



# PROGRAM



2020

46TH ANNUAL MEETING

# NANOS

Omni Hotels & Resorts  
Amelia Island, Florida

**March 7-12**



NORTH AMERICAN NEURO-OPHTHALMOLOGY SOCIETY

## SATURDAY, MARCH 7

	LOCATION
8:00 am – 12:00 pm	Talbot
2:00 pm – 7:30 pm	Amelia Foyer
3:00 pm – 4:30 pm	Amelia Ballroom
6:00 pm – 7:30 pm	Magnolia Garden

## SUNDAY, MARCH 8

6:30 am – 7:30 am	Breakfast.....	Magnolia Ballroom
6:30 am – 5:30 pm	Registration/Help Desk.....	Amelia Foyer
7:30 am – 9:30 am	Frank B. Walsh (I).....	Amelia Ballroom
9:30 am – 10:00 am	Coffee Break .....	Magnolia Ballroom
10:00 am – 12:00 pm	Frank B. Walsh (II).....	Amelia Ballroom
12:00 pm – 12:20 pm	Lunch .....	Magnolia Ballroom
12:00 pm – 12:30 pm	International Relations Committee Meeting .....	Ossabaw A
12:00 pm – 1:30 pm	Fellowship Directors Committee Meeting.....	Talbot
12:20 pm – 2:20 pm	Poster Session I: Clinical Highlights .....	Magnolia Ballroom
2:20 pm – 3:00 pm	Business Meeting .....	Amelia Ballroom
3:00 pm – 5:15 pm	Frank B. Walsh (III).....	Amelia Ballroom
5:30 pm – 6:00 pm	Walsh Committee Meeting.....	Ossabaw B
5:45 pm – 6:45 pm	Members-in-Training Reception .....	Magnolia Foyer
6:45 pm – 7:45 pm	YONO Social Hour.....	Magnolia Foyer

## MONDAY, MARCH 9

6:00 am – 6:45 am	Yoga .....	Oceanview Room
6:30 am – 7:30 am	Breakfast with Exhibitors.....	Magnolia Ballroom
6:30 am – 7:30 am	Breakfast with the Novices .....	Magnolia Ballroom
6:30 am – 5:00 pm	Registration/Help Desk.....	Amelia Foyer
6:30 am – 7:30 am	NOVEL Editorial Board/Curriculum Committee Meeting .....	Talbot
7:30 am – 9:30 am	Hot Topics.....	Amelia Ballroom
9:30 am – 10:00 am	Coffee with Exhibitors (with support from EMD Serono) .....	Magnolia Ballroom
10:00 am – 12:00 pm	Telemedicine and Neuro-Ophthalmology 20/20 in 2020 .....	Amelia Ballroom
12:00 pm – 1:00 pm	Lunch Break (lunch available for purchase with credit card or room charge only) .....	Magnolia Garden
12:15 pm – 1:00 pm	Update ABO Certification/Re-certification .....	Cumberland Ballroom
12:15 pm – 1:00 pm	Update ABPN Certification/Re-certification .....	Ossabaw
1:00 pm – 2:25 pm	Medicine Beyond Diagnosis: Skills for Handling Challenging Clinical Situations .....	Amelia Ballroom
2:30 pm – 4:45 pm	Coding and Billing Symposium .....	Cumberland Ballroom
2:30 pm – 4:45 pm	Lonely Planet's Guide to Neuro-Ophthalmology .....	Amelia Ballroom
5:00 pm – 7:00 pm	Scientific Platform Session I.....	Amelia Ballroom
7:00 pm – 8:00 pm	WIN Reception (sponsored by Horizon Therapeutics; advanced registration required) .....	Cumberland Ballroom

## TUESDAY, MARCH 10

6:00 am – 6:45 am	Yoga .....	Oceanview Room
6:30 am – 7:30 am	Breakfast with Exhibitors.....	Magnolia Ballroom
6:30 am – 7:30 am	Breakfast with the Novices .....	Magnolia Ballroom
6:30 am – 1:30 pm	Registration/Help Desk.....	Amelia Foyer
6:30 am – 7:30 am	JNO Editorial Board Meeting .....	Talbot A
7:30 am – 9:30 am	Scientific Platform Session II.....	Amelia Ballroom
9:30 am – 10:00 am	Coffee with Exhibitors (with support from GenSight Biologics S.A.) .....	Magnolia Ballroom
10:00 am – 12:00 pm	Scientific Platform Session III.....	Amelia Ballroom
12:00 pm – 12:10 pm	JNO Update .....	Amelia Ballroom
12:10 pm – 6:00 pm	Afternoon free for activities	
6:00 pm – 6:30 pm	Meet the Legends of Neuro-Ophthalmology .....	Magnolia Ballroom
6:30 pm – 8:30 pm	Poster Session II: Scientific Advancements .....	Magnolia Ballroom
8:30 pm – 9:30 pm	Abstract Committee Meeting .....	Talbot B

## WEDNESDAY, MARCH 11

6:00 am – 6:45 am	Yoga .....	Oceanview Room
6:30 am – 7:30 am	Breakfast with Exhibitors.....	Magnolia Ballroom
6:30 am – 7:30 am	Breakfast with the Novices .....	Magnolia Ballroom
6:30 am – 7:30 am	CME Committee Meeting .....	Ossabaw A
6:30 am – 5:30 pm	Registration/Help Desk.....	Amelia Foyer
6:30 am – 7:30 am	Consortium of Pediatric Neuro- Ophthalmologists Meeting (CPNO) (All are welcome to attend).....	Talbot
7:30 am – 9:30 am	Skullbase Disorders and Surgical Approaches .....	Amelia Ballroom
9:30 am – 10:00 am	Coffee with Exhibitors .....	Magnolia Ballroom
10:00 am – 11:25 am	2020: What's New in Low Vision .....	Amelia Ballroom
11:25 am – 12:00 pm	Jacobson Lecture: Optic Neuritis: Past, Present and Future.....	Amelia Ballroom
12:00 pm – 12:15 pm	Announcements/NOVEL Update .....	Amelia Ballroom
12:15 pm – 1:15 pm	Lunch break (lunch available for purchase via credit card or room charge only).....	Magnolia Garden
12:15 pm – 1:45 pm	Research Committee Luncheon.....	Talbot
12:20 pm – 1:10 pm	A Paradigm Shift in the Treatment of Thyroid Eye Disease (TED) (organized by Horizon Therapeutics- advanced registration required) .....	Cumberland Ballroom
1:15 pm – 3:15 pm	3D Anatomy.....	Amelia Ballroom
3:30 pm – 5: 15 pm	Skullbase Surgical Approaches - "Live" Dissection .....	Cumberland Ballroom
6:30 pm – 12:00 am	Banquet .....	Amelia and Magnolia Ballrooms

## THURSDAY, MARCH 12

6:30 am – 7:30 am	Breakfast.....	Magnolia Ballroom
6:30 am – 7:30 am	Breakfast with the Novices.....	Magnolia Ballroom
6:30 am – 12:00 pm	Registration/Help Desk.....	Amelia Ballroom
7:30 am – 9:30 am	New Treatments in Neuro-Ophthalmology-2020 Trends.....	Amelia Ballroom
9:30 am – 10:00 am	Coffee break .....	Amelia Foyer
10:00 am – 12:00 pm	Strabismus: Image? Operate? .....	Amelia Ballroom



#### NANOS MISSION:

NANOS is dedicated to achieving excellence in care of patients with Neuro-Ophthalmic diseases by the support and promotion of education, research, and the practice of Neuro-Ophthalmology.



## Welcome

Hello! On behalf of the North American Neuro-Ophthalmology Society (NANOS), we are excited to welcome you to the 46th Annual Meeting at the Omni Amelia Island Plantation Resort in Amelia Island, FL!

