



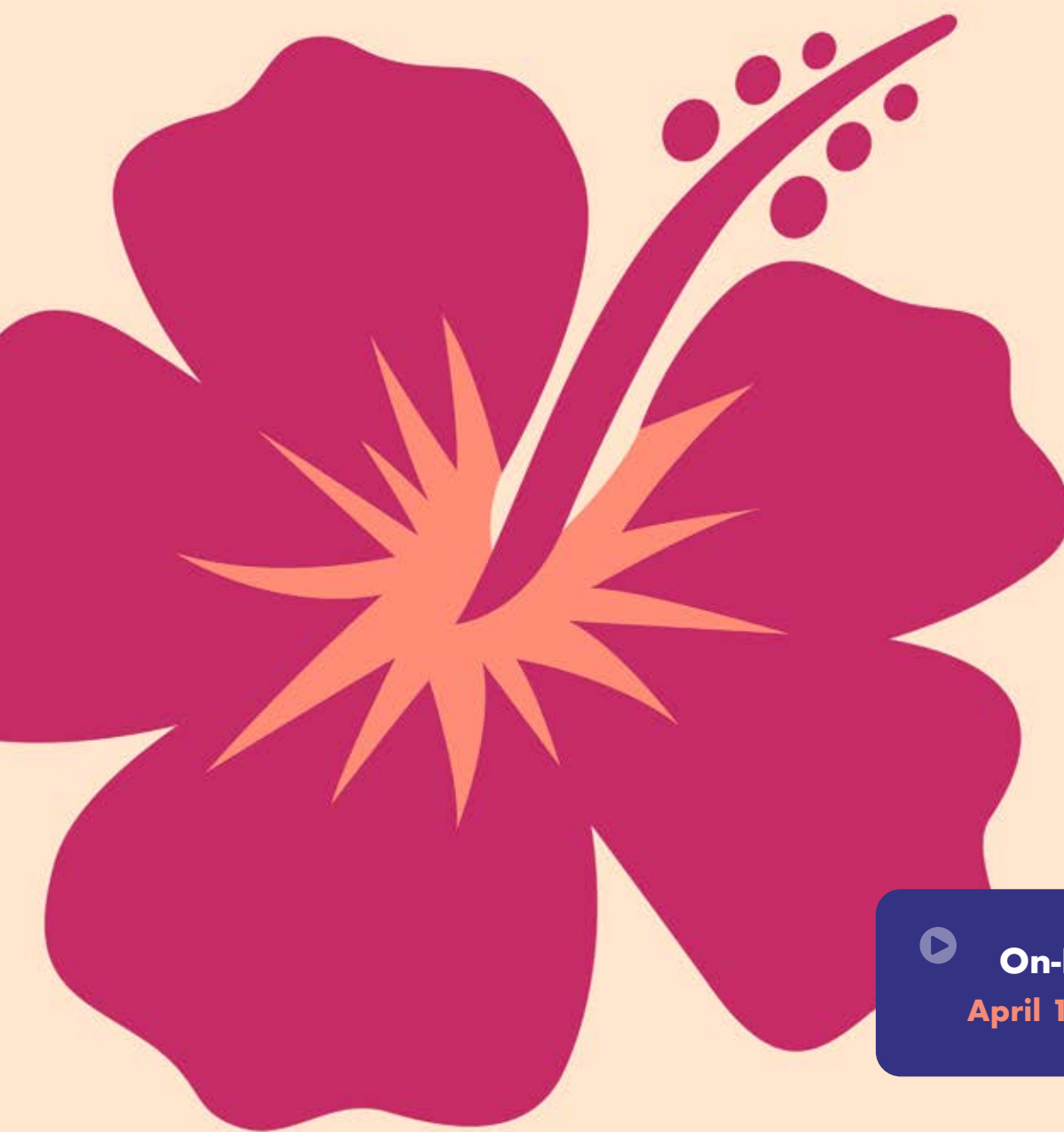
North American Neuro-Ophthalmology Society

CELEBRATING  
**50**  
YEARS

# NANOS

## ANNUAL MEETING

**SHERATON WAIKIKI RESORT, HONOLULU, HAWAII**  
**MARCH 2-7, 2024**



**On-Demand Access:**

**April 10 – August 31, 2024**

**SATURDAY, MARCH 2<sup>ND</sup>**

8:00 am – 12:00 pm	NANOS Board of Directors Meeting .....	Oahu/Waialua
2:15 pm – 3:45 pm	Optional Symposium: Higher Cortical Visual Disorders: Case-Based Review [1.5 CME] .....	Kauai/Maui (GS)
2:15 pm – 3:45 pm	Optional Symposium: Neuro-Ophthalmic Manifestation of Space Acquired Neuro-Ocular Syndrome (SANS) [1.5 CME] .....	Molokai
4:00 pm – 5:00 pm	Neuro-Radiology Symposium [1.0 CME] .....	Kauai/Maui (GS)
6:00 pm – 9:00 pm	Welina Welcome Reception & Awards .....	Helumoa Pool Playground

**SUNDAY, MARCH 3<sup>RD</sup>**

6:30 am – 7:30 am	Breakfast with Exhibitors.....	Molokai/Foyer
6:30 am – 7:30 am	YONO Breakfast with the Experts .....	Molokai
6:30 am – 7:30 am	Breakfast with WIN.....	Molokai
6:30 am – 5:00 pm	Exhibit Hours.....	Foyer
7:30 am – 9:30 am	Frank B. Walsh I [2.0 CME] .....	Kauai/Maui (GS)
9:30 am – 10:00 am	Coffee Break with Exhibitors .....	Foyer
10:00 am – 11:45 am	Frank B. Walsh II [2.0 CME] .....	Kauai/Maui (GS)
11:45 am – 12:30 pm	Lunch .....	Molokai
12:00 pm – 1:00 pm	Fellowship Directors Committee Meeting .....	Oahu/Waialua
12:00 pm – 2:30 pm	Meet the Poster Author: Descriptive Studies I .....	Lanai
2:30 pm – 3:00 pm	Business Meeting.....	Kauai/Maui (GS)
3:00 pm – 5:00 pm	Frank B. Walsh III [2.0 CME] .....	Kauai/Maui (GS)
5:15 pm – 5:45 pm	Walsh Committee Meeting.....	Oahu/Waialua
5:45 pm – 6:45 pm	Members-in-Training Reception .....	Foyer/Terrace

**MONDAY, MARCH 4<sup>TH</sup>**

6:00 am – 6:45 am	Yoga .....	Ocean Front/Royal Hawaiian
6:30 am – 7:30 am	NEW! Meet the Poster Author: Descriptive Studies II .....	Lanai
6:30 am – 7:30 am	Breakfast with Exhibitors.....	Molokai/Foyer
6:30 am – 7:30 am	YONO Breakfast with the Experts .....	Molokai
6:30 am – 7:30 am	Breakfast with WIN.....	Molokai
6:30 am – 5:30 pm	Exhibit Hours.....	Foyer
6:30 am – 7:30 am	NOVEL/Editorial Board/Curriculum Committee Meeting.....	Oahu/Waialua
6:30 am – 7:30 am	DEI Committee Meeting .....	Honolulu
7:30 am – 9:30 am	Hot Topics [2.0 CME].....	Kauai/Maui (GS)
9:30 am – 10:00 am	Coffee Break with Exhibitors .....	Foyer
10:00 am – 12:00 pm	Global Perspectives: Lost in translation? [2.0 CME] .....	Kauai/Maui (GS)
12:00 pm – 12:05 pm	NOVEL Update .....	Kauai/Maui (GS)
12:15 pm – 1:15 pm	Expediting Treatment for NMOSD: The Role of the Neuro-Ophthalmologist* .....	Molokai
	<i>*This non-CME lunch symposium is an industry-sponsored activity organized by Amgen. The NANOS Program Committee was not involved in the planning of this event.</i>	
1:30 pm – 3:30 pm	WIN/YONO Forum: Presentation Skills and Media Training - Essential Tools for Your Career [2.0 CME] .....	Molokai
3:45 pm – 5:45 pm	Scientific Platform Session I [2.0 CME].....	Kauai/Maui (GS)
5:45 pm – 7:15 pm	Thyroid Eye Disease: Updates on Comprehensive Management* [1.0 CME] .....	Molokai
	<i>* This CME dinner symposium is an activity organized by MedEduca and supported by an educational grant from Amgen, Inc. The NANOS Program Committee was not involved in the planning of this event.</i>	
5:45 pm – 7:15 pm	Optic Disc Drusen Study (ODDS) Consortium Meeting .....	Oahu/Waialua

**TUESDAY, MARCH 5<sup>TH</sup>**

6:00 am – 6:45 am	Yoga .....	Ocean Front/ Royal Hawaiian
6:30 am – 7:30 am	Breakfast with Exhibitors.....	Molokai/Foyer
6:30 am – 7:30 am	YONO Breakfast with the Experts .....	Molokai
6:30 am – 7:30 am	Breakfast with WIN.....	Molokai
6:30 am – 1:30 pm	Exhibit Hours.....	Foyer
6:30 am – 7:30 am	JNO Editorial Board Meeting .....	Oahu/Waialua
7:30 am – 9:30 am	Scientific Platform Session II [2.0 CME] .....	Kauai/Maui (GS)
9:30 am – 10:00 am	Coffee Break with Exhibitors .....	Foyer
10:00 am – 12:00 pm	Scientific Platform Session III [2.0 CME] .....	Kauai/Maui (GS)
12:15 pm – 1:15 pm	Thyroid Eye Disease: Navigating Diagnosis and Treatment in the Real World* [1.0 CME].....	Molokai
	<i>* This CME lunch symposium is an activity organized by Vindico Medical Education and supported by an educational grant from Horizon Therapeutics USA, Inc. The NANOS Program Committee was not involved in the planning of this activity</i>	
6:00 pm – 7:00 pm	Registration/Help Desk.....	Foyer
6:30 pm – 9:00 pm	Exhibit Hours.....	Foyer
7:00 pm – 9:00 pm	Meet the Poster Author: Analytical Studies Poster Reception.....	Lanai & Molokai
9:00 pm – 9:30 pm	Abstract Committee Meeting .....	Oahu/Waialua

**WEDNESDAY, MARCH 6<sup>TH</sup>**

6:00 am – 6:45 am	Yoga .....	Ocean Front/ Royal Hawaiian
6:30 am – 7:30 am	Breakfast with Exhibitors.....	Molokai/Foyer
6:30 am – 7:30 am	YONO Breakfast with the Experts .....	Molokai
6:30 am – 7:30 am	Breakfast with WIN.....	Molokai
6:30 am – 3:30 pm	Exhibit Hours.....	Foyer
6:30 am – 7:15 am	International Relations Committee Meeting .....	Oahu/Waialua
7:30 am – 9:30 am	Headache Medicine Update [2.0 CME] .....	Kauai/Maui (GS)
9:30 am – 10:00 am	Coffee Break with Exhibitors .....	Foyer
10:00 am – 11:30 am	Surgical Challenges in Neuro-Ophthalmology [1.5 CME] .....	Kauai/Maui (GS)
11:30 am – 12:00 pm	Jacobson Lecture: Moving from Not Knowing to Knowing [0.5 CME].....	Kauai/Maui (GS)
2:00 pm – 3:30 pm	Optional Symposium: Practical Use of OCT in Papilledema and Pseudopapilledema [1.5 CME].....	Kauai/Maui (GS)
2:00 pm – 3:30 pm	Optional Symposium: When We Make Errors and Do Harm [1.5 CME] .....	Molokai
3:45 pm – 4:45 pm	Consortium of Pediatric Neuro-Ophthalmologists (CPNO) .....	Oahu/Waialua
6:30 pm – 10:00 pm	Luau Dinner.....	Coconut Grove/Royal Hawaiian
10:00 pm – 12:00 am	After Party with a DJ .....	Molokai

**THURSDAY, MARCH 7<sup>TH</sup>**

6:30 am – 7:30 am	Breakfast .....	Molokai/Foyer
7:30 am – 9:30 am	Publication Symposium [2.0 CME] .....	Kauai/Maui (GS)
9:30 am – 10:00 am	Coffee Break.....	Molokai/Foyer
10:00 am – 12:00 pm	Pediatric Neuro-Ophthalmology Symposium [2.0 CME] .....	Kauai/Maui (GS)



**NANOS  
MISSION  
STATEMENT:**

The North American  
Neuro-Ophthalmology  
Society (NANOS) is  
dedicated to achieving  
inclusive excellence  
in the care of patients  
with neuro-ophthalmic  
diseases by the support  
and promotion of  
equitable education,  
research, and the practice  
of neuro-ophthalmology.



