZeneca Rare Disease, Medical

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Alexion, AstraZeneca Rare Disease, is the group within AstraZeneca focused on rare diseases, created following the 2021 acquisition of Alexion Pharmaceuticals, Inc. As a leader in rare diseases for nearly 30 years, Alexion is focused on serving patients and families affected by rare diseases and devastating conditions. Headquartered in Boston, Massachusetts, Alexion has offices around the globe and serves patients in more than 50 countries.

Mayo Clinic Laboratories

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Mayo Clinic Laboratories strives to ensure patients around the world have access to the most advanced diagnostic testing. Working with hospitals and health care providers worldwide, we deliver the latest in diagnostic testing to provide answers and improve outcomes for their patients. With the world's most sophisticated test catalog, our testing incorporates scientific discoveries, cutting-edge technologies, and unparalleled expertise to solve the most rare and complicated cases.

Stoke Therapeutics

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Stoke Therapeutics is dedicated to addressing the underlying cause of severe diseases by up-regulating protein expression with RNA-based medicines. Using the Company's proprietary TANGO (Targeted Augmentation of Nuclear Gene Output) approach, Stoke is developing antisense oligonucleotides (ASOs) to selectively restore protein levels.

Hackensack Meridian Health

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Hackensack Meridian Health is a leading not-for-profit health care organization-the largest, most comprehensive and truly integrated network in New Jersey, offering a complete range of medical services, innovative research, life-enhancing care and The Hackensack Meridian School of Medicine.

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Northside Hospital, Inc.

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Northside has five acute-care hospitals with 250+ outpatient locations throughout metro Atlanta. It leads the nation in newborn deliveries and is among the state's top providers of Cancer Care, Sports Medicine, Cardiovascular and Surgical Services. Serving 5,000,000 patients annually, Northside Hospital is dedicated to clinical excellence, innovation, and quality care.

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- Involvement in the process of creating guidelines for the performance of different Neuro-Ophthalmology procedures in the workup of patients with neuro-ophthalmic disorders
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What do you treasure most in your NANOS membership?

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NANOS membership has provided me with unparalleled networking and career-advancement opportunities while providing resources that also benefit my clinical practice. I truly look forward to the annual meeting each year – it's like a career family reunion! – *Devin Mackay*

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Attend platform session II, Tuesday @ 7:30am for VRDN-001 Ph1/2 trial results



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