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, and workshop opportunities. We look forward to you being part of it!

In order to accommodate the continual growth of high-quality abstract submissions, NANOS will continue to host two poster sessions during the Annual Meeting. Poster Session I: Clinical Highlights in Neuro-Ophthalmology will take place on Sunday, March 8th from 12:20 – 2:20 pm. Poster Session II: Scientific Advancements in Neuro-Ophthalmology will take place on Tuesday, March 10th from 6:30 – 8:30 pm. In addition, all accepted platform and poster presenters have the opportunity to upload an ePoster to maximize attendee viewing for the duration of the meeting. The ePosters can be viewed on the mobile app.

Please join us for the Opening Reception on Saturday, March 7th, from 6:00 – 7:30 pm in the Magnolia Garden. The reception will feature complimentary cocktails and light hors d'oeuvres.

Breakfast for registrants only will be provided daily. Lunch will be provided on Sunday. Please see the program for details.

CME instructions can be found on page 3 of the program. Please bring your computer or mobile device to complete the evaluation during the sessions. Complimentary internet will be provided. Instructions for access can be found on page 3 of the program.

Be sure to attend the Business Meeting on Sunday, March 8th, at 2:20 pm in the Amelia Ballroom. We will be presenting the Strategic Plan and your input is needed.

On Monday afternoon, join us for the optional symposium Coding and Billing led by Sue Vicchilli, AAO Director, Coding and Billing. Advanced registration is required (the cost is \$25; complimentary for fellows-in-training).

Join colleagues for a fun, casual evening of socializing, dining and dancing at the NANOS Annual Banquet! Dinner will take place in the Amelia Ballroom, followed by dancing in the Magnolia Ballroom. This event is complimentary for registered attendees. Guests must purchase a ticket for \$150 per person.

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

I hope you enjoy the 2020 NANOS Annual Meeting!

**Andrew G. Lee, MD**  
NANOS President





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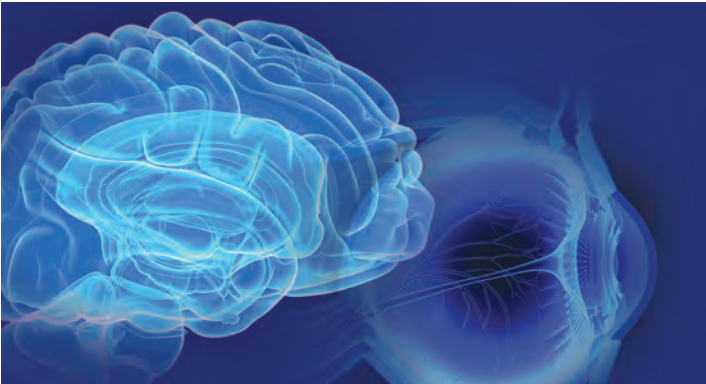
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# GENERAL INFORMATION



## EXHIBITOR HOURS:

This year's Exhibit Hall is located in the **Magnolia Ballroom**. The Exhibit Hall will be open during the days and times listed below. All breakfasts, breaks and lunches will be held in the Magnolia Ballroom, so be sure to take advantage and visit the exhibitors, as they help make this meeting possible!

Monday, March 9	6:30 am – 10:00 am
Tuesday, March 10	6:30 am – 10:00 am
Wednesday, March 11	6:30 am – 10:00 am

## Back Again This Year! 2020 NANOS Exhibitor Raffle

Don't forget to get your raffle card stamped as you visit with the exhibitors. Once your raffle card is complete, drop it off at the Registration Desk by 12:00 pm on Wednesday and you will be eligible for prize drawings.

## NANOS REGISTRATION/HELP DESK HOURS:

Location:	<b>Amelia Ballroom foyer</b>
Saturday:	<b>2:00 pm – 7:30 pm</b>
Sunday:	<b>6:30 am – 5:30 pm</b>
Monday:	<b>6:30 am – 5:00 pm</b>
Tuesday:	<b>6:30 am – 1:30 pm</b>
Wednesday:	<b>6:30 am – 5:30 pm</b>
Thursday:	<b>6:30 am – 12:00 pm</b>

## NANOS MOBILE MEETING APP:

To access the NANOS Mobile App:

1. Visit your smartphone's app store and search for "NANOS Meetings"
2. Download and open the mobile app.  
OR Scan the QR code to the right.

## Features:

- Full Program Schedule
- Faculty Listing
- Exhibitor and Support List
- Poster and Platform Abstracts
- Helpful Information



## How to Claim CME for the 2020 NANOS Annual Meeting

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

Access the NANOS 2020 Annual Meeting Evaluations by using the following link: **[nanos2020.sur-sys.com](https://nanos2020.sur-sys.com)**

Complete the evaluation of sessions attended. The evaluation may be completed during the meeting or before Friday, April 10th.

CME Certificates will be emailed approximately one week after completion of the evaluations.

**Total Annual Meeting Credits: 32.75 Credit(s)<sup>™</sup>**

## ABPN Self-Assessment CME

The American Board of Psychiatry and Neurology has reviewed the NANOS 46th Annual Meeting and has approved this program as part of a comprehensive program, which is mandated by the ABMS as a necessary component of Maintenance of Certification. Complete information regarding the ABPN Self-Assessment CME Maintenance of Certification requirements are available at **[www.abpn.com](https://www.abpn.com)**.

## ABO Self-Assessment CME

This activity meets the Self-Assessment CME requirements defined by the American Board of Ophthalmology (ABO). Please be advised that the ABO is not an accrediting body for purposes of any CME program. ABO does not sponsor this or any outside activity, and ABO does not endorse any particular CME activity. Complete information regarding the ABO Self-Assessment CME Maintenance of Certification requirements are available at **[www.abop.org](https://www.abop.org)**.

## WIFI Instructions:

Wifi network/SSID: **NANOS2020**  
Security key/password: **NANOS2020**

Select wifi network/SSID **NANOS2020**  
Click Connect/Join  
Enter security key/password **NANOS2020**



## OMNI AMELIA ISLAND PLANTATION RESORT MEETING SPACE

# CONFERENCE CENTER



- Receptions
- General Session
- Registration
- Committee Meetings
- Exhibits/Coffee Breaks/Meals
- Posters
- Optional Symposiums



# PROGRAM

## SATURDAY, MARCH 7

8:00 am – 12:00 pm	NANOS Board Meeting.....Talbot
2:00 pm – 7:30 pm	Registration/Help Desk ..... Amelia Foyer
3:00 pm – 4:30 pm	Neuro-Radiology Symposium [1.5 CME] ..... Amelia Ballroom
	<i>Manu S. Goyal, MD, MSc, Laurie A. Loevner, MD, and Aseem Sharma, MD</i>

This neuroradiology session is designed to provide participants with education and information regarding (1) the imaging appearance and evaluation of cranial nerve anatomy and pathology, (2) identification and selection of imaging modalities and sequences within those modalities, and (3) the imaging appearance and evaluation of intracranial venous diseases including those involving the cavernous sinuses.

Upon completion of this session, participants should be able to: (1) review imaging anatomy of the oculomotor cranial nerves (CN III, IV, and VI) from their brainstem origin through the cavernous sinuses and parasellar spaces, and into the orbits, (2) discuss the imaging appearance and evaluation of certain cranial nerve involving pathologies, (3) review common, uncommon, and novel CT and MRI based sequences used in neuro-ophthalmology, (4) discuss the imaging modalities and sequences used to evaluate for intracranial venous diseases, in particular thrombosis and arteriovenous fistulae, and (5) discuss the imaging appearance of intracranial venous thrombosis and arteriovenous fistulae.

6:00 pm – 7:30 pm	Opening Reception..... Magnolia Garden
	All are welcome! Light hors d'oeuvres provided.