# Welcome

Aloha! On behalf of the North American Neuro-Ophthalmology Society (NANOS), we are excited to welcome you to the 50<sup>th</sup> Annual Meeting in Honolulu, Hawaii.

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 *Neuro-Radiology*, *Hot Topics*, *Global Perspectives – Lost in Translations*, *Headache Medicine Update*, *Surgical Challenges in Neuro-Ophthalmology*, *Publication Symposium*, *Pediatric Neuro-Ophthalmology Symposium*, *Presentation Skills & Media Training* and more. To accommodate the continual growth of high-quality abstract submissions, NANOS will host three Meet the Poster Author Sessions that will include both Descriptive Studies and Analytical Studies in Neuro-Ophthalmology. Our platform sessions will feature the highest caliber of innovative scientific presentations.

Please join us for the Welina Welcome Reception and Awards Ceremony on Saturday, March 2nd at 6:00 pm. Heavy hors d'oeuvres and drink tickets are provided. The Awards Ceremony will begin at 6:45 pm. The Merit Awards, Dr. Ivy Dreizin WIN Leadership Grant, Hoyt Lecture Award, J. Lawton Smith Award, Top NOVEL Contributors and Pilot Research Grant will be presented. Join us for the hula dancing at 7:00 pm, followed by a hula dance lesson. Guest tickets are available for \$150. Discounted children's guest tickets are also available.

Be sure to attend the Business Meeting on Sunday, March 3rd at 3:00 pm.

Breakfast (for meeting registrants only) will be provided daily. Lunch will be provided on Sunday, March 3rd. All registered attendees are invited to participate in the industry sponsored symposium provided by Amgen (Monday lunch), as well as the CME credit-eligible educational offerings from MedEdicus (Monday dinner) and Vindico Medical Education (Tuesday lunch).

Finally, indulge in the rhythms of the islands, savor delicious Hawaiian cuisine, and dance under the stars at our Luau Dinner on Wednesday, March 6th! Interactive artisan stations will begin at 6:30 pm. Dinner will be served at 7:30 pm, followed by Luau Show at 8:30 pm. Abstract awards will be presented. Guest tickets are available for purchase for \$175 with online registration or onsite. Discounted children's guest tickets are also available. After Party with a DJ will start at 10:00 pm.

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 2024 NANOS Annual Meeting!

**Prem S. Subramanian, MD, PhD**  
NANOS President







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# GENERAL INFORMATION

## EXHIBITOR HOURS

Location: **Foyer** (Second level)

**NEW!**  
Extended Exhibit  
Hours

Sunday, March 3, 2024: 6:30 am – 5:00 pm  
Monday, March 4, 2024: 6:30 am – 5:30 pm  
Tuesday, March 5, 2024: 6:30 am – 1:30 pm &  
6:30 pm – 9:00 pm  
Wednesday, March 6, 2024: 6:30 am – 3:30 pm

Take advantage of the exhibit hours to engage with exhibitors, as they play a vital role in the success of this meeting.

## NANOS REGISTRATION/HELP DESK HOURS

Location: **Foyer** (Second level)

Saturday, March 2, 2024: 1:00 pm – 7:30 pm  
Sunday, March 3, 2024: 6:30 am – 5:00 pm  
Monday, March 4, 2024: 6:30 am – 5:30 pm  
Tuesday, March 5, 2024: 6:30 am – 1:30 pm  
Wednesday, March 6, 2024: 6:30 am – 3:30 pm  
Thursday, March 7, 2024: 6:30am – 12:30pm

## WIFI INSTRUCTIONS

Network Name:  
**MarriottBonvoy\_Conference**

Passcode/Access Code:  
**VIRIDIAN** (not case sensitive)



## JOIN NANOS 2024 ANNUAL MEETING FUNDRAISER:

**GIVE AND RECEIVE A NANOS  
50<sup>TH</sup> ANNIVERSARY TIKI MUG!**

Join NANOS' Annual Meeting Fundraiser at the NANOS 50<sup>th</sup> Anniversary Meeting! Donate \$100 or more and get a NANOS 50<sup>th</sup> Anniversary Tiki Mug, available for pickup onsite while supplies last! 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



In support of improving patient care, this activity has been planned and implemented by Medical Education Resources (MER) and North American Neuro-Ophthalmology Society (NANOS). 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.

### 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 educational sessions into their daily practice.

### TARGET AUDIENCE

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

### DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS

Medical Education Resources ensures balance, independence, objectivity, and scientific rigor in all our educational activities. In accordance with this policy, MER identifies relevant financial relationships with its instructors, content managers, and other individuals who are in a position to control the content of an activity. Reported relevant financial relationships are mitigated by MER to ensure that all scientific research referred to, reported, or used in a CE activity conforms to the generally accepted standards of experimental design, data collection, and analysis. MER is committed to providing learners with high-quality CE activities that promote improvements or quality in health care and not the business interest of an ineligible company.

### CREDIT DESIGNATION

Medical Education Resources designates this live activity for a maximum of *33 AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Jointly provided by Medical Education Resources and the North American Neuro-Ophthalmology Society.

### ABPN Self-Assessment Credit

The American Board of Psychiatry and Neurology (ABPN) has reviewed the 2024 NANOS Annual Meeting and has approved this activity as part of a comprehensive Self-Assessment (SA) CME activity, which is mandated by the ABMS as a necessary component of Continuing Certification.

### ABO Self-Assessment Credit

As of 2023, American Board of Ophthalmology (ABO) is no longer participating in the ACCME collaboration. We are no longer able to upload ABO credit directly through the ACCME site. Diplomats will self-report and attest to the amount of credit they claim when submitting credit. CME activities which include participation in a pre/post knowledge evaluation component, earn credit toward the Lifelong Learning Self-Assessment requirement for the ABO's Continuing Certification program.

### How to Claim CME for the 2024 NANOS Annual Meeting

Claiming CME is as easy as 1-2-3:

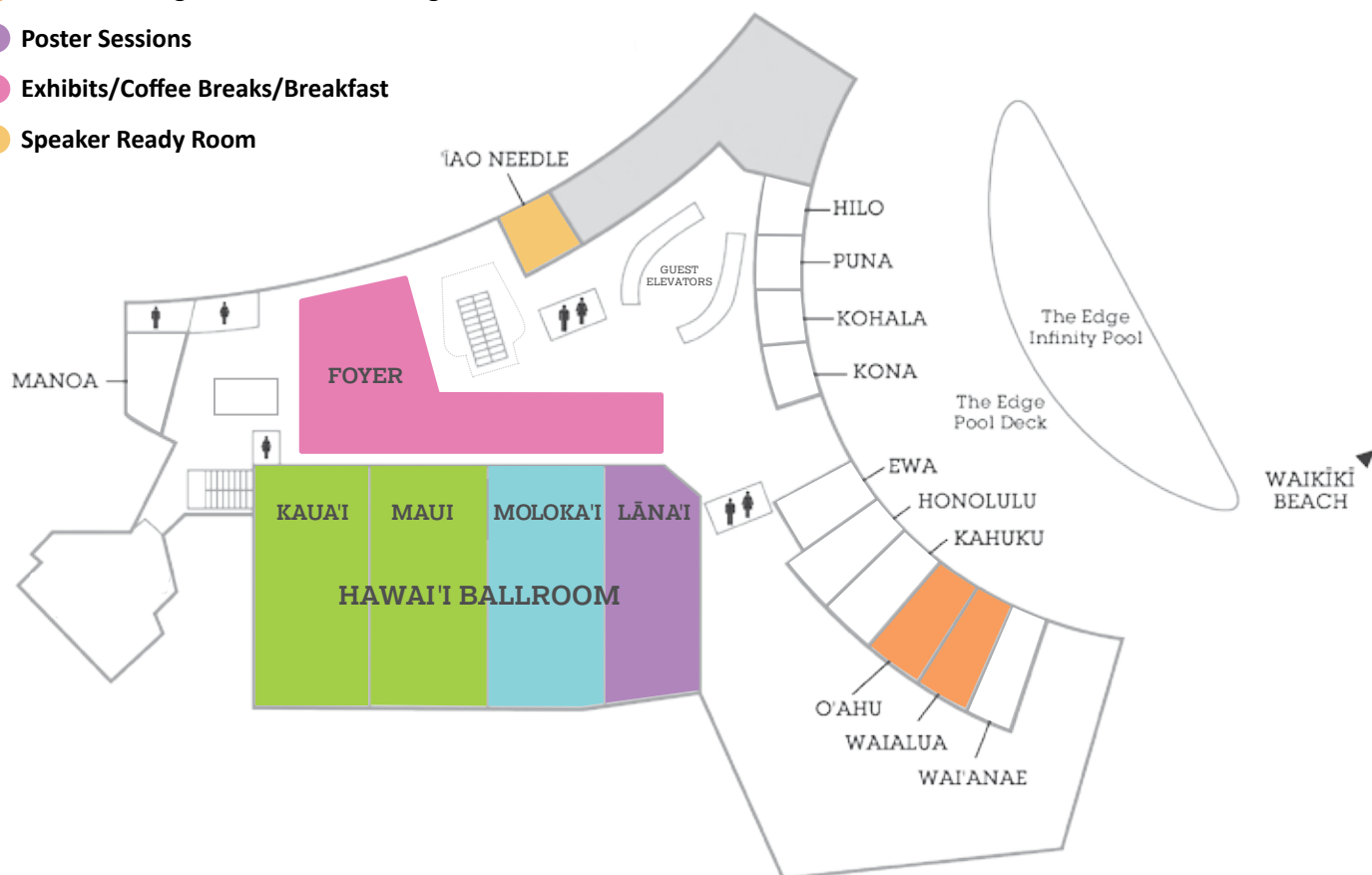
1. Download the NANOS Meetings mobile app "NANOS Connect" from your device's app store or go to <https://www.nanosweb.org/cme2024>.
2. Click on the CME button in the mobile app or CME webpage to complete the meeting evaluation.
3. Once completed, you will be given a link to download your CME certificate. You will also receive an email confirmation with the link to your certificate.
4. If claiming Self-Assessment Maintenance of Certification (MOC) credits, you must complete the Pre-Test and Post-Test and self-report this data as it is separate from ACCME reporting.



