



**NORTH AMERICAN NEURO-OPHTHALMOLOGY SOCIETY**

# 2024 PROGRAM

CELEBRATING  
**50** YEARS  
**NANOS**  
ANNUAL MEETING

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



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**April 10 - August 31, 2024**

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## 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: 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, hemiachromatopsia, Alexia without agraphia, Riddoch syndrome, balling syndrome, prosopagnosia, Charles Bonnet syndrome, reduplicative paramnesia, and Lhermitte's peduncular hallucinosis.

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

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 and 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      **Breakfast with Exhibitors**      Molokai/Foyer  
 6:30 am – 7:30 am      **YONO Breakfast with the Experts**      Molokai  
 -Career Pathways for the Neurology-Trained NO: *Marc Dinkin, MD and Nailyn Rasool, MD*

-Career Pathways for the Ophthalmology-Trained NO: *Aubrey Gilbert, MD, PhD and Andrew Melson, MD*

-Building Workforce for the Future: *Ore-Ofe Oluwaseun Adesina, MD and Collin McLelland, MD*

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)

*Host: University of Michigan*

*Lead Host: Lindsey De Lott, MD, MS*

*Host Committee Members:*

*Sangeeta Khanna, MD, Wayne Cornblath, MD, Tatiana Deveney, MD, Jonathan Trobe, MD*

*Expert Panel:*

*Neuroradiologist: Hemant Parmar, MBBS*

*Neuropathologist: Sandra Camelo-Piragua, MD*

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.

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

7:30 am – 7:45 am	<b>Welcome/Introduction</b> , <i>Peter Quiros, MD, 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 am	<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, 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)

*Moderators: Lulu Bursztyn, MD, Sangeeta Khanna, MD*

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>(Don't) 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> <i>Moderators: Dane Breker, MD, Lindsey De Lott, MD, MS</i>	Kauai/Maui (GS)
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, Lindsey De Lott, MD, MS</i>	
4:45 pm – 5:00 pm	<b>Closing Remarks</b> , <i>Peter Quiros, MD, 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>	Molokai/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> - Finding a Great Mentor: <i>Kim Wings, MD and Sashank Prasad, MD</i> - What I Wish I Knew Early in My Practice: <i>Fiona Costello, MD and Kimberly Gokoffski, MD, PhD</i>	Molokai
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      **Hot Topics [2.00 CME]**      Kauai/Maui (GS)  
*Moderators: Collin McClelland, MD & Yaping Joyce Liao, MD, PhD*

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>

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? How Major Neuro-Ophthalmic Trials Are Applied Locally (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, Susan P Mollan, MBCHB, FRCOPHTH</i>
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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, 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, 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, Nancy J Newman, MD</i>	
11:20 am – 11:40 am	<b>Optic Neuritis Treatment Trial (ONTT):</b> <i>Neil R. Miller, MD, 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

*\*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.*

*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      **WIN/YONO forum: Presentation Skills and Media Training  
- Essential Tools for Your Career [2.0 CME]**      Molokai  
*Moderators: Stephanie J. Marioneaux, MD and Marsheila DeVan, MBA*

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> <i>Moderators: Beau Benjamin Bruce, MD, PhD and Oana Dumitrascu, MD</i>	Kauai/Maui (GS)
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

*\* 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.*

*Faculty: Andrew G. Lee, MD and 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.

## 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 and Andrew Melson, MD</i>	
	- Academic vs Private Practice vs Hybrid Models of Practice: <i>Rabih Hage, MD and 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 and 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, <i>Patrick Zhang, MS</i></b>	
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, <i>Olivia Grech, MRes</i></b>	
8:00 am – 8:15 am	<b>Emergency Department (ED) Non-Mydriatic Fundus Photography Expediates Care for Patients Referred for “Papilledema”, <i>Amy (Mung Yan) Lin, MD</i></b>	
8:15 am – 8:30 am	<b>Optic Nerve Blood Flow by Laser Speckle Flowgraphy in Different Causes of Optic Disc Edema, <i>Noor-Us-Sabah Ahmad, MD</i></b>	
8:30 am – 8:45 am	<b>FALCON: A Prospective Natural History Study of Patients with OPA1-Autosomal Dominant Optic Atrophy (OPA1-ADOA), <i>Byron Lam, MD</i></b>	
8:45 am – 9:00 am	<b>Factors Predictive of Recurrence in Myelin Oligodendrocyte Glycoprotein (MOG) Associated Optic Neuritis, <i>Virender Sachdeva, MS</i></b>	
9:00 am – 9:15 am	<b>Prevalence and Clinical Associations of Peripapillary Hyper-Reflective Ovoid Mass-Like Structures (PHOMS) in Patients with Craniosynostosis, <i>Jacqueline Jeon-Chapman, BS</i></b>	
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), <i>Melinda Chang, MD</i></b>	
9:30 am – 10:00am	<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 and 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>Lauren Seidman, BS</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      **Thyroid Eye Disease: Navigating Diagnosis and Treatment in the Real World\* [1.0 CME]**      Molokai

*\* 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.*

*Faculty: Prem S. Subramanian, MD, PhD, Marc Dinkin, MD and Madhura A. Tamhankar, MD*

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 50th 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.

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.

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 Hours</b>	Foyer
7:00 pm – 9:00 pm	<b>Meet the Poster Author: Analytical Studies Poster Reception</b>	Lanai & Molokai

Heavy hors d'oeuvres buffet and ticketed drink bar included. Guests must purchase tickets for \$100 per person online or onsite.

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

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> , <i>Steffen Hamann, MD, PhD</i>
2:05 pm – 2:20 pm	<b>Use of OCT as an In Vivo Biopsy of the Optic Nerve Head: What to consider?</b> <i>Fiona Costello, MD</i>
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> , <i>Steffen Hamann, MD, PhD</i>
2:35 pm – 2:50 pm	<b>Defining OCT Features of Axoplasmic Stasis: PHOMS, Hyperreflective Lines, and the Constipated Optic Nerve</b> , <i>Alex Fraser, MD</i>
2:50 pm – 3:05 pm	<b>Multimodal Imaging in Optic Nerve Disease: What is the Added Value?</b> <i>Yaping Joyce Liao, MD, PhD</i>
3:05 pm – 3:20 pm	<b>AI in Papilledema vs. Pseudo-papilledema OCT: A Look into the Near Future</b> , <i>Michael Girard, PhD</i>
3:20 pm – 3:30 pm	<b>Q&amp;A</b>
2:00 pm - 3:30 pm	<b>Optional Symposium: When We Make Errors and Do Harm</b> <b>[1.5 CME]</b> Molokai <i>Moderators: Edward A. Margolin, MD, FRCSC, Lindsey De Lott MD, MS</i>

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>	
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)

*Moderators: Shannon Beres, MD and Melinda Chang, MD*

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 and 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,  
March 15-20<sup>th</sup>, 2025!**