## SUNDAY, MARCH 8

6:30 am – 7:30 am	Breakfast.....Magnolia Ballroom
6:30 am – 5:30 pm	Registration/Help Desk ..... Amelia Foyer
7:30 am – 9:30 am	Frank B. Walsh (I) [1.75 CME] ..... Amelia Ballroom
	<i>Moderators: Sophia Chung, MD and Leanne Stunkel, MD</i>

This session is designed to present a wide variety of neuro-ophthalmic cases to an audience of physicians with varying neuroscience backgrounds who have a common intellectual interest in the broad range of conditions that impact the human visual pathways and ocular motor systems.

The format is a clinicopathologic conference. Clinical cases will be presented by neuro-ophthalmologists with comments by a neuroradiologist, neuropathologist and other selected experts. Neuroimaging, laboratory and surgical pathology data will help illustrate clinical point. Cases will be discussed from clinical, anatomic, radiologic and pathologic aspects with emphasis on diagnosis, pathophysiology and management. Audience participation is encouraged.

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

7:30 am – 7:45 am	Welcome/Introduction
7:45 am – 8:05 am	A Myel-In, a Long Way to Go Aishwarya V. Pareek, MD
8:05 am – 8:25 am	From Brainstem to Stern Neena R. Cherayil, MD
8:25 am – 8:45 am	Are We “Tilting at Windmills”? Michael Vaphiades, DO
8:45 am – 9:05 am	Objects Jumping, Body Bumping, Hearing Slumping.... Quick, He is Crumping Jorge C. Kattah, MD
9:05 am – 9:25 am	Look in The Back Tatiana K. Deveney, MD
9:25 am – 9:30 am	Wrap-Up

9:30 am – 10:00 am	Coffee Break .....Magnolia Ballroom
10:00 am – 12:00 pm	Frank B. Walsh (II) [1.75 CME] ..... Amelia Ballroom
	<i>Moderators: Nathan Kung, MD and Gregory Van Stavern, MD</i>

## SUNDAY, MARCH 8 (Continued)

10:00 am – 10:20 am	<b>Not All Men with Thick Skulls Have High Testosterone</b> <i>Yosbelkys Martin Paez, MD</i>
10:20 am – 10:40 am	<b>You're Too Young for That!</b> <i>Sravanthi Vegunta, MD</i>
10:40 am – 11:00 am	<b>Tumefactive MS</b> <i>Anthony J. Brune III, DO</i>
11:00 am – 11:20 am	<b>Tissue Is the Issue</b> <i>Christine Greer, MD, MS</i>
11:20 am – 11:40 am	<b>Well Here Is Another Uveo-Meningeal Syndrome You Might Muck Up</b> <i>David DeLeon</i>
11:40 am – 11:45 am	<b>Morning Wrap-Up</b>
<b>12:00 pm – 12:20 pm</b>	<b>Lunch</b> ..... <b>Magnolia Ballroom</b>
<b>12:00 pm – 12:30 pm</b>	<b>International Relations Committee Meeting</b> ..... <b>Ossabaw A</b>
<b>12:00 pm – 1:30 pm</b>	<b>Fellowship Directors Committee Meeting</b> ..... <b>Talbot</b>
<b>12:20 pm – 2:20 pm</b>	<b>Poster Session I: Clinical Highlights</b> ..... <b>Magnolia Ballroom</b>
12:20 pm – 1:20 pm	<b>Odd Numbered Posters</b>
1:20 pm – 2:20 pm	<b>Even Numbered Posters</b>
<b>2:20 pm – 3:00 pm</b>	<b>Business Meeting</b> ..... <b>Amelia Ballroom</b>
	NANOS's Strategic Plan will be presented. All NANOS members are encouraged to attend.
<b>3:00 pm – 5:15 pm</b>	<b>Frank B. Walsh (III) [2.25 CME]</b> ..... <b>Amelia Ballroom</b>
	<i>Moderators: Sangeeta Khanna, MD and Collin McClelland, MD</i>
3:00 pm – 3:20 pm	<b>A Par 3 Macular Hole?</b> <i>Archana Srinivasan, MBBS, MD</i>
3:20 pm – 3:40 pm	<b>Smoke Gets In Your Eyes</b> <i>Tatiana Bakaeva, MD, PhD</i>
3:40 pm – 4:00 pm	<b>Undiscovered Islands - So Close, Yet So Far</b> <i>Magdalena Wirth, MD</i>
4:00 pm – 4:20 pm	<b>Bones of the Past</b> <i>Bart K. Chwalisz, MD</i>
4:20 pm – 4:40 pm	<b>Close Encounters of The Third Kind</b> <i>Trishal Jeeval-Patel, MD</i>
4:40 pm – 5:00 pm	<b>Oh Oh Oh It's Magic, You Know...Never Believe It's Not So!</b> <i>Zeeshan Haq, MD</i>
5:00 pm – 5:15 pm	<b>Closing Remarks</b>
<b>5:30 pm – 6:00 pm</b>	<b>Walsh Committee Meeting</b> ..... <b>Ossabaw B</b>
<b>5:45 pm – 6:45 pm</b>	<b>Members-in-Training Reception</b> ..... <b>Magnolia Foyer</b>
	(This reception is for Students, Residents, Fellows-in-Training, NANOS Board of Directors members, Fellowship Directors, Student Clerkship, and Neurology and Ophthalmology Residency Directors.)
<b>New this year!</b> All fellowship directors with availability and applicants or potential applicants looking for a fellowship are invited to participate in fellowship "speed dating." If you have a vacancy during these fellowship periods, please stop by.	
6:00 pm – 6:15 pm	2020 - 2021 Fellowship Period
6:15 pm – 6:35 pm	2021 – 2022 Fellowship Period
6:35 pm – 6:45 pm	2022 – 2023 Fellowship Period
<b>6:45 pm – 7:45 pm</b>	<b>YONO Social Hour</b> ..... <b>Magnolia Foyer</b>
	(This event is not financially supported by NANOS.)

## MONDAY, MARCH 9

<b>6:00 am – 6:45 am</b>	<b>Yoga</b> ..... <b>Oceanview Room</b>
	(Sunrise Tower, B level next to workout room)
<b>6:30 am – 7:30 am</b>	<b>Breakfast with Exhibitors</b> ..... <b>Magnolia Ballroom</b>
<b>6:30 am – 7:30 am</b>	<b>Breakfast with the Novices</b> ..... <b>Magnolia Ballroom</b>

Join us in the reserved YONO area at breakfast for table discussions led by senior members and/or YONOs to discuss topics relevant to aspiring or current YONOs.

6:30 am – 7:30 am	<b>Tips to Building an Academic Career</b> <i>Naghm Al-Zubidi, MD, PhD, John Chen, MD, PhD and Lanning Kline, MD</i>
6:30 am – 7:30 am	<b>Tips on Publishing and Performing Reviews</b> <i>Laura Balcer, MD, MSCE, Robert M Mallory, MD and Heather E. Moss, MD, PhD</i>



6:30 am – 5:00 pm	Registration/Help Desk .....	Amelia Foyer
6:30 am – 7:30 am	NOVEL/Editorial Board/Curriculum Committee Meeting .....	Talbot
7:30 am – 9:30 am	Hot Topics [2.0 CME] .....	Amelia Ballroom
<i>Moderators: Julie Falardeau, MD and Devin Mackay, MD</i>		

This session is designed to provide the audience with a practical, evidence-based discussion on how to manage important 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) identify why an empty sella occurs, (2) explain how an empty sella influences the management of a patient with or without intracranial hypertension, (3) identify a subset of risk factors for anterior ischemic optic neuropathy, (4) distinguish various forms of hereditary optic neuropathies, (5) identify differences between hereditary optic neuropathies that influence patient education and treatment, and (6) describe the role of vascular imaging in the diagnosis, monitoring, and assessment of GCA disease activity and related vascular complications.