# MAP

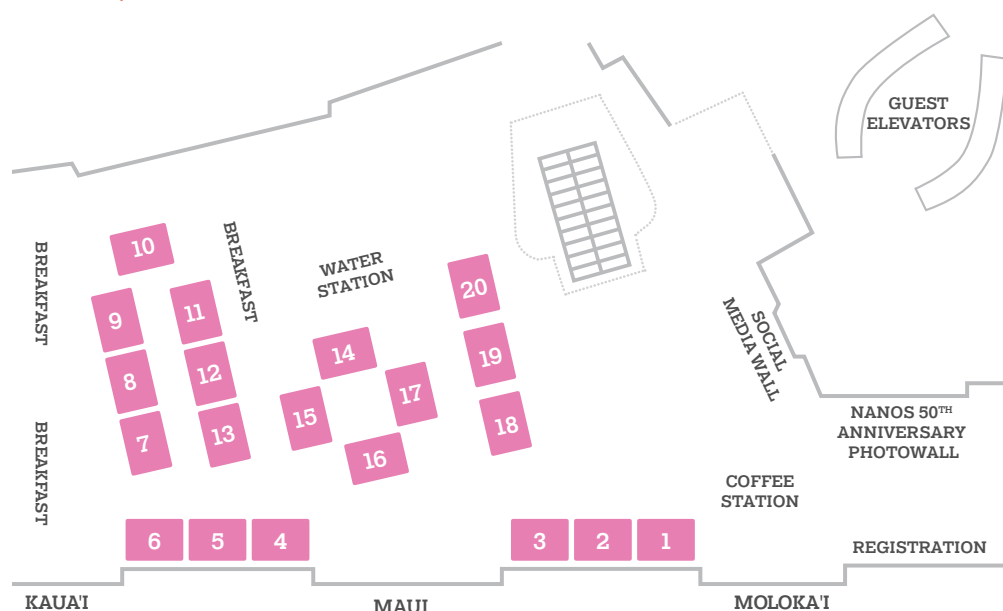
## SECOND FLOOR

- General Session
- Industry Sponsored and Optional Symposiums
- Board Meeting & Committee Meetings
- Poster Sessions
- Exhibits/Coffee Breaks/Breakfast
- Speaker Ready Room



## EXHIBIT FLOOR PLAN (FOYER - SECOND FLOOR)

1. Genentech
2. Catalyst Pharmaceuticals, Inc.
3. Amgen TEPEZZA
4. Amgen UPLIZNA
5. Topcon Healthcare
6. Diagnosys LLC
7. EMD Serono Inc.
8. Alexion (Rare Disease of AstraZeneca)
9. Dompé
10. LHON Project
11. Mayo Clinic Laboratories
12. Benign Essential Blepharospasm Research Foundation
13. machineMD
14. Immunovant, Inc.
15. Stoke Therapeutics
16. Viridian Therapeutics, Inc.
17. Alexion, AstraZeneca Rare Disease, Medical
18. GBR Medical
19. neuroClues
20. OMIC



## SOCIAL MEDIA

Stay connected with NANOS and enhance your experience by following us on Facebook, Instagram and X/Twitter. Use hashtags **#NANOS** **#NANOS2024** **#NANOSConnect** and don't forget to like, share, and engage.



### NANOS Social Media handles:



Facebook  
(@NeuroOphthalmology)



Instagram  
(@NANOSneuroop)



X/Twitter  
(@NANOSTweets)



## MOBILE APP INSTRUCTIONS

### Step 1:

To access this year's Annual Meeting App, search for **'NANOS Connect'** in your specific app store.

### Step 2:

Download the app that has the same icon as the one seen on the right.



### Step 3:

When you press the **'Login to NANOS'** button you will be taken to the NANOS member login page.

### Step 4:

Enter the NANOS login credentials you used when registering for the meeting. If you cannot remember your password, please reset it on the NANOS website [www.nanosweb.org](http://www.nanosweb.org).

*Note: After a successful login, the **'NANOS Connect'** app will re-open for you to use. Your browser may ask if you would like to open the **'NANOS Connect'** app. Accept if it does.*

Welcome to **#NANOS2024!**





# PROGRAM



• • • TIMES ARE LISTED IN HAWAII STANDARD TIME (HST) • • •

## SATURDAY, MARCH 2<sup>nd</sup>

8:00 am – 12:00 pm	<b>NANOS Board of Directors Meeting</b> ..... Oahu/Waialua
1:00 pm – 7:30 pm	<b>Registration/Help Desk</b> ..... Foyer
2:15 pm – 3:45 pm	<b>Optional Symposium: Higher Cortical Visual Disorders:</b>
	<b>Case-Based Review [1.5 CME]</b> ..... Kauai/Maui (GS)
	<i>Moderators: Sashank Prasad, MD &amp; Marc Dinkin, MD</i>

This symposium will review important neurological disorders of higher visual processing using an engaging, case-based format. In these patients, routine evaluations may not readily yield a diagnosis; it is important to recognize when to conduct a refined examination of cortically-based visual functions to correctly localize and identify the problem. Each case discussion will include a succinct review of the clinical features, historical description, and modern scientific insights.

Upon completion of this session, participants should be able to: (1) Gain additional knowledge about fascinating cortical visual disorders, including Anton syndrome, apperceptive visual agnosia, hemi-achromatopsia, Alexia without agraphia, Riddoch syndrome, balling syndrome, prosopagnosia, Charles Bonnet syndrome, reduplicative paramnesia, and Lhermitte's peduncular hallucinosis.

# PROGRAM

2:15 pm – 3:45 pm      **Optional Symposium: Neuro-Ophthalmic Manifestation of Space Acquired Neuro-Ocular Syndrome (SANS) [1.5 CME]** ..... Molokai  
*Moderators: Rustum Karanjia, MD, PhD & Andrew G Lee, MD*

Optic disc edema develops in about 16% of astronauts during long-duration spaceflight and is of high concern to the NASA medical community and a target of therapeutic treatment given risk of vision loss. Currently, there is no reliable method to predict which crewmembers will develop disc edema. This symposium will outline advances made by NASA and collaborators to elucidate the structural and functional impact of optic disc edema and describe alterations to retinal and optic nerve blood flow as we learn more about the etiology of Spaceflight Associated Neuro-ocular Syndrome (SANS). We will also outline a novel ground-based spaceflight analog that reproduced disc edema in healthy test subjects that is being used to test novel pathophysiological hypotheses and possible countermeasures.

Upon completion of this session, participants should be able to: (1) Define Space Flight Associated Neuro-ocular Syndrome (SANS), (2) Describe the prevailing hypotheses for SANS, (3) List potential countermeasures for SANS, (4) Discuss the current pathophysiological hypotheses behind SANS, (5) Review SANS countermeasure development.

2:15 pm – 2:20 pm	<b>Welcome and Introductions</b> , <i>Andrew G. Lee, MD &amp; Rustum Karanjia, MD, PhD</i>
2:20 pm – 2:30 pm	<b>Introduction to SANS: The NASA Perspective</b> , <i>Tyson Brunstetter, OD, PhD</i>
2:30 pm – 2:40 pm	<b>Clinical Manifestations of SANS</b> , <i>Andrew G. Lee, MD</i>
2:40 pm – 2:50 pm	<b>Neuro-ocular Evaluation for SANS</b> , <i>Rustum Karanjia, MD, PhD</i>
2:50 pm – 3:05 pm	<b>Novel Ground-based SANS Analog - Head Down Tilt</b> , <i>Steve Laurie, PhD</i>
3:05 pm – 3:20 pm	<b>Research Directives and Novel Hypotheses</b> , <i>Alex Huang, MD, PhD</i>
3:20 pm – 3:35 pm	<b>Flight Studies and Future Directions</b> , <i>Brandon Macias, PhD</i>
3:35 pm – 3:45 pm	<b>Discussion and Questions</b>

4:00 pm – 5:00 pm      **Neuro-Radiology Symposium [1.0 CME]** ..... Kauai/Maui (GS)  
*Hemant Parmar, MBBS*

Three (3) separate short topics will be reviewed during this Neuro-Symposium. The following pertinent imaging will be explained:

1. Perineural spread of head and neck cancer related to periorbital region
2. Imaging / diagnostic approach to patients with Horner syndrome
3. Understand flow-voids- either too many, abnormal or absent and related conditions.

Upon completion of this session, participants should be able to: (1) Understand imaging anatomy of important nerves in orbital region, (2) Understand imaging anatomy of oculo-sympathetic pathway and diagnostic approach to patients with Horner syndrome, (3) Understand concept of flow voids on MR imaging.

5:00 pm – 5:45 pm      **Walsh Rehearsal** ..... Kauai/Maui (GS)  
*Mandatory for all Walsh presenters and moderators.*

6:00 pm – 9:00 pm      **Welina Welcome Reception & Awards** ..... Helumoa Pool Playground  
 (bad weather: Molokai and Foyer)

All are welcome! Reconnect with your NANOS colleagues and enjoy live Hawaiian music during the Opening Reception. Dr. Ivy Dreizin WIN Leadership Grant, Hoyt Lecture Award, Merit Awards, Pilot Research Grant, Lawton Smith Award (JNO), Top NOVEL Contributors will be presented. Don't miss out on this exceptional opportunity to build relationship while immersing yourself in the beauty of the local Hawaiian culture. Join us as we celebrate the NANOS' 50<sup>th</sup> anniversary and excellence in neuro-ophthalmology and within NANOS. Heavy hors d'oeuvres buffet and ticketed drink bar included. Guest tickets are available for purchase at \$150 and children's tickets are available for \$50 with online registration or onsite at the Registration Desk.

6:45 pm	<b>Awards Ceremony</b>
7:00 pm	<b>Hula Dancing</b>
7:30 pm	<b>Hula Dance Lesson</b>





## SUNDAY, MARCH 3<sup>rd</sup>

6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b> .....	Molokai/Foyer
6:30 am – 7:30 am	<b>YONO Breakfast with the Experts</b> .....	Molokai
	-Career Pathways for the Neurology-Trained NO: <i>Marc Dinkin, MD &amp; Nailyn Rasool, MD</i>	
	-Career Pathways for the Ophthalmology-Trained NO: <i>Aubrey Gilbert, MD, PhD &amp; Andrew Melson, MD</i>	
	-Building Workforce for the Future: <i>Ore-Ofe Oluwaseun Adesina, MD &amp; Collin McLelland, MD</i>	
6:30 am – 7:30 am	<b>Breakfast with WIN</b> .....	Molokai
6:30 am – 5:00 pm	<b>Registration/Help Desk</b> .....	Foyer
6:30 am – 5:00 pm	<b>Exhibit Hours</b> .....	Foyer
7:30 am – 9:30 am	<b>Frank B. Walsh I [2.0 CME]</b> .....	Kauai/Maui (GS)
	<b>Host:</b> <i>University of Michigan</i>	
	<b>Lead Host:</b> <i>Lindsey De Lott, MD, MS</i>	
	<b>Host Committee Members:</b>	
	<i>Sangeeta Khanna, MD, Wayne Cornblath, MD, Tatiana Deveney, MD, Jonathan Trobe, MD</i>	
	<b>Expert Panel:</b>	
	<i>Neuroradiologist: Hemant Parmar, MBBS</i>	
	<i>Neuropathologist: Sandra Camelo-Piragua, MD</i>	

This session is designed to present complex neuro-ophthalmic cases that impact the visual pathways and ocular motor systems. The format is a clinicopathologic conference. Clinical cases will be presented by neuro-ophthalmologists with comments by invited experts: a neuro-radiologist, a 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) Describe the varied clinical presentations of neuro-ophthalmic disease, (2) Formulate effective diagnostic testing strategies for complex neuro-ophthalmic cases including the use of new diagnostic tests, (3) Explain the value and limitations of neuropathology and neuroimaging, and (4) Identify newly described neuro-ophthalmic diseases in clinical practice.



# PROGRAM

*Moderators: Wayne Cornblath, MD & Tatiana Deveney, MD*

7:30 am – 7:45 am	<b>Welcome/Introduction</b> , <i>Peter Quiros, MD &amp; John Chen, MD, PhD</i>
7:45 am – 8:05 am	<b>What Izit?</b> <i>Michael Lee, MD</i>
8:05 am – 8:25 am	<b>Orbitally Vexed</b> , <i>Eliot Smolyansky, MD</i>
8:25 am – 8:45 a	<b>It Can't Be Me, But ... Maybe It's Both of Us?</b> <i>George Park, MD</i>
8:45 am – 9:05 am	<b>MY-OH-MY Just a Drop will Do</b> , <i>Aurel Nagy, MD, PhD</i>
9:05 am – 9:25 am	<b>Go Back to the House, M.D.</b> , <i>Marc Bouffard, MD</i>
9:25 am – 9:30 am	<b>Wrap-Up</b> , <i>Wayne Cornblath, MD &amp; Tatiana Deveney, MD</i>
9:30 am – 10:00 am	<b>Coffee Break with Exhibitors</b> ..... Foyer
10:00 am – 11:45 am	<b>Frank B. Walsh II [2.0 CME]</b> ..... Kauai/Maui (GS)
	<i>Moderators: Lulu Bursztyn, MD, Sangeeta Khanna, MD</i>
10:00 am – 10:20 am	<b>Atypical Case of Optic Nerve Head Edema: Painful, Enhancing and Treacherous</b> , <i>Samir Touma, MD</i>
10:20 am – 10:40 am	<b>Headache and Visual Deficits: Ironing Out the Details</b> , <i>Amalie Chen, MD</i>
10:40 am – 11:00 am	<b>Double Double, Toil and Trouble</b> , <i>Kevin Yan, MD</i>
11:00 am – 11:20 am	<b>Anchora Sella</b> , <i>Vanessa Dias Veloso, MD</i>
11:20 am – 11:40 am	<b>(Dont) Blame it on Rio</b> , <i>Avital Okrent, MD</i>
11:40 am – 11:45 am	<b>Wrap-Up</b> , <i>Lulu Bursztyn, MD, Sangeeta Khanna, MD, John Chen, MD, PhD</i>
11:45 am – 12:30 pm	<b>Lunch</b> ..... Molokai
12:00 pm – 1:00 pm	<b>Fellowship Directors Committee Meeting</b> ..... Oahu/Waialua
12:00 pm – 2:30 pm	<b>Meet the Poster Author: Descriptive Studies I</b> ..... Lanai
12:00 pm – 1:00 pm	Session I: Odd Numbered Posters
1:30 pm – 2:30 pm	Session II: Even Numbered Posters
2:30 pm – 3:00 pm	<b>Business Meeting</b> ..... Kauai/Maui (GS)
3:00 pm – 5:00 pm	<b>Frank B. Walsh III [2.0 CME]</b> ..... Kauai/Maui (GS)
	<i>Moderators: Dane Breker, MD &amp; Lindsey De Lott, MD, MS</i>
3:00 pm – 3:20 pm	<b>Losing Vision, Losing Sleep</b> , <i>Bart Chwalisz, MD</i>
3:20 pm – 3:40 pm	<b>How to Get the Red Out</b> , <i>Raghu Mudumbai, MD</i>
3:40 pm – 4:00 pm	<b>The Path of Least Resistance: Over the Nose, Into the Orbit, and Around the Globe</b> , <i>Sahar Noorani, MD</i>
4:00 pm – 4:20 pm	<b>Devine Intervention</b> , <i>Letitia Pirau, MD</i>
4:20 pm – 4:40 pm	<b>A White Matter Riddle Encased in Mystery, Coiled Inside an Enigma</b> , <i>Nathan Tagg, MD</i>
4:40 pm – 4:45 pm	<b>Wrap-up</b> , <i>Dane Breker, MD &amp; Lindsey De Lott, MD, MS</i>
4:45 pm – 5:00 pm	<b>Closing Remarks</b> , <i>Peter Quiros, MD &amp; John Chen, MD, PhD</i>
5:15 pm – 5:45 pm	<b>Walsh Committee Meeting</b> ..... Oahu/Waialua
5:45 pm – 6:45 pm	<b>Members-in-Training Reception</b> ..... Foyer/Terrace

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







## MONDAY, MARCH 4<sup>th</sup>

6:00 am – 6:45 am	<b>Yoga</b> .....	Ocean Front/Royal Hawaiian
6:30 am – 7:30 am	<b>New! Meet the Poster Author: Descriptive Studies II</b> .....	Lanai
6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b> .....	Molokai/Foyer
6:30 am – 7:30 am	<b>YONO Breakfast with the Experts</b> .....	Molokai
	- Finding a Great Mentor: <i>Kim Wings, MD &amp; Sashank Prasad, MD</i>	
	- What I Wish I Knew Early in My Practice: <i>Fiona Costello, MD &amp; Kimberly Gokoffski, MD, PhD</i>	
6:30 am – 7:30 am	<b>Breakfast with WIN</b> .....	Molokai
6:30 am – 5:30 pm	<b>Registration/Help Desk</b> .....	Foyer
6:30 am – 5:30 pm	<b>Exhibit Hours</b> .....	Foyer
6:30 am – 7:30 am	<b>NOVEL/Editorial Board/Curriculum Committee Meeting</b> .....	Oahu/Waialua
6:30 am – 7:30 am	<b>DEI Committee Meeting</b> .....	Honolulu
7:30 am – 9:30 am	<b>Hot Topics [2.00 CME]</b> .....	Kauai/Maui (GS)
	<i>Moderators: Collin McClelland, MD &amp; Yaping Joyce Liao, MD, PhD</i>	

This symposium is designed to provide the audience with a practical, evidence-based discussion on how to manage important and emerging clinical scenarios, which are of specific and contemporary interest to the neuro-ophthalmic community. “Hot topics” will be presented by established experts and thought leaders for the respective conditions.

Upon completion of this session, participants should be able to: (1) Review point-of-care utilization of updated international MOGAD criteria, (2) Define the role of neuro-ophthalmologists in the treatment of obesity in IIH, (3) List the pros and cons of using ChatGPT in Neuro-Ophthalmology, (4) Discuss the use of physician extenders in Neuro-Ophthalmology, including optometrists, physician assistants, and orthoptists.

7:30 am – 7:32 am	<b>Introduction</b> , <i>Collin McClelland, MD &amp; Yaping Joyce Liao, MD, PhD</i>
7:32 am – 7:42 am	<b>Best Practice Patterns: Updated international MOGAD Criteria, Can They Be Implemented in the Real World?</b> <i>Jeffrey Bennett, MD, PhD</i>
7:42 am – 8:12 am	<b>Medicine: Are We Doing Enough to Address Obesity in the Context of IIH?</b> <i>Michael Garcia, MD</i>
8:12 am – 8:22 am	<b>Technology and Ethics: ChatGPT in Neuro-Ophthalmology</b> , <i>Heather E. Moss, MD, PhD</i>
8:22 am – 8:32 am	<b>Q&amp;A</b>
8:32 am – 8:44 am	<b>Introducing Optometry into Your Practice</b> , <i>Amanda D. Henderson, MD &amp; Colin Kane, OD</i>
8:44 am – 8:56 am	<b>Introducing PAs into Your Practice</b> , <i>Judith Warner, MD &amp; Irina Krikova, PA</i>
8:56 am – 9:08 am	<b>Introducing Orthoptists into Your Practice</b> , <i>Crandall Peeler, MD &amp; Rachael Jenkins, CO</i>
9:08 am – 9:14 am	<b>The Limits of Extenders</b> , <i>Melanie Truong-Le, DO, OD</i>
9:14 am – 9:30 am	<b>Q&amp;A</b>

# PROGRAM

9:30 am – 10:00 am	<b>Coffee Break with Exhibitors</b> ..... Foyer
10:00 am – 12:00 pm	<b>Global Perspectives: Lost in Translation?</b> <b>How Major Neuro-Ophthalmic Trials Are Applied Locally</b> <b>(US/Canada) Versus internationally [2.00 CME]</b> ..... Kauai/Maui (GS) <i>Moderators: Clare Fraser, MBBS &amp; Jonathan D. Trobe, MD</i>

Speakers will describe how major neuro-ophthalmic trials are applied locally versus internationally.

Upon completion of this session, participants should be able to: (1) Learn the major findings of clinical trials in neuro-ophthalmology, (2) Learn how these findings are being incorporated into clinical practice, (3) Learn how incorporation of these findings differs across the world.

10:00 am – 10:20 am	<b>Idiopathic Intracranial Hypertension (IIHT):</b> <i>Mark J. Kupersmith, MD &amp; Susan P. Mollan, MBCHB, FRCOPHTH</i>
10:20 am – 10:40 am	<b>Temporal Artery Biopsy and Ultrasound in Diagnosis of Giant Cell Arteritis (TABUL):</b> <i>Steffen Hamann, MD, PhD &amp; Joseph F. Rizzo III, MD</i>
10:40 am – 11:00 am	<b>Corticosteroid Randomization After Significant Head Injury (CRASH):</b> <i>Richard J. Blanch, MD &amp; Kimberly P. Cockerham, MD, FACS</i>
11:00 am – 11:20 am	<b>Study to Assess the Efficacy and Safety of Raxone in LHON Patients (LEROS):</b> <i>Patrick Yu-Wai-Man, BMedSci, MBBS, PhD, FRCPath, FRCOphth &amp; Nancy J. Newman, MD</i>
11:20 am – 11:40 am	<b>Optic Neuritis Treatment Trial (ONTT):</b> <i>Neil R. Miller, MD &amp; Gordon Plant, MBBS</i>
11:40 am – 12:00 am	<b>Q&amp;A</b>
12:00 pm – 12:05 pm	<b>NOVEL Update</b> ..... Kauai/Maui (GS)
12:05 pm – 1:30 pm	<b>Lunch (on your own or join the lunch symposium)</b>
12:15 pm – 1:15 pm	<b>Expediting Treatment for NMOSD: The Role of the Neuro-Ophthalmologist*</b> ..... Molokai <i>*This non-CME lunch symposium is an industry-sponsored activity organized by Amgen. The NANOS Program Committee was not involved in the planning of this event.</i>

*Moderator/Faculty: Gabriel Pardo, MD*

In this engaging visual presentation, attendees will be guided through a patient's NMOSD journey, highlighting the prevalent symptoms of attacks, with a focus on optic neuritis. The discussion delves into the underlying pathophysiology and emphasizes the significance of timely intervention through both acute and maintenance treatments. The presentation concludes by introducing a proactive treatment approach that neuro-ophthalmologists can implement to mitigate the risk of future NMOSD attacks.

1:30 pm – 3:30 pm	<b>WIN/YONO Forum: Presentation Skills and Media Training -</b> <b>Essential Tools for Your Career [2.0 CME]</b> ..... Molokai <i>Moderators: Stephanie J. Marioneaux, MD &amp; Marsheila DeVan, MBA</i>
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Communicating with the Media can seem intimidating and challenging. This session will review all of the Media Formats, provide video examples and strategies for delivering the most accurate medical message in a language that everyone can understand.

The Communicating with Confidence workshop will offer practical techniques to successfully communicate in a variety of venues. Participants will learn to identify positive non-verbal and verbal behaviors to optimize a speaker's impact and influence. We will discuss common barriers to communication that may stop you from conveying or receiving the right message. Participants will identify areas of strength and opportunities for improvement. The workshop will examine techniques for solid delivery skills, engaging an audience, presenting with visuals, and articulating complex data. The workshop format will allow everyone the opportunity to learn/improve and receive instructor feedback in a fun non-threatening environment.

Upon completion of this session, participants should be able to: (1) Summarize strategies to avoid interview pitfalls, (2) Employ techniques to effectively deliver your messages, (3) Construct your interview topic using 3 messages, (4) Review effective communication skills, face-to-face and virtual, (5) Practice delivering a "memorable message", (6) Identify techniques for working successfully with visuals (7) Examine tips on handling Q&A with confidence and ease.