7:30 am – 7:35 am	<b>Introduction</b>	
7:35 am – 7:55 am	<b>I Have an Empty Sella, What Does This Mean?</b>	<i>Susan Mollan, MBChB, FRCOphth</i>
7:55 am – 8:15 am	<b>DOA, Wolfram, Is It All the Same?</b>	<i>Nancy J. Newman, MD</i>
8:15 am – 8:50 am	<b>AION Precipitants</b>	
	<b>Nocturnal Hypotension</b>	<i>Anthony Arnold, MD</i>
	<b>Obstructive Sleep Apnea</b>	<i>Clare Fraser, FRANZCO</i>
	<b>PDE5 Inhibitors</b>	<i>Howard Pomeranz, MD, PhD</i>
	<b>Cataract Surgery</b>	<i>Helen Danesh-Meyer, MD, PhD</i>
8:50 am – 9:10 am	<b>Vessel Imaging for the Diagnosis of Giant Cell Arteritis</b>	<i>François-Xavier Borruat, MD</i>
9:10 am – 9:30 am	<b>Q&amp;A</b>	
9:30 am – 10:00 am	<b>Coffee with Exhibitors .....</b>	<b>Magnolia Ballroom</b>
	(with support from EMD Serono)	
10:00 am – 12:00 pm	<b>Telemedicine and Neuro-Ophthalmology 20/20 in 2020 [2.0 CME] .....</b>	<b>Amelia Ballroom</b>
	<i>Moderators: Melissa W. Ko, MD, FAAN, CPE and Kevin Lai, MD</i>	

Telemedicine has been growing as a robust and vital part of clinical medicine in its ability to provide high-quality care to patients. This session will provide up-to-date information regarding the implementation of telemedicine in various clinical settings and specialties, discuss the medicolegal aspects of utilizing telemedicine in clinical practice, explore the financial feasibility of telemedicine, and demonstrate ways telemedicine enhances the care that we can deliver to patients in need of neuro-ophthalmic care.

Upon completion of this session, participants should be able to: (1) discuss various methods of telemedicine use, (2) recognize how telemedicine fits into neuro-ophthalmology practice, (3) detail the process of implementing telemedicine into clinical practice, (4) enumerate medicolegal considerations and how to address these concerns, and (5) evaluate the financial benefits and costs of incorporating telemedicine into clinical practice.

10:00 am – 10:10 am	<b>Telemedicine 20/20 in 2020: How Far Have We Come, Where Are We Headed and How Is It Relevant to Neuro-Ophthalmology?</b>	<i>Melissa W. Ko, MD, FAAN, CPE</i>
10:10 am – 10:55 am	<b>Panoramic View of a System-Wide Telemedicine Program at an Academic Medical Center</b>	<i>Ingrid Zimmer-Galler, MD</i>
10:55 am – 11:05 am	<b>Teleconsultation in the ED for Neuro-Otology at JHU</b>	<i>Dan Gold, DO</i>
11:05 am – 11:20 am	<b>Telemedicine: Does It Pay to Play? Billing, Coding, Reimbursement</b>	<i>Ingrid Zimmer-Galler, MD and Kevin Lai, MD</i>
11:20 am – 11:40 am	<b>Neuro-Ophthalmology Digital Consultations: The Stanford Model</b>	<i>Heather E. Moss, MD, PhD</i>
11:40 am – 12:00 pm	<b>Panel Discussion/Q&amp;A</b>	
12:00 pm – 1:00 pm	<b>Lunch break .....</b>	<b>Magnolia Garden</b>
	Lunch will be available for purchase in the meeting space. Credit card or room charge only.	
12:15 pm – 1:00 pm	<b>Update ABO Certification/Re-certification .....</b>	<b>Cumberland Ballroom</b>
	<i>Jane Bailey, MD, and Lanning Kline, MD</i>	
12:15 pm – 1:00 pm	<b>Update ABPN Certification/Re-certification .....</b>	<b>Ossabaw</b>
	<i>Yanjun (Judy) Chen, MD, PhD, Christopher Glisson, DO, MS, FAAN and Heather E. Moss, MD, PhD</i>	

## MONDAY, MARCH 9 *(Continued)*

**1:00 pm – 2:25 pm**      **Medicine Beyond Diagnosis: Skills for Handling Challenging Clinical Situations** (organized by the WIN Committee) [1.5 CME] ..... **Amelia Ballroom**

The main purpose of this optional symposium is to help develop “EQ” emotional quotient skills to assist in clinical decision making and conduct with regards to the doctor-patient relationship and interactions, focusing on patient interactions and communication.

Upon completion of this session, participants should be able to: (1) identify common heuristic decision-making errors with relevance to neuro-ophthalmology, (2) employ skills to avert making medical errors, (3) demonstrate empathy when delivering bad news, and (4) communicate efficiently with patients who have specific challenges with communication.

1:00 pm – 1:05 pm	<b>Introduction</b>
1:05 pm – 1:30 pm	<b>Legalese-Ease: Practices to Minimize Risk for Litigation</b> <i>Barbara Yates, MD, Sophia Chung, MD, Howard R. Krauss, MD, BEEE, SM</i>
1:30 pm – 1:55 pm	<b>The Art of Breaking Bad News</b> <i>Madhura Tamhankar, MD, Jane Bailey, MD</i>
1:55 pm – 2:20 pm	<b>Word of Mouth: Communicating With Patients Who Have Dementia or Language Difficulties</b> <i>Kimberly Wings, MD, Victoria Pelak, MD, Lynn Gordon, MD, PhD</i>
2:20 pm – 2:25 pm	<b>Closing Remarks</b>

**2:30 pm – 4:45 pm**      **Coding and Billing Symposium [2.25 CME]**..... **Cumberland Ballroom**  
**(advanced registration required)**  
*Moderators: Mark Moster, MD and John Pula, MD*

This session will feature an introductory lecture on the nuts and bolts of billing as well as hot topics in coding and billing.

Upon completion of this session, participants should be able to: (1) recognize how to properly code for different types of clinical encounters, (2) describe the differences between levels of coding, and (3) interpret medical decision-making tiers to properly define a patient encounter.

2:30 pm – 2:35 pm	<b>Introduction</b> <i>Mark Moster, MD and John Pula, MD</i>
2:35 pm – 3:05 pm	<b>Coding Update/Nuts and Bolts of Billing</b> <i>Sue Vicchilli, AAO Director</i>
3:05 pm – 3:10 pm	<b>Q&amp;A</b>
3:10 pm – 3:40 pm	<b>Hot Topics</b> <i>Sue Vicchilli, AAO Director</i>
3:40 pm – 4:05 pm	<b>MACRA/MIPS (Why Some Do/Don't Need to Know It), Prolonged Codes, Telephone Codes, and Electronic Visit Coding</b> <i>Sue Vicchilli, AAO Director</i>
4:05 pm – 4:10 pm	<b>Q&amp;A</b>
4:10 pm – 4:30 pm	<b>Typical Coding Conundrums</b> <i>Mark Moster, MD and John Pula, MD</i>
4:30 pm – 4:45 pm	<b>Q&amp;A</b>

**2:30 pm – 4:45 pm**      **Lonely Planet's Guide to Neuro-Ophthalmology [2.25 CME]** ..... **Amelia Ballroom**  
*Moderators: Clare Fraser, FRANZCO and Susan Mollan, FRCOphth*

The International Relations Committee of the North American Neuro-Ophthalmology Society presents an interactive case-based symposium that will discuss neuro-ophthalmology disorders associated with the perils of vacations and world-wide travel. Cases will include post-immunization optic neuritis, traumatic optic neuropathy, food borne toxins and unusual headaches.

Upon completion of this course, participants should be able to: (1) identify vaccine related problems, (2) summarize the concepts on traumatic optic neuropathy management options, (3) recognize food borne related neuro-ophthalmic conditions, and (4) recognize CSF diversion related complications and visual loss.

2:30 pm – 2:52 pm	<b>Pre-Vacation Immunization Triggered Neuro-Ophthalmic Conditions Including Optic Neuritis</b> <i>Fayçal Mokhtari, MD</i>
2:52 pm – 3:14 pm	<b>Holiday Headaches: From Ice-Cream to Caffeine Withdrawal, Holidays Don't Always Mean Less Headache. Highlighting Common Headache Disorders and How to Manage Them</b> <i>Alex Sinclair, MRCP, FRCP, PhD</i>
3:14 pm – 3:36 pm	<b>Holiday Hell: Highlighting Underlying Neuro-Ophthalmic Disorders That May Surface Causing Holiday Mayhem</b> <i>Laura Bonelli, MD</i>
3:36 pm – 3:58 pm	<b>Trauma On Your Travels: An Update On the Latest Thinking About Traumatic Optic Neuropathy</b> <i>Richard Blanch, MD, PhD</i>

3:58 pm – 4:20 pm	<b>Maybe It Was Something I Ate? An Update on Food Borne Neuro-Ophthalmic Conditions</b> <i>Christian Lueck, PhD, FRACP, FRCP(UK), FAAN</i>
4:20 pm – 4:42 pm	<b>Flight Level in NA10N - A380, 747, 777.....Does It Matter?</b> <i>Rustum Karanjia, MD, PhD</i>
4:42 pm – 4:45 pm	<b>Q&amp;A</b>

**5:00 pm – 7:00 pm**      **Scientific Platform Session I [2.0 CME]..... Amelia Ballroom**  
*Moderators: Nagham Al-Zubidi, MD, PhD and Beau Bruce, MD, PhD*

5:00 pm – 5:15 pm	<b>Optic Chiasm Involvement Associated with Myelin Oligodendrocyte Glycoprotein and Aquaporin-4 Antibodies,</b> <i>Deena Tajfirouz, MD</i>
5:15 pm – 5:30 pm	<b>Resveratrol Nanoparticles are Neuroprotective in Experimental, Optic Neuritis,</b> <i>Ehtesham Shamsheer</i>
5:30 pm – 5:45 pm	<b>Efficacy and Safety of Satralizumab From Two Phase 3 Trials in Neuromyelitis Optica Spectrum Disorder,</b> <i>Benjamin M. Frishberg, MD</i>
5:45 pm – 6:00 pm	<b>Teprotumumab Effect on Proptosis, Diplopia and Quality of Life in Active Thyroid Eye Disease (TED),</b> <i>Jade S. Schiffman, MD</i>
6:00 pm – 6:15 pm	<b>Neuro-ophthalmic Complications in Patients Treated with CTLA-4 and PD-1/PD-L1 Checkpoint Blockade Inhibition,</b> <i>Eduardo Nicolás Selemé, MD</i>
6:15 pm – 6:30 pm	<b>Novel Biomarkers in Human and Murine Nonarteritic Anterior Ischemic Optic Neuropathy,</b> <i>Y. Joyce Liao, MD, PhD</i>
6:30 pm – 6:45 pm	<b>AAION Shows Profound Reduction in Disc and Choroidal Blood Flow Vs. NAION and Normal Eyes,</b> <i>Randy Kardon, MD, PhD</i>
6:45 pm – 7:00 pm	<b>Optic Disc Drusen in Young Adults with Anterior Ischemic Optic Neuropathy: A Multicenter Study,</b> <i>Steffen Hamann, MD, PhD</i>

**7:00 pm – 8:00 pm**      **WIN Reception - sponsored by Horizon Therapeutics ..... Cumberland Ballroom**  
**(advanced registration required)**

## TUESDAY, MARCH 10

<b>6:00 am – 6:45 am</b>	<b>Yoga ..... Oceanview Room</b> (Sunrise Tower, B level next to workout room)
<b>6:30 am – 7:30 am</b>	<b>Breakfast with Exhibitors ..... Magnolia Ballroom</b>
<b>6:30 am – 7:30 am</b>	<b>Breakfast with the Novices..... Magnolia Ballroom</b>

Join us in the reserved YONO area at breakfast for table discussions led by senior members and/or YONOs to discuss topics relevant to aspiring or current YONOs.

6:30 am – 7:30 am	<b>Combining Neurology Subspecialties with Neuro-Ophthalmology</b> <i>Nathan Kung, MD and Stacy Smith, MD</i>
6:30 am – 7:30 am	<b>Job Hunting and Your First Year in Practice</b> <i>Melinda Y. Chang, MD and Evan Price, MD</i>

<b>6:30 am – 1:30 pm</b>	<b>Registration/Help Desk ..... Amelia Foyer</b>
<b>6:30 am – 7:30 am</b>	<b>JNO Editorial Board Meeting ..... Talbot A</b>
<b>7:30 am – 9:30 am</b>	<b>Scientific Platform Session II [2.0 CME]..... Amelia Ballroom</b> <i>Moderators: Stacy Pineles, MD, MS and Alex Sinclair, MBChB, FRCP, PhD</i>

7:30 am – 7:45 am	<b>Retinal Microvascular Changes Differentiate Transient Ischemic Attack from Mimics in the Emergency Department: FOTO-TIA Study,</b> <i>Beau Bruce, MD, PhD</i>
7:45 am – 8:00 am	<b>Human vs. Machine: The Brain and Optic Nerve Study with Artificial Intelligence (BONSAI),</b> <i>Valerie Biousse, MD</i>
8:00 am – 8:15 am	<b>Time is vision: early training enhances vision restoration after occipital Stroke,</b> <i>Elizabeth L. Saionz, PhD</i>
8:15 am – 8:30 am	<b>Measuring Torsion with a Mobile App Compared to Double Maddox Rod,</b> <i>Michael S. Lee, MD</i>
8:30 am – 8:45 am	<b>Quantitative Visual Assessment in Children with Cortical/Cerebral Visual Impairment (CVI) Using Eye Tracking,</b> <i>Melinda Y. Chang, MD</i>
8:45 am – 9:00 am	<b>Anterograde Axonal Degeneration in Children with Vision Loss Secondary to NF1 Associated Optic Pathway Glioma,</b> <i>Robert Avery, DO</i>