3:45 pm – 5:45 pm	<b>Scientific Platform Session I [2.0 CME]</b> .....Kauai/Maui (GS) <i>Moderators: Beau Benjamin Bruce, MD, PhD &amp; Oana Dumitrascu, MD</i>
3:45 pm – 4:00 pm	<b>Safety and Efficacy of Intravitreal Injection of Pegfilgrastim in Patients with Indirect Traumatic Optic Neuropathy. An open-label phase I trial,</b> <i>Rong-Kung Tsai, MD, PhD</i>
4:00 pm – 4:15 pm	<b>Clinical Features of Black Patients with Non-Arteritic Anterior Ischemic Optic Neuropathy,</b> <i>Ana Banc, MD, PhD</i>
4:15 pm – 4:30 pm	<b>Paracentral Acute Middle Maculopathy is a Biomarker of Arteritic Anterior Ischemic Optic Neuropathy,</b> <i>Steffen Hamann, MD, PhD</i>
4:30 pm – 4:45 pm	<b>10-Year Risk of Aortic and Carotid Complications in Patients with Giant Cell Arteritis,</b> <i>J. Anthony Chacko, MD</i>
4:45 pm – 5:00 pm	<b>Multimodality Imaging in Cranial Giant Cell Arteritis: First Experience with High-resolution T1-weighted 3D Black Blood without Contrast Enhancement Magnetic Resonance Imaging,</b> <i>Michael Stormly Hansen, MD, FEBO</i>
5:00 pm – 5:15 pm	<b>Efficacy of Intra-Arterial or Intravenous Thrombolytic Therapy Versus Conservative Standard Therapy for Central Retinal Artery Occlusion: An individual patient data meta-analysis,</b> <i>Jim Shenchu Xie, MD</i>
5:15 pm – 5:30 pm	<b>Visual Outcomes in a Large Cohort of Patients with Acute Central Retinal Artery Occlusion and Initial Insights on Telemedicine-Enabled Intravenous Thrombolytic Treatment,</b> <i>Aubrey Gilbert, MD, PhD</i>
5:30 pm – 5:45 pm	<b>Diagnosis of Central Retinal Artery Occlusion within 4.5 Hours after Visual Loss, Using a Deep Learning Method Applied on Fundus Images,</b> <i>Dan Milea, MD, PhD</i>
5:45 pm – 7:15 pm	<b>Thyroid Eye Disease: Updates on Comprehensive Management* [1.0 CME]</b> ..... Molokai <i>* This CME dinner symposium is an activity organized by MedEdicus and supported by an educational grant from Amgen Inc. The NANOS Program Committee was not involved in the organization of this event.</i>

*Faculty: Andrew G. Lee, MD & Prem S. Subramanian, MD, PhD*

This CME symposium offers engaging interactive discussions, focusing on the latest in TED management and delivering actionable clinical insights on diagnostics and management. Practical case studies will anchor the discussion, providing a platform for translating theory into practice. Topics include diagnostic criteria, individualized treatment planning, management of advanced therapeutic side effects, and the role of multidisciplinary teams.

Upon completion of this session, participants should be able to: (1) Identify diagnostic criteria that are critical for identifying patients with thyroid eye disease , (2) Develop individualized treatment plans for patients with thyroid eye disease according to the latest clinical data, (3) Review strategies to manage hyperglycemia and hearing loss in patients with thyroid eye disease receiving insulin-like growth factor 1 receptor antagonists, (4) Recognize the roles and responsibilities of the multidisciplinary care team in thyroid eye disease management.

5:45 pm – 7:15 pm	<b>Optic Disc Drusen Study (ODDS) Consortium Meeting</b> ..... Oahu/Waialua
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## TUESDAY, MARCH 5<sup>th</sup>

6:00 am – 6:45 am	<b>Yoga</b> .....	Ocean Front/Royal Hawaiian
6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b> .....	Molokai/Foyer
6:30 am – 7:30 am	<b>YONO Breakfast with the Experts</b> .....	Molokai
	- Designing a Career in Surgical Neuro-Ophthalmology: <i>Marc Levin, MD, PhD &amp; Andrew Melson, MD</i>	
	- Academic vs Private Practice vs Hybrid Models of Practice: <i>Rabih Hage, MD &amp; Nailyn Rasool, MD</i>	
6:30 am – 7:30 am	<b>Breakfast with WIN</b> .....	Molokai
6:30 am – 1:30 pm	<b>Registration/Help Desk</b> .....	Foyer
6:30 am – 1:30 pm	<b>Exhibit Hours</b> .....	Foyer
6:30 am – 7:30 am	<b>JNO Editorial Board Meeting</b> .....	Oahu/Waialua
7:30 am – 9:30 am	<b>Scientific Platform Session II [2.0 CME]</b> .....	Kauai/Maui (GS)
	<i>Moderators: Melinda Chang MD &amp; Kimberly K. Gokoffski MD, PhD</i>	
7:30 am – 7:45 am	<b>Racial Disparities in the Development of Visual Impairment in Patients with Idiopathic Intracranial Hypertension</b> , <i>Patrick Zhang, MS</i>	
7:45 am – 8:00 am	<b>Raised Intracranial Pressure Alters Cranial Nociception Which Can Be Rescued by Glucagon Like Peptide 1 Receptor Agonism and CGRP Antagonism In Vivo</b> , <i>Olivia Grech, MRes</i>	
8:00 am – 8:15 am	<b>Emergency Department (ED) Non-Mydriatic Fundus Photography Expediates Care for Patients Referred for “Papilledema”</b> , <i>Amy (Mung Yan) Lin, MD</i>	
8:15 am – 8:30 am	<b>Optic Nerve Blood Flow by Laser Speckle Flowgraphy in Different Causes of Optic Disc Edema</b> , <i>Noor-Us-Sabah Ahmad, MD</i>	
8:30 am – 8:45 am	<b>FALCON: A Prospective Natural History Study of Patients with OPA1-Autosomal Dominant Optic Atrophy (OPA1-ADOA)</b> , <i>Byron Lam, MD</i>	
8:45 am – 9:00 am	<b>Factors Predictive of Recurrence in Myelin Oligodendrocyte Glycoprotein (MOG) Associated Optic Neuritis</b> , <i>Virender Sachdeva, MS</i>	
9:00 am – 9:15 am	<b>Prevalence and Clinical Associations of Peripapillary Hyper-Reflective Ovoid Mass-Like Structures (PHOMS) in Patients with Craniosynostosis</b> , <i>Jacqueline Jeon-Chapman, BS</i>	
9:15 am – 9:30 am	<b>Eye Tracking Measures of Oculomotor Function Are Associated with Improvement in Visual Acuity in Children with Cortical/Cerebral Visual Impairment (CVI)</b> , <i>Melinda Chang, MD</i>	
9:30 am – 10:00 am	<b>Coffee Break with Exhibitors</b> .....	Foyer



10:00 am – 12:00 pm	<b>Scientific Platform Session III [2.0 CME]</b> .....Kauai/Maui (GS) <i>Moderators: Kenneth S. Shindler, MD, PhD &amp; Hong Jiang MD, PhD</i>
10:00 am – 10:15 am	<b>Diplopia Improvement with Teprotumumab in Patients with High Inflammation/Recent Onset and Low Inflammation/Longer Duration Thyroid Eye Disease (TED),</b> <i>Prem S. Subramanian, MD, PhD</i>
10:15 am – 10:30 am	<b>Clinical Activity and Safety of VRDN-001, a Full Antagonist Antibody to Insulin-like Growth Factor-1 Receptor, in Active and Chronic Thyroid Eye Disease,</b> <i>Kimberly Cockerham, MD</i>
10:30 am – 10:45 am	<b>Binocular Visual Function Testing in an Alzheimer’s Disease Research Center (ADRC) Cohort: Low-Contrast Letter Acuity and Rapid Automatized Naming (RAN) Tasks of MULES and SUN,</b> <i>Laura J. Balcer, MD, MSCE</i>
10:45 am – 11:00 am	<b>Curiouser and Curiouser: A Distributed Brain Network Underlying Alice in Wonderland Syndrome,</b> <i>Maximilian Friedrich, MD, PhD</i>
11:00 am – 11:15 am	<b>Permanent Transduction of Retinal Ganglion Cells by Injection of rAAV2-retro into the Superior Colliculus,</b> <i>Jonathan Horton, MD, PhD</i>
11:15 am – 11:30 am	<b>Vision-Related Quality of Life in LHON Patients Treated with Lenadogene Nolparvovec Gene Therapy: Analysis of the VFQ-25 Using Rasch Measurement Theory,</b> <i>Benson Chen, MBChB, MSc, FRACP</i>
11:30 am – 11:45 am	<b>Neuro-ophthalmological Phenotype and Correlations with Heteroplasmy Levels in MELAS and MERRF Syndromes,</b> <i>Giulia Amore, MD, PhD</i>
11:45 am – 12:00 pm	<b>Electric Field Stimulation Enhances Ciliary Neurotrophic Factor-Mediated Retinal Ganglion Cell Axon Regeneration After Optic Nerve Crush Injury,</b> <i>Connie Huang, BS</i>
12:15 pm – 1:15 pm	<b>Thyroid Eye Disease: Navigating Diagnosis and Treatment in the Real World* [1.0 CME]</b> ..... Molokai <i>* This CME lunch symposium is an activity organized by Vindico Medical Education and supported by an educational grant from Horizon Therapeutics USA, Inc. The NANOS Program Committee was not involved in the organization of this event.</i>  <i>Faculty: Prem S. Subramanian, MD, PhD, Marc Dinkin, MD &amp; Madhura A. Tamhankar, MD</i>
<p>Thyroid eye disease (TED) is an autoimmune disorder that presents with heterogeneous symptoms and is frequently misdiagnosed. Clinicians often lack an understanding of the pathogenesis of TED and its relationship with hyperthyroidism, leading to less-desirable outcomes in patients. Differential diagnosis as well as early diagnosis and treatment can help limit the risk of progression to more severe forms of the disease, including disfigurement and vision loss. Healthcare professionals who manage patients with TED should be able to apply real-world evidence for the use of current medical treatments and be knowledgeable about the surgical procedures that can improve patient outcomes. In this program, held in conjunction with the NANOS 50<sup>th</sup> Annual meeting, expert faculty address the pathogenesis and involvement of the insulin-like growth factor 1 receptor in TED, summarize best practices for diagnosis and treatment, analyze real-world evidence for the safety and efficacy of current therapies, as well as examine case presentations on the diagnosis and treatment of TED to improve the overall care and management of patients with this disease.</p> <p>Upon completion of this session, participants should be able to: (1) review the pathophysiology and workups needed to differentially diagnose TED in a timely manner, (2) manage patients with TED using the latest trial and real-world data, as well as best practices.</p>	
1:15 pm – 7:00 pm	<b>Free Time</b>
6:00 pm – 7:00 pm	<b>Registration/Help Desk</b> ..... Foyer
6:30 pm – 9:00 pm	<b>Exhibit Hour</b> ..... Foyer
7:00 pm – 9:00 pm	<b>Meet the Poster Author: Analytical Studies</b> <b>Poster Reception</b> ..... Lanai & Molokai
<p>Heavy hors d’oeuvres buffet and ticketed drink bar included. Guests must purchase tickets for \$100 per person online or onsite.</p>	
7:00 pm – 8:00 pm	Session I: Odd Numbered Posters
8:00 pm – 9:00 pm	Session II: Even Numbered Posters
9:00 pm – 9:30 pm	<b>Abstract Committee Meeting</b> ..... Oahu/Waialua



## WEDNESDAY, MARCH 6<sup>th</sup>

6:00 am – 6:45 am	<b>Yoga</b> .....	Ocean Front/Royal Hawaiian
6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b> .....	Molokai/Foyer
6:30 am – 7:30 am	<b>YONO Breakfast with the Experts</b> .....	Molokai
	- How to Build a Thriving Practice: <i>Lauren Ditta, MD &amp; Shannon Beres, MD</i>	
6:30 am – 7:30 am	<b>Breakfast with WIN</b> .....	Molokai
6:30 am – 3:30 pm	<b>Registration/Help Desk</b> .....	Foyer
6:30 am – 3:30 pm	<b>Exhibit Hours</b> .....	Foyer
6:30 am – 7:15 am	<b>International Relations Committee Meeting</b> .....	Oahu/Waialua
7:30 am – 9:30 am	<b>Headache Medicine Update [2.0 CME]</b> .....	Kauai/Maui (GS)
	<i>Moderators: Deborah I. Friedman, MD, MPH &amp; Dane A. Breker, MD</i>	

The overlap between headache medicine, neuro-ophthalmology and neuro-otology is broad and almost unescapable in clinical practice. This session covers clinical aspects of headache medicine, such as visual and ophthalmic manifestations of primary disorders, vestibular migraine, cephalgic causes of eye pain, and new migraine treatments.