## TUESDAY, MARCH 10 (Continued)

9:00 am – 9:15 am	<b>Is Visual Snow a thalamo-cortical dysrhythmia of the visual processing system – a magnetoencephalogram study,</b> <i>Jenny L. Hepschke, MBBS, BSc(Med), PhD</i>
9:15 am – 9:30 am	<b>Gender distribution of speakers at the North American Neuro-Ophthalmology Society annual meetings,</b> <i>Obadah Moushmouth, BS</i>
9:30 am – 10:00 am	<b>Coffee with Exhibitors</b> .....Magnolia Ballroom (with support from GenSight Biologics S.A.)
10:00 am – 12:00 pm	<b>Scientific Platform Session III [2.0 CME]</b> ..... Amelia Ballroom <i>Moderators: Ruth Huna-Baron, MD and Kenneth Shindler, MD, PhD</i>
10:00 am – 10:15 am	<b>Static and Abduction Versus Adduction Dynamic Ocular Motor Abnormalities in Spinocerebellar Ataxia Type 3,</b> <i>João Lemos, MD, PhD</i>
10:15 am – 10:30 am	<b>The 100,000 Genomes Project – Uncovering Pathogenic Variants in inherited Optic Neuropathies with Whole-Genome Sequencing,</b> <i>Neringa Jurkute, MD, FEBO</i>
10:30 am – 10:45 am	<b>Progressive Optic Atrophy in a Retinal Ganglion Cell-Specific Mouse Model of Complex I Deficiency,</b> <i>Sidney M. Gospe, III, MD, PhD</i>
10:45 am – 11:00 am	<b>Development of a Retinal Ganglion Cell Specific Gene Therapy Using SIRT1 Signaling for Neuro-Protection,</b> <i>Ahmara G. Ross, MD, PhD</i>
11:00 am – 11:15 am	<b>Bilateral Visual Improvement with Unilateral Gene Therapy for Leber Hereditary Optic Neuropathy (LHON),</b> <i>Nancy J. Newman, MD</i>
11:15 am – 11:30 am	<b>Expanded access program (EAP) in Leber's hereditary optic neuropathy (LHON) patients treated for 24 months,</b> <i>Xavier Llòria</i>
11:30 am – 11:45 am	<b>Proof of Concept for Levodopa Treatment in Rescuing Retinal Morphology and Visual Function in Albinism,</b> <i>Helena Lee, PhD, FRCOphth</i>
11:45 am – 12:00 pm	<b>Ectopic Melanopsin For Visual Restoration: Comparisons With Alternative Optogenetic Tools,</b> <i>Michael J. Gilhooley, MA, MB, BChir, FRCOphth</i>
12:00 pm – 12:10 pm	<b>JNO Update,</b> <i>Laura Balcer, MD, MSCE</i> ..... Amelia Ballroom
12:10 pm – 6:00 pm	<b>Afternoon free for activities</b>
6:00 pm – 6:30 pm	<b>Meet the Legends of Neuro-Ophthalmology</b> .....Magnolia Ballroom
6:30 pm – 8:30 pm	<b>Poster Session II: Scientific Advancements</b> .....Magnolia Ballroom (Heavy hors d'oeuvres buffet included. Guests must purchase tickets for \$125 per person from the Registration Desk.)
6:30 pm – 7:30 pm	<b>Odd Numbered Posters</b>
7:30 pm – 8:30 pm	<b>Even Numbered Posters</b>
8:30 pm – 9:30 pm	<b>Abstract Committee Meeting</b> .....Talbot B

## WEDNESDAY, MARCH 11

6:00 am – 6:45 am	<b>Yoga</b> ..... Oceanview Room (Sunrise Tower, B level next to workout room)
6:30 am – 7:30 am	<b>Breakfast with Exhibitors</b> .....Magnolia Ballroom
6:30 am – 7:30 am	<b>Breakfast with the Novices</b> .....Magnolia Ballroom

Join us in the reserved YONO area at breakfast for table discussions led by senior members and/or YONOs to discuss topics relevant to aspiring or current YONOs.

6:30 am – 7:30 am	<b>Relations to Industry - Diversifying Your Career</b> <i>Barrett Katz, MD</i>
6:30 am – 7:30 am	<b>Private Practice Neuro-Ophthalmology</b> <i>Howard R. Krauss, MD, BEEE, SM and Kevin Lai, MD</i>
6:30 am – 7:30 am	<b>CME Committee Meeting</b> ..... Ossabaw A
6:30 am – 5:30 pm	<b>Registration/Help Desk</b> .....Amelia Foyer

<b>6:30 am – 7:30 am</b>	<b>Consortium of Pediatric Neuro-Ophthalmologists Meeting (CPNO) .....</b> Talbot All are welcome to attend. <i>Facilitator: Paul H. Phillips, MD</i>
<b>7:30 am – 9:30 am</b>	<b>Skullbase Disorders and Surgical Approaches [2.0 CME] .....</b> Amelia Ballroom <i>Moderators: M. Tariq Bhatti, MD and Vivek Patel, MD</i>

This series of case presentations will provide the audience with an anatomical perspective and minimally invasive surgical approach to manage common neuro-ophthalmic neurosurgical problems.

Upon completion of this session, participants should be able to: (1) demonstrate the important neurosurgical aspects of a superior orbital fissure mass, (2) describe the potential surgical pitfalls of a superior orbital fissure mass, (3) describe the surgical planning and approach to a chiasmal lesion, (4) explain the limitations of particular surgical approaches to the optic chiasm, (5) illustrate the neurosurgical insights into the planning and execution of treating a large acute brainstem hematoma, (6) discuss the functional anatomic perspective of the vertical rami of the superior longitudinal fasciculus, and (7) describe the visual function of the vertical rami of the superior longitudinal fasciculus.

7:30 am – 7:35 am	<b>Welcome and Symposium Overview</b> <i>M. Tariq Bhatti, MD</i>
7:35 am – 8:15 am	<b>“The Invisible Anatomy,” Exo- and Endophytic Neural Network</b> <i>Amin Kassam, MD</i>
8:15 am – 8:35 am	<b>Case 1</b> <b>Superior Orbital Fissure Mass</b> <i>Vivek Patel, MD</i> <b>Surgical Approach</b> <i>Amin Kassam, MD</i> <b>Q&amp;A/Discussion</b> <i>M. Tariq Bhatti, MD and Vivek Patel, MD</i>
8:35 am – 8:55 am	<b>Case 2</b> <b>Chiasmal Compression</b> <i>M. Tariq Bhatti, MD</i> <b>Surgical Approach</b> <i>Amin Kassam, MD</i> <b>Q&amp;A/Discussion</b> <i>M. Tariq Bhatti, MD and Vivek Patel, MD</i>
8:55 am – 9:15 am	<b>Case 3</b> <b>Large Acute Brainstem Hematoma</b> <i>Vivek Patel, MD</i> <b>Surgical Approach</b> <i>Amin Kassam, MD</i> <b>Q&amp;A/Discussion</b> <i>M. Tariq Bhatti, MD and Vivek Patel, MD</i>
9:15 am – 9:25 am	<b>New Frontiers: Vertical Rami of the Superior Longitudinal Fasciculus and the White Matter Chassis: A Functional Anatomic Perspective of the Subcortical Neural Network</b> <i>Amin Kassam, MD</i>
9:25 am – 9:30 am	<b>Closing Remarks, Review</b> <i>M. Tariq Bhatti, MD and Vivek Patel, MD</i>
<b>9:30 am – 10:00 am</b>	<b>Coffee with Exhibitors .....</b> Magnolia Ballroom
<b>10:00 am – 11:25 am</b>	<b>2020: What’s New in Low Vision [1.5 CME] .....</b> Amelia Ballroom <i>Moderators: Marie D. Acierno, MD and Joseph F. Rizzo III, MD</i>

This session focuses on advancements in neuroscience in visual impairments and will look at neuroplasticity associated with visual impairments and blindness (both ocular and cerebral causes), how blind persons adapt to visual loss, compensatory behaviors related to changes occurring at the level of the brain, virtual environments as a means for blind individuals to interact with non-visual information in a meaningful manner, and explore how technology has offered new therapeutic options for patients with acquired blindness.

Upon completion of this session, participants should be able to: (1) describe how blind persons adapt to visual loss, (2) describe how compensatory behaviors are related to changes occurring at the level of the brain, (3) describe how virtual environments may be used as a means for blind individuals to interact with non-visual information in a meaningful manner, and (4) discuss how technology has offered new therapeutic options for patients with acquired blindness.