Upon completion of this session, participants should be able to: (1) Debate whether recurrent painful ophthalmoplegic neuropathy is a form of migraine or secondary disorder, (2) Identify patients with eye pain who should be referred to a headache specialist/ neurologist, (3) Diagnose vestibular migraine, (4) Describe why blurred vision is not a type of migraine aura.

7:30 am – 7:35 am	<b>Introduction to the Session:</b> <i>Deborah I. Friedman, MD, MPH</i>
7:35 am – 7:50 am	<b>Migraine Epidemiology, Diagnosis and Pathophysiology,</b> <i>Adriana C Rodriguez Leon, MD</i>
7:50 am – 8:05 am	<b>Visual Manifestations of Migraine,</b> <i>Kathleen B. Digre, MD</i>
8:05 am – 8:20 am	<b>Vestibular Migraine,</b> <i>Shin Chien Beh, MD</i>
8:20 am – 8:35 am	<b>New and Emerging Migraine Treatments,</b> <i>Benjamin Frishberg, MD</i>
8:35 am – 8:50 am	<b>Eye Pain - When to Refer,</b> <i>Stacy V. Smith, MD</i>
8:50 am – 9:05 am	<b>Cluster and Trigeminal Autonomic Cephalalgias,</b> <i>Deborah I. Friedman, MD, MPH</i>
9:05 am – 9:20 am	<b>Recurrent Painful Ophthalmoplegic Neuropathy or Ophthalmoplegic Migraine – Which is it?</b> <i>Vivek Lal, MD</i>
9:20 am – 9:30 am	<b>Questions &amp; Wrap-up,</b> <i>Dane A. Breker, MD</i>

9:30 am – 10:00 am	<b>Coffee Break with Exhibitors</b> ..... Foyer
10:00 am – 11:30 am	<b>Surgical Challenges in Neuro-Ophthalmology [1.5 CME]</b> .....Kauai/Maui (GS) <i>Moderators: Ore-ofe Oluwaseun Adesina, MD &amp; Courtney E. Francis, MD</i>

A case-based discussion of surgical challenges in neuro-ophthalmology for thyroid eye disease, chronic progressive external ophthalmoplegia and paralytic cranial neuropathies.

Upon completion of this session, participants should be able to: (1) Recognize when surgical vs other interventions can or should be applied to the management of selected neuro-ophthalmic conditions, (2) Compare and contrast surgical options for patients with neuro-ophthalmic diagnoses amenable to surgical intervention, including type of surgery, timing of surgery, and expectations from surgical outcomes, (3) Identify gaps in understanding of surgical interventions for neuro-ophthalmic conditions and utilize the skills gained to apply to patient care.

10:00 am – 10:02am	<b>Introduction</b> , Courtney Francis, MD
10:02 am – 10:14 am	<b>TED: Strabismus – When and How to Operate</b> , Madhura A Tamhankar, MD
10:14 am – 10:26 am	<b>TED: Orbitopathy – When to Decompress or Not</b> , Prem S. Subramanian, MD, PhD
10:26 am – 10:38 am	<b>CPEO: Strabismus Management</b> , Nicholas J. Volpe, MD
10:38 am – 10:50 am	<b>CPEO: Goals and Surgical Approaches to Eyelid Surgery</b> , Anne Kao, MD
10:50 am – 11:02 am	<b>Paralytic Cranial Neuropathy from Brainstem Stroke – Strabismus Management</b> , Lauren C. Ditta, MD
11:02 am – 11:14 am	<b>Paralytic Cranial Neuropathy from Brainstem Stroke – Lid Management</b> , Roger E. Turbin, MD
11:14 am – 11:30 am	<b>Q&amp;A – Wrap-up</b> , Ore-Ofe Oluwaseun Adesina, MD
11:30 am – 12:00 pm	<b>Jacobson Lecture: Moving from Not Knowing to Knowing [0.5 CME]</b> .....Kauai/Maui (GS) <i>Valerie Purvin, MD</i>
12:00 pm – 2:00 pm	<b>Lunch (on your own or join a lunch symposium)</b>
2:00 pm – 3:30 pm	<b>Optional Symposium: Practical Use of OCT in Papilledema and Pseudo-papilledema [1.5 CME]</b> .....Kauai/Maui (GS) <i>Moderator: Steffen Hamann, MD, PhD</i>

In recent years, OCT has become the gold standard technique in the diagnosis of optic disc drusen. Using state-of-the-art OCT equipment, and well-defined protocols, it is now possible to diagnose even the smallest drusen, independent of anatomical location and degree of calcification. Furthermore, compared to other optic disc drusen diagnostic modalities, OCT has the advantage that it is possible to correlate the drusen with corresponding injury of the retinal nerve fiber layer and ganglion cell layer structures, as surrogate measures of neuroaxonal integrity to the anterior visual pathway.

The purpose of this optional symposium, organized by the Optic Disc Drusen Studies (ODDS) Consortium, is to review the diagnosis and assessment of optic disc drusen and associated features such as PHOMS using OCT and multimodal imaging and to highlight pearls and pitfalls in the often clinically challenging distinction of drusen, and other causes of pseudo-papilledema, from papilledema. Experts in the field will provide up-to-date overviews in a case-based format and with a practical focus providing the audience with a clear strategy of how to use OCT in daily clinics when tackling this clinical conundrum. An expert window into the rapidly evolving field of artificial intelligence and deep learning algorithms applied to the field will be provided.

Upon completion of this session, participants should be able to (1) Differentiate between optic disc edema and pseudo-edema using OCT and multimodal imaging, (2) Analyze in detail and interpret an OCT scan of the optic nerve head, (3) Choose the relevant multimodal optic nerve head imaging technique.

2:00 pm – 2:05 pm	<b>Introduction</b> , Steffen Hamann, MD, PhD
2:05 pm – 2:20 pm	<b>Use of OCT as an In Vivo Biopsy of the Optic Nerve Head: What to consider?</b> Fiona Costello, MD
2:20 pm – 2:35 pm	<b>Optic Disc Drusen: Diagnostics, Differential Diagnosis, and Correlation of OCT-based Size and Anatomical Location with Visual Dysfunction</b> , Steffen Hamann, MD, PhD
2:35 pm – 2:50 pm	<b>Defining OCT Features of Axoplasmic Stasis: PHOMS, Hyperreflective Lines, and the Constipated Optic Nerve</b> , Alex Fraser, MD
2:50 pm – 3:05 pm	<b>Multimodal Imaging in Optic Nerve Disease: What is the Added Value?</b> Yaping Joyce Liao, MD, PhD
3:05 pm – 3:20 pm	<b>AI in Papilledema vs. Pseudo-papilledema OCT: A Look into the Near Future</b> , Michael Girard, PhD
3:20 pm – 3:30 pm	<b>Q&amp;A</b>

# PROGRAM

2:00 pm – 3:30 pm      **Optional Symposium: When We Make Errors and Do Harm [1.5 CME]** ..... Molokai  
*Moderators: Edward A. Margolin, MD, FRCSC & Lindsey De Lott MD, MS*

Medical errors are a serious public health problem and often result in a profound psychological impact on physicians. Among physicians coping with medical errors, whether real or perceived, feelings of guilt, anger, failure, and depression are common. Neuro-ophthalmologists are no exception; however, a robust system for supporting neuro-ophthalmology colleagues coping with medical errors does not exist.

In this symposium four neuro-ophthalmologists will speak about their lived experiences in dealing with medical errors that resulted from either actions not taken or as a result of taking the wrong actions. Specifically, each will concentrate on how it affected them on a personal level, how they have dealt with the outcome, and tips on surviving a mistake and emerging stronger. We will also hear from an international expert physician on how errors contribute to burnout and how to best support ourselves and colleagues through these events.

Upon completion of this session, participants should be able to (1) Normalize the fact that we all make mistakes even while striving to deliver safe and effective patient care, (2) Learn about the personal grieving and healing process we go through after we make a mistake, (3) Identify strategies on how to emerge stronger and more resilient after making a mistake.

2:00 pm – 2:05pm	<b>Introduction</b> , <i>Lindsey Delott, MD, MS</i>
2:05 pm – 2:20 pm	<b>The Cases Where I Erred and How That Changed My Practice</b> , <i>Valerie Biousse, MD</i>
2:20 pm – 2:35 pm	<b>The Cases Where I Erred and How I Coped with It</b> , <i>Alfredo Sadun, MD, PhD</i>
2:35 pm – 2:50 pm	<b>The Cases Where I Acted Upon Irrelevant Results and the Harm It Caused</b> , <i>Greg Van Stavern, MD</i>
2:50 pm – 3:00 pm	<b>Maybe There are Two Rare Entities in One Patient?</b> <i>Edward A. Margolin, MD, FRCSC</i>
3:00 pm – 3:15 pm	<b>Coping with Feelings of Grief and Guilt When an Error Has Been Made</b> , <i>Kirk Brower, MD</i>
3:15 pm – 3:30 pm	<b>Q&amp;A</b>

3:30 pm – 6:30 pm	<b>Free Time</b>
3:45 pm – 4:45 pm	<b>Consortium of Pediatric Neuro-Ophthalmologists (CPNO)</b> ..... Oahu/Waialua
6:30 pm – 10:00 pm	<b>Luau Dinner</b> ..... Coconut Grove/Royal Hawaiian
10:00 pm – 12:00 am	<b>After Party with a DJ</b> ..... Molokai

Join us as we celebrate NANOS 50<sup>th</sup> Anniversary. Indulge in the rhythms of the islands, savor delicious Hawaiian cuisine, and dance under the stars at our Luau Dinner. Let's make this golden anniversary unforgettable! Relationship building and interactive artisan stations start at 6:30 pm, Luau dinner at 7:30 pm and Luau show at 8:30 pm. Guests tickets are available for purchase at \$175 and children's tickets are available for \$75 with online registration or onsite at the Registration Desk.

6:30 pm	<b>Relationship building and Interactive Artisan Stations</b>
7:30 pm	<b>Luau Dinner</b>
8:15 pm	<b>Welcome by NANOS President, Awards and Announcements</b>
8:30 pm	<b>Luau Show</b>
10:00 pm	<b>After Party with a DJ</b>





## THURSDAY, MARCH 7<sup>th</sup>

6:30 am – 12:30 pm	<b>Registration/Help Desk</b> .....	Foyer
6:30 am – 7:30 am	<b>Breakfast</b> .....	Molokai/Foyer
7:30 am – 9:30 am	<b>Publication Symposium [2.0 CME]</b> .....	Kauai/Maui (GS)
<i>Moderators: Victoria S. Pelak, MD &amp; Laura J. Balcer, MD, MSCE</i>		

Publishing in the field of Neuro-ophthalmology is critical to our field and to the career of a neuro-ophthalmologist, but it can be fraught with challenges that demand knowledge and skills to overcome. This symposium will provide a practical overview and solutions to present-day publication challenges, including the use of AI writing tools, responding to reviewer critiques, publishing data from clinical trials, and the pros and cons of case report publishing. We will hear from a seasoned editor on the skills necessary to be an astute reviewer and editor, as well as a report on the current state of the JNO. Please bring your questions and ideas!

Upon completion of this session, participants should be able to: (1) Describe the pros and cons of clinical case report publishing, (2) Implement one important characteristic of a good reviewer while serving as a reviewer for a manuscript, (3) Understand the limits and pitfalls of using AI writing tools, (4) Respond to reviewer critiques appropriately.

7:30 am – 7:40 am	<b>Introduction and JNO Report:</b> <i>Laura J. Balcer, MD, MSCE</i>
7:40 am – 8:10 am	<b>Using AI Writing Tools in Your Scientific Writing Process/Ethics and Plagiarism,</b> <i>Tim Requarth, PhD</i>
8:10 am – 8:25 am	<b>Author “Predicaments” in Publishing,</b> <i>Valerie Biousse, MD</i>
8:25 am – 8:40 am	<b>The Pros and Cons of Case Report Publishing,</b> <i>Edward A. Margolin, MD, FRCSC &amp; Mays A. El-Dairi, MD</i>
8:40 am – 8:55 am	<b>Lessons Learned from Clinical Trials Publishing,</b> <i>Mike Wall, MD</i>
8:55 am – 9:10 am	<b>What Makes a Good Reviewer/Editor?</b> <i>Lanning B. Kline, MD</i>
9:10 am – 9:30 am	<b>Q&amp;A</b>

9:30 am – 10:00 am	<b>Coffee Break</b> .....	Molokai/Foyer
10:00 am – 12:00 pm	<b>Pediatric Neuro-Ophthalmology Symposium - Pediatric Brain Tumors: In Childhood and Beyond [2.0 CME]</b> .....	Kauai/Maui (GS)
<i>Moderators: Shannon Beres, MD &amp; Melinda Chang, MD</i>		

Brain tumors in children are different from adults in presentation, treatment, and outcomes. In this session, we will discuss the differential diagnosis of brain tumors by location in children. We will also present data on neuro-ophthalmic outcomes and complications of treatment in children with brain tumors. Finally, we will discuss considerations for driving in pediatric brain tumor survivors.

Upon completion of this session, participants should be able to: (1) Formulate a differential diagnosis for supratentorial, infratentorial, and suprasellar tumor presenting in children. (2) Identify appropriate intervals for monitoring of ophthalmic complications of cancer treatment in children. (3) Describe strategies for assessing driving safety in survivors of childhood brain tumors with neuro-ophthalmic complications.

10:00 am – 10:05 am	<b>Introduction:</b> <i>Shannon Beres, MD &amp; Melinda Chang, MD</i>
10:05 am – 10:20 am	<b>What is this Mass? Supratentorial and Infratentorial Brain tumors in Children vs. Adults,</b> <i>Jason Peragallo, MD</i>
10:20 am – 10:35 am	<b>What is this Mass? Deep Dive into Suprasellar Tumors:</b> <i>Ryan Gise, MD</i>
10:35 am – 10:50 am	<b>Is It Iatrogenic? Monitoring of Ophthalmic Complications: Radiation, MEK inhibitors, and Chemotherapy,</b> <i>Marc Dinkin, MD</i>
10:50 am – 11:00 am	<b>Q&amp;A</b>
11:00 am – 11:15 am	<b>What to Expect? Neuro-Ophthalmic Outcomes in Pediatric Brain Tumor Survivors,</b> <i>Allison Liu, MD, PhD</i>
11:15 am – 11:45 am	<b>Will My Child Be Able to Drive? Navigating the DMV and Driving Safety with Driving Aides for Brain Tumor Survivors,</b> <i>Deepta Ghate, MD</i>
11:45 am – 12:00 pm	<b>Q&amp;A</b>

See you at the 51<sup>st</sup> NANOS Annual Meeting at the JW Marriott Starr Pass in Tucson, Arizona,  
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Medicine. Departments of  
Ophthalmology and Neurology  
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PhD**  
UK Ministry of Defence  
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Sunday, March 3, 2024:	6:30 am – 5:00 pm
Monday, March 4, 2024:	6:30 am – 5:30 pm
Tuesday, March 5, 2024:	6:30 am – 1:30 pm & 6:30 pm – 9:00 pm
Wednesday, March 6, 2024:	6:30 am – 3:30 pm

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[patientdirected-info@emdserono.com](mailto:patientdirected-info@emdserono.com)  
 1-800-283-8088



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We aspire to create, improve and prolong life for people living with difficult-to-treat conditions like infertility, multiple sclerosis and cancer.

## Alexion (Rare Disease of AstraZeneca)

[www.alexion.com](http://www.alexion.com)  
[Amanda.Balbuena@alexion.com](mailto:Amanda.Balbuena@alexion.com)  
 573-808-2395



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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](http://www.alexion.com).

## Dompé

[www.oxervate.com](http://www.oxervate.com)  
[accounts.payable.dmus@dompe.com](mailto:accounts.payable.dmus@dompe.com)  
 1-833-366-7387



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Dompé is an Italian biopharmaceutical company based in Milan with a US subsidiary in the San Francisco Bay Area. It is committed to innovation and pursuing solutions to unmet medical needs including those in ophthalmology, respiratory, and diabetes. Dompé's commitment to ophthalmology includes the first topical biologic FDA-approved for an ophthalmic indication.

## LHON Project

[www.LHON.org](http://www.LHON.org)  
[LHONpoince@aol.com](mailto:LHONpoince@aol.com)

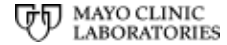


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LHON Project provides education and support to people affected by LHON, their families and friends. We support LHON research, including a global, structured, standardized, GDPR-compliant LHON Data Collection Program with patient-reported data accessible to all researchers. Our LHON Conference will connect the LHON community in Cleveland, Ohio June 27-29, 2024.

## Mayo Clinic Laboratories

<https://www.mayocliniclabs.com/>  
[mcl@mayo.edu](mailto:mcl@mayo.edu)  
 800-533-1710



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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 healthcare 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.

## Benign Essential Blepharospasm Research Foundation

[www.blepharospasm.org](http://www.blepharospasm.org)  
[charlene@blepharospasm.org](mailto:charlene@blepharospasm.org)  
 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.

## machineMD

[www.machinemd.com](http://www.machinemd.com)  
[info@machinemd.com](mailto:info@machinemd.com)  
 1-857-353-8483



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## Immunovant, Inc.

[immunovant.com](http://immunovant.com)  
[info@immunovant.com](mailto:info@immunovant.com)  
 860-913-9853



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Immunovant, Inc. is a clinical-stage immunology company dedicated to enabling normal lives for people with autoimmune diseases. As a trailblazer in anti-FcRn technology, the Company is developing innovative, targeted therapies to meet the complex and variable needs of people with autoimmune diseases. For additional information on the Company, visit [immunovant.com](http://immunovant.com).



**Stoke  
Therapeutics**



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<https://www.stoketherapeutics.com/>  
[medicalinformation@stoketherapeutics.com](mailto:medicalinformation@stoketherapeutics.com)  
781-535- 4564

Stoke Therapeutics is dedicated to addressing the underlying cause of severe diseases by upregulating protein expression with RNA-based medicines. Using Stoke's proprietary TANGO (Targeted Augmentation of Nuclear Gene Output) approach, Stoke is developing antisense oligonucleotides (ASOs) STK-002 for the treatment of autosomal dominant optic atrophy (ADOA), the most common inherited optic nerve disorder.

**Viridian Therapeutics, Inc.**



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[www.viridiantherapeutics.com](http://www.viridiantherapeutics.com)  
[info@viridiantherapeutics.com](mailto:info@viridiantherapeutics.com)  
617-272-4600

Viridian Therapeutics is advancing novel treatments for patients suffering from diseases underserved by today's therapies. Viridian's most advanced program, VRDN-001, is a monoclonal antibody targeting the insulin-like growth factor-1 receptor (IGF-1R) and is in development for the treatment of thyroid eye disease (TED).

**Alexion, AstraZeneca  
Rare Disease,  
Medical**



US MEDICAL AFFAIRS

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[www.alexion.com](http://www.alexion.com)  
[medinfo@alexion.com](mailto:medinfo@alexion.com)  
1-475-230-2596

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.

**GBR Medical**



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[gbrmedical.com](http://gbrmedical.com)  
[management@gbrmedical.com](mailto:management@gbrmedical.com)  
541-788-5544

GBR Medical distributes high quality medical products that are safe and meet all applicable global regulations, and satisfy our customers.

**neuroClues**



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<https://neuroclues.com/>  
[jean-baptiste.deharenne@p3lab.com](mailto:jean-baptiste.deharenne@p3lab.com)

In a world where neurological disorders will affect 1 person in 3 and where the number of Parkinson's patients will double in the next decade, reaching 13 million patients, our 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.

**OMIC**

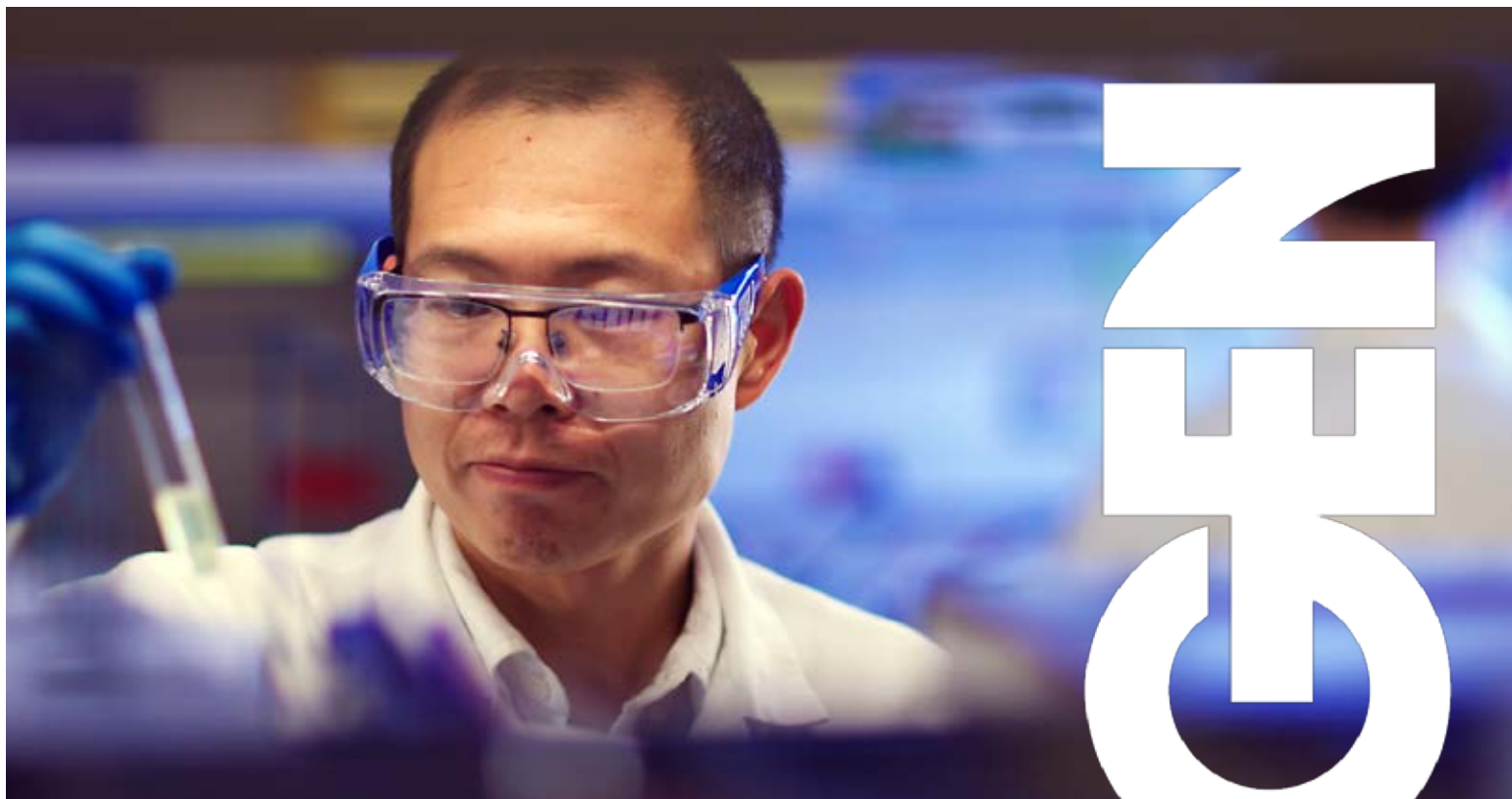


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[www.omic.com](http://www.omic.com)  
[omic@omic.com](mailto:omic@omic.com)  
800-652-6642

OMIC, the largest insurer of ophthalmologists in America, is dedicated to providing specialized coverage and superior defense. As a special benefit, OMIC has partnered with NANOS to offer a 5% discount on premiums. Visit our exhibit to learn more about the exceptional value and comprehensive protection that OMIC provides.