10:00 am – 10:25 am	<b>Visual Neuro-Rehabilitative Approaches: Rehabilitative Strategies and the Role in How One Develops, Adapts, and Responds to Injury in the Visual System</b> <i>Lotfi Merabet, OD, PhD, MPH</i>
10:25 am – 10:50 am	<b>Virtual Reality: How to Assess Functional Vision Performance in Patients With Neurological Injury</b> <i>Lotfi Merabet, OD, PhD, MPH</i>
10:50 am – 11:05 am	<b>Visual Prosthetics: Enabling Technology to Give Sight to the Visually Impaired</b> <i>Joseph F. Rizzo III, MD</i>
11:05 am – 11:15 am	<b>Visual Rehabilitation: How Do We Empower Our Visually Impaired Patients?</b> <i>Marie D. Acierno, MD</i>
11:15 am – 11:25 am	<b>Discussion/Q&amp;A</b>

## WEDNESDAY, MARCH 11 *(Continued)*

**11:25 am – 12:00 pm**      **Jacobson Lecture- Optic Neuritis: Past, Present and Future [0.5 CME]** ..... **Amelia Ballroom**  
*Steven Galetta, MD*

**12:00 pm – 12:15 pm**      **Announcements/NOVEL Update** ..... **Amelia Ballroom**

12:00 pm – 12:05 pm      **Announcements**, *Valerie Biousse, MD*

12:05 pm – 12:15 pm      **NOVEL Update**, *Kathleen Digre, MD*

**12:15 pm – 1:15 pm**      **Lunch break** ..... **Magnolia Garden**  
 Lunch will be available for purchase in the meeting space. Credit card or room charge only.

**12:15 pm – 1:45 pm**      **Research Committee Luncheon** ..... **Talbot**

**12:20 pm – 1:10 pm**      **A Paradigm Shift for the Management of Thyroid Eye Disease (TED)\*** ..... **Cumberland Ballroom**  
**(advanced registration required)**

\*This symposium is organized by Horizon Therapeutics.

Come learn about the importance of early identification and a new treatment approach for Thyroid Eye Disease (TED) management. This presentation is intended for US healthcare professionals.

12:20 – 1:10 pm      **A Paradigm Shift for the Management of Thyroid Eye Disease (TED)**  
*Kimberly P. Cockerham, MD, FACS*

**1:15 pm – 3:15 pm**      **3D Anatomy [2.0 CME]** ..... **Amelia Ballroom**  
*Moderators: M. Tariq Bhatti, MD and Vivek Patel, MD*

In this session, specially formatted 3-D atlas images will provide participants with an immersive experience outlining the detailed projections of the human visual system using innovative multi-media technology. The optic nerves, orbital, skull base, and parasellar anatomy will be navigated and described. It will also provide detailed views and relational information regarding the brain parenchyma with specific attention to the central visual pathways. Clinical and surgical correlations will be made throughout.

Upon completion of this session, participants should be able to: (1) describe the anatomical relationship between important neuroanatomical structures relevant to vision and visual processing, (2) recognize the complex organization of neuroanatomical structures sub-serving visual functions, and (3) apply this understanding of anatomy of the visual pathways to clinical practice.

1:15 pm – 3:15 pm      **3D Anatomy**, *Amin Kassam, MD*

**3:30 pm – 5:15 pm**      **Skullbase Surgical Approaches - “Live” Dissection [1.75 CME]** ..... **Cumberland Ballroom**  
*Amin Kassam, MD*

In this live cadaveric head dissection, Dr. Kassam and his colleagues will locate and define the ocular motor cranial nerves, demonstrate the dorsal-cranial approach to the superior orbital fissure, cavernous sinus and interpeduncular cistern, and detail the post-chiasmatic components of the white matter visual neural networks.

Upon completion of this session, participants should be able to: (1) apply the anatomical knowledge gained from the cadaveric head dissection to clinical practice, (2) describe the complexities and challenges in approaching the superior orbital fissure, cavernous sinus and interpeduncular cistern, and (3) recognize the post-chiasmatic components of the white matter visual neural networks.

**6:30 pm – 12:00 am**      **Banquet** ..... **Amelia and Magnolia Ballrooms**

Join colleagues for a fun, casual evening of socializing, dining and dancing at the NANOS Annual Banquet! Dinner will take place in the Amelia Ballroom followed by dancing in the Magnolia Ballroom. This event is complimentary for registered attendees; guests must purchase a ticket for \$150 at the Registration Desk.





## THURSDAY, MARCH 12

6:30 am – 7:30 am	Breakfast.....	Magnolia Ballroom
6:30 am – 7:30 am	Breakfast with the Novices.....	Magnolia Ballroom

Join us in the reserved YONO area at breakfast for table discussions led by senior members and/or YONOs to discuss topics relevant to aspiring or current YONOs.

6:30 am – 7:30 am	<b>Building Leadership Skills and the Importance of Mentorship</b> <i>Lynn Gordon, MD, PhD and Peter Quiros, MD</i>
6:30 am – 7:30 am	<b>Surgical Neuro-Ophthalmology</b> <i>Ore-ofe Adesina, MD, Lauren Ditta, MD and Courtney Francis, MD</i>

6:30 am – 12:00 pm	Registration/Help Desk .....	Amelia Ballroom
7:30 am – 9:30 am	<b>New Treatments in Neuro-Ophthalmology-2020 Trends [2.0 CME]</b> .....	Amelia Ballroom
	<i>Moderators: Bradley Katz, MD, PhD and Ahmara Ross, MD, PhD</i>	

This session will introduce and review new treatments for common diagnoses in neuro-ophthalmology. Therapeutic entities such as new FDA-approved immunotherapy, neuro-protective drugs and therapies including electrical stimulation, stem cells transplantation, and gene therapy will be discussed. This session will also review existing treatments as well as highlight new therapies on the horizon.

Upon completion of this session, participants should be able to: (1) evaluate the most recent developments in the treatment of thyroid eye disease, and (2) discuss with patients the latest research regarding treatments of optic nerve diseases, including genetic treatments, nerve regrowth treatments, and stem cell treatments.

7:30 am – 7:50 am	<b>New Paradigm for the Treatment of Thyroid Eye Disease</b> <i>Prem Subramanian, MD, PhD</i>
7:50 am – 8:15 am	<b>Neuro-Ophthalmic Consequences of Immune Therapy</b> <i>Lynn Gordon, MD, PhD</i>
8:15 am – 8:40 am	<b>Optic Nerve Regeneration: the Future (Principles; Explanation of How It Works and Areas of Research Including Electrical Stimulation)</b> <i>Kim Gokoffski, MD, PhD</i>
8:40 am – 9:05 am	<b>Is It Time for Stem Cell Treatment?</b> <i>Y. Joyce Liao, MD, PhD</i>
9:05 am – 9:30 am	<b>Gene Therapy- Evolution and Therapeutic Applications</b> <i>Patrick Yu-Wai-Man, MD, PhD</i>

9:30 am – 10:00 am	Coffee break.....	Amelia Foyer
10:00 am – 12:00 pm	<b>Strabismus: Image? Operate? [2.0 CME]</b> .....	Amelia Ballroom
	<i>Moderators: Shannon Beres, MD and Paul H. Phillips, MD</i>	

Many patients with ocular motility disorders can be diagnosed and treated after a clinical examination with no additional diagnostic testing. Other patients may require additional testing, including neuro-imaging, in order to determine the etiology and appropriate treatment of their strabismus. This case- based symposium will emphasize the important clinical findings that enable the clinician to determine if a patient with strabismus requires neuro-imaging. In addition, surgical options for the treatment of ocular motility disorders that present to neuro-ophthalmologists will be evaluated.

Upon completion of this session, participants should be able to: (1) identify clinical symptoms and signs that enable the clinician to determine whether a patient with strabismus requires neuroimaging, (2) identify the risks and benefits of various strabismus surgical procedures, and (3) identify the risks and benefits of various non-surgical procedures that treat patients with strabismus.

10:00 am – 10:14 am	<b>Child With Crossed Eyes Since Infancy: Do I Image? Do I Operate?</b> <i>Lauren Ditta, MD</i>
10:14 am – 10:28 am	<b>Child With Acquired ET: Do I Image? Do I Operate?</b> <i>Jane Edmond, MD</i>
10:28 am – 10:42 am	<b>Adult With Acquired Diplopia at Distance: Do I Image? Do I Operate?</b> <i>Mitchell Strominger, MD</i>
10:42 am – 10:56 am	<b>Adult With Acquired Vertical Diplopia: Do I Image? Do I Operate?</b> <i>Nicholas Volpe, MD</i>
10:56 am – 11:10 am	<b>Adult With Acquired Oblique Diplopia: Do I Image? Do I Operate?</b> <i>Hilda Capo, MD</i>
11:10 am – 11:24 am	<b>Teenager With Acquired Strabismus: Do I Image? Do I Operate?</b> <i>R. Michael Siatkowski, MD</i>
11:24 am – 11:38 am	<b>Baby With Tonic Downgaze: Do I Image? Do I Operate?</b> <i>Ellen Mitchell, MD</i>
11:38 am – 12:00 pm	<b>Q&amp;A</b>

# NANOS 2020 SPEAKERS AND MODERATORS



**Marie D. Acierno, MD**

Mayo Clinic  
Scottsdale, AZ

**Nagham Al-Zubidi, MD, PhD**

The University of Texas MD Anderson  
Cancer Center  
Houston, TX

**Anthony Arnold, MD**

UCLA Stein Eye Institute  
Los Angeles, CA

**Jane Bailey, MD**

American Board of Ophthalmology  
Edina, MN

**Shannon Beres, MD**

Stanford University  
Stanford, CA

**M. Tariq Bhatti, MD**

Mayo Clinic College of Medicine  
Rochester, MN

**Richard Blanch, MD, PhD**

University Hospitals Birmingham NHS  
Foundation Trust  
Birmingham, United Kingdom

**Laura Bonelli, MD**

Stein Eye Institute - UCLA  
Los Angeles, CA

**Francois-Xavier Borruat, MD**

Hôpital Ophtalmique Jules-Gonin  
Lausanne, Switzerland

**Beau Bruce, MD, PhD**

Emory University  
Atlanta, GA

**Hilda Capo, MD**

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University of Miami Miller School  
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University of Wisconsin School of Medicine  
and Public Health  
Madison, WI

**Sophia Chung, MD**

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Iowa City, IA

**Helen Danesh-Meyer, MD, PhD**

Department of Ophthalmology University  
of Auckland  
Auckland, New Zealand

**Lauren Ditta, MD**

University of Tennessee Health Science  
Center, Le Bonheur Children's Hospital  
Memphis, TN

**Jane Edmond, MD**

Dell Medical School at UT Austin  
Austin, TX

**Julie Falardea, MD**

Casey Eye Institute/Oregon Health and  
Science University  
Portland, OR

**Claire Fraser, FRANZCO**

Save Sight Institute, The University of Sydney  
Sydney, Australia

**Steven Galetta, MD**

NYU Langone Medical Center  
New York, NY

**Christopher Glisson, DO, MS, FAAN**

Mercy Health Hauenstein Neurosciences/  
Michigan State University  
Grand Rapids, MI

**Kimberly Gokoffski, MD, PhD**

University of Southern California  
Los Angeles, CA

**Dan Gold, DO**

The Johns Hopkins University School  
of Medicine  
Baltimore, MD

**Lynn Gordon, MD, PhD**

Stein Eye Institute, David Geffen School  
of Medicine at UCLA  
Los Angeles, CA

**Manu Goyal, MD, MSc**

Washington University School of Medicine  
St. Louis, MO

**Ruth Huna-Baron, MD**

Goldschleger Eye Institute, Sheba Medical  
Center affiliated to Tel Aviv University Israel  
Ramat-Gan, Israel

**Rustum Karanjia, MD, PhD**

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**Amin Kassam, MD**

Aurora Health Care  
Milwaukee, WI

**Bradley Katz, MD, PhD**

John A Moran Eye Center, Department  
of Ophthalmology and Visual Sciences,  
University of Utah Health Sciences Center  
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**Sangeeta Khanna, MD**

Saint Louis University  
St. Louis, MO

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of Alabama School of Medicine  
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**Melissa W. Ko, MD, FAAN, CPE**

Indiana University School of Medicine  
Indianapolis, IN

**Howard R. Krauss, MD, BEEE, SM**

Pacific Neuroscience Institute  
Santa Monica, CA

**Nathan Kung, MD**

Blue Sky Neurology  
Denver, CO

**Kevin Lai, MD**

Circle City Neuro-Ophthalmology/Midwest  
Eye Institute/Indiana University School  
of Medicine/Richard L. Roudebush VA  
Medical Center  
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**Ingrid Zimmer-Galler, MD**

Johns Hopkins University  
Baltimore, MD



# SOCIAL FUNCTIONS

**TUESDAY, MARCH 10TH**



## **NANOS GOLF TOURNAMENT**

Price: \$80 for 9 holes; \$129 for 18 holes

Time: 1:15 pm shotgun start

Join your NANOS colleagues for a Scramble on the Oak Marsh Golf Course organized by Dr. Grant Liu. The Oak Marsh Golf Course is one of the truly classic Pete Dye-designed golf courses in the world. The course is noted for its tight fairways and small greens, meandering along serpentine salt marsh creeks and through the moss draped heritage oaks for which Amelia Island is famous. At par 72, this 6,500-yard course has 14 holes with water hazards and numerous bulk-headed greens. There will be contests and prizes. Fee includes golf, cart, and prizes. Resort transportation is available to/from the golf course. Rental clubs are available (\$35 for 9-holes with one sleeve of golf balls; \$65 for 18-holes with two sleeves of golf balls).



## **KAYAK TOUR**

Price: \$102.40 single; \$172.48 tandem

Time: 2:00 – 4:00 pm

Explore Amelia Island's salt marsh via kayak. Learn about the diverse ecosystem while focusing on birds, reptiles, and additional animals that inhabit the marsh. Geared toward all skill levels. Ages 13 and up. All children under 18 must be accompanied by an adult. Tour departs from Walker's Landing.



## **BIKE TOUR**

Price: \$59.71

Time: 2:00 – 4:00 pm

Explore the barrier island of Amelia by bicycle. Cruise along the many bike paths with a naturalist to learn about both the salt marsh and maritime forest ecosystems. Ages 6 and up. Must be able to ride a bicycle without training wheels. Burley trailers are available upon request. Children under the age of 16 must be accompanied by an adult. Tour departs from Amelia's Wheels.



## **AMELIA RIVER CRUISE**

Price: \$124.83

Time: 2:00 – 4:00 pm

As we navigate through the waterways of Cumberland Island, you'll be treated to a close-up view of what's left of the Dungeness mansion ruins. This tour is a nice blend of history and nature, including a trip up Beach Creek with a beautiful view of the salt marshes and bird life of Cumberland Island. Transportation to/from the downtown marina is included for this activity.





#### **MARSHSIDE SEGWAY TOUR**

Price: \$106.14

Time: 2:00 – 4:00 pm

Join us as we explore the property via segway! Our coached orientation is followed by a tour through the property that travels along our novice-level bike paths to Drummond Point Park. Children must be accompanied by an adult. Tour departs from Amelia's Wheels.

#### **NATURALIST SEGWAY TOUR**

Price: \$106.14

Time: 2:30 – 4:30 pm

Explore the marsh side of the Omni property while cruising along on a segway! Your journey to Drummond Point Park will begin with a coached orientation before you venture along novice-level bike paths covered by a Live Oak canopy. This is the perfect tour to learn about the diverse ecosystems that make up the island of Amelia. Ages 8 and up (over 65 lbs). Tour departs from Amelia's Wheels.



#### **UNWIND IN AMELIA'S SERENE SPA**

NANOS