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# KEEP AN EYE OUT FOR LEMS IN YOUR PRACTICE

Lambert-Eaton myasthenic syndrome (LEMS) is a rare, immune-mediated neuromuscular disorder characterized by<sup>1-3</sup>:

Proximal muscle weakness

Autonomic dysfunction

Hyporeflexia or areflexia



**ABOUT 50% OF PATIENTS WITH LEMS ALSO PRESENT WITH OCULOBULBAR SYMPTOMS<sup>3</sup>**

Commonly reported symptoms include<sup>4,5</sup>:



Ptosis



Diplopia

Other ocular signs and symptoms that may occur in patients with LEMS include disconjugate gaze, involuntary lid closure, prolonged upgaze, dilated pupils, and poorly reactive pupils.<sup>4,6</sup>

The frequency of ocular symptoms may increase as LEMS progresses.

- One study found that the frequency of symptoms increased from 5% at disease onset to 42% at 6 months<sup>5</sup>

Early recognition of LEMS symptoms can lead to a quicker diagnosis and initiation of effective treatment.<sup>3</sup>

**As a neuro-ophthalmologist, you can play a vital role in identifying, diagnosing, and treating LEMS.**



**See the other hallmark signs of LEMS**

Scan the code to learn more about LEMS and how to recognize its distinguishing signs and symptoms.

**References:** 1. Harms L, Sieb J-P, Williams AE, et al. Long-term disease history, clinical symptoms, health status, and healthcare utilization in patients suffering from Lambert Eaton myasthenic syndrome: results of a patient interview survey in Germany. *J Med Econ.* 2012;15(3):521-530. 2. National Organization for Rare Disorders (NORD) website. Rare disease database: Lambert-Eaton myasthenic syndrome. Accessed November 14, 2023. <https://rarediseases.org/rare-diseases/lambert-eaton-myasthenic-syndrome/>. 3. Titulaer MJ, Lang B, Verschuuren JJ. Lambert-Eaton myasthenic syndrome: from clinical characteristics to therapeutic strategies. *Lancet Neurol.* 2011;10(12):1098-1107. 4. Young JD, Leavitt JA. Lambert-Eaton myasthenic syndrome: ocular signs and symptoms. *J Neuroophthalmol.* 2016;36(1):20-22. 5. Titulaer MJ, Wirtz PW, Wintzen AR, Verschuuren JJ. Lambert-Eaton myasthenic syndrome with pure ocular weakness. *Neurology.* 2008;70(1):86-87. 6. Gordon LK. Paraneoplastic syndromes in neuro-ophthalmology. *J Neuroophthalmol.* 2015;35(3):306-314.

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## EDUCATION:

NANOS is the premier source of the Neuro-Ophthalmology education in North America.

- Discounted registration for the Annual Meeting offering up to 30 CME credits
- Access to past Annual Meeting materials
- Access to Neuro-Ophthalmology Curriculum on NOVEL



## NETWORKING AND PROFESSIONAL DEVELOPMENT:

NANOS connects medical professionals who practice Neuro-Ophthalmology in their day-to-day clinical practice and provide opportunities for involvement on committees and the Board of Directors.

- Networking opportunities with fellow professionals
- Listing in the member directory
- Posting rights to the scientific discussion listservs, NANOSnet and YONOnet
- Leadership and volunteer opportunities on NANOS committees and the Board
- Voting rights
- Complimentary job postings and career planning tools



## RESEARCH:

NANOS provides annual subscription to the Journal of Neuro-Ophthalmology (JNO) and access to Neuro-Ophthalmology Virtual Education Library (NOVEL).

- Subscription to JNO
- Abstract submission and presentation opportunities
- Research Assistance Program
- Research Grant programs



**ADVOCACY:** NANOS represents the interests of Neuro-Ophthalmologists in the AMA House of Delegates, collaborates with AAO and AAN, and tackles issues that impact the subspecialty.

- Representation in the AMA House of Delegates, with access to the AMA policy-making bodies to present a unified position on issues pertaining to Neuro-Ophthalmology
- Involvement in the process of creating guidelines for the performance of different Neuro-Ophthalmology procedures in the workup of patients with neuro-ophthalmic disorders
- Advocacy and counsel on Neuro-Ophthalmology issues
- Practice management tips and tools for Neuro-Ophthalmologists.

## What do you treasure most in your NANOS membership?

Before joining NANOS, I thought of medicine as something which was an individual endeavor. Since being part of this organization, I recognize we work together to build our specialty and honor the traditions of those who have set the foundation. – *John Pula*

The opportunity to interact with a community that has a practice just like you and hence understands the complexity of care and that sometimes diagnosis is not straightforward. – *A new member of NANOS*

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*

NANOS connects neuro-ophthalmologists not only in North America but all over the world, and informs the members about the new developments by the JNO and Annual Meeting. It also helps to solve difficult and interesting cases by discussing them through the NANOSNET. I am proud of being a member of NANOS. – *An International member of NANOS.*

I always find the annual meetings excellent. So nice to get CME hours that are relevant to what I do every day. – *Marybeth Grazko*

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# THYROID EYE DISEASE

## UPDATES ON COMPREHENSIVE MANAGEMENT



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Professor of Ophthalmology, Neurology,  
and Neurosurgery  
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Vice Chair for Academic Affairs, Ophthalmology  
Professor in Ophthalmology, Neurology,  
and Neurosurgery  
Sue Anschutz-Rodgers University of Colorado  
Eye Center  
University of Colorado School of Medicine  
Aurora, Colorado

### TARGET AUDIENCE

This educational activity is intended for neuro-ophthalmologists and other ophthalmologists treating thyroid eye disease.

### LEARNING OBJECTIVES

After completing this activity, participants will be better able to:

- Identify diagnostic criteria that are critical for identifying patients with thyroid eye disease
- Develop individualized treatment plans for patients with thyroid eye disease according to the latest clinical data
- Review strategies to manage hyperglycemia and hearing loss in patients with thyroid eye disease receiving insulin-like growth factor 1 receptor antagonists
- Recognize the roles and responsibilities of the multidisciplinary care team in thyroid eye disease management

### ACCREDITATION STATEMENT



MedEdicus LLC is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

### CREDIT DESIGNATION STATEMENT

MedEdicus LLC designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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This continuing medical education activity is supported through an educational grant from Amgen Inc.

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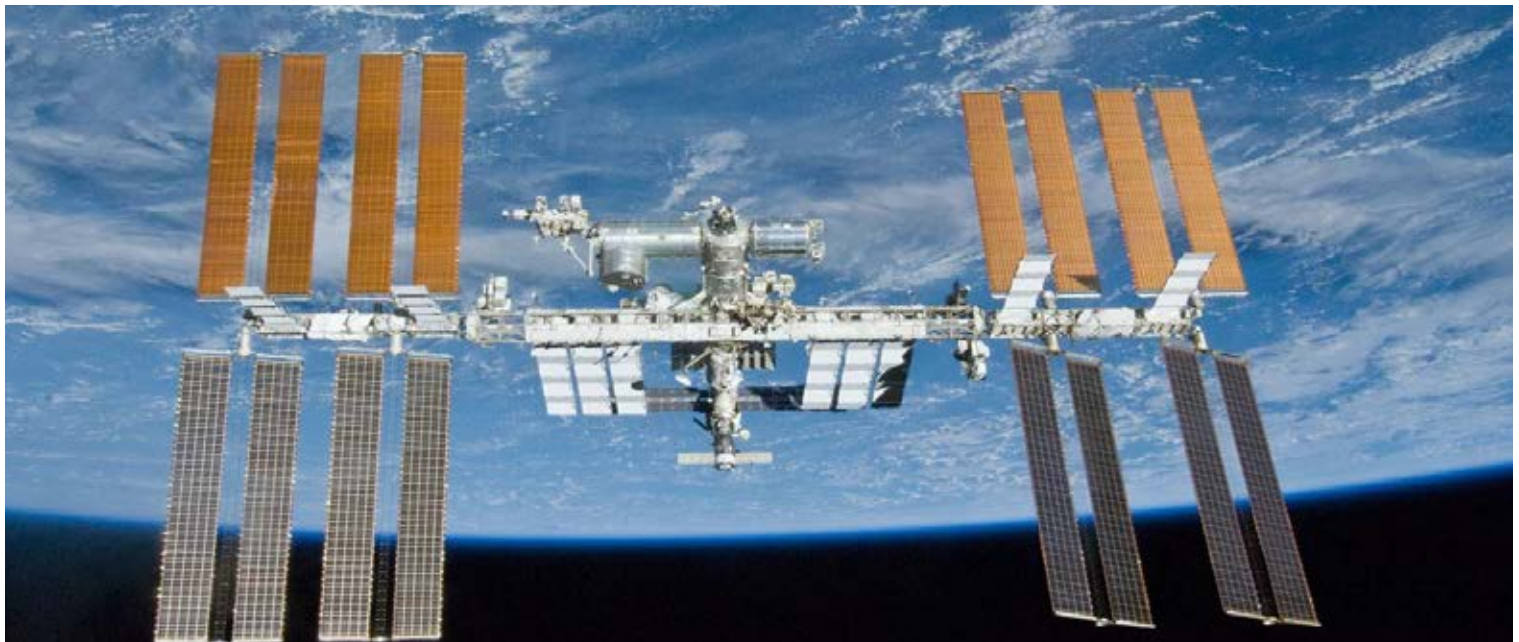
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**MONDAY, MARCH 4, 2024**

**5:45 PM – 6:15 PM HST Complimentary Registration and Dinner**

**6:15 PM – 7:15 PM HST CME Symposium**

**Sheraton Waikiki Beach Resort • Molokai Room – 2nd Level**  
2255 Kalakaua Avenue • Honolulu, Hawaii



## Electrophysiology in Microgravity

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patients with **active TED**  
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Phase 3 study now enrolling  
patients with **chronic TED**  
(NCT06021054)



For more information email: [viridian-clinical-trials@viridiantherapeutics.com](mailto:viridian-clinical-trials@viridiantherapeutics.com)



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# SAVE THE DATES

## NANOS ANNUAL MEETINGS

2025

51<sup>ST</sup> NANOS ANNUAL MEETING

**Tucson, AZ**

JW Marriott Starr Pass

MARCH  
15-20

2026

52<sup>ND</sup> NANOS ANNUAL MEETING

**Boston, MA**

Boston Marriott Copley Place

*New Meeting Pattern*

MARCH  
20-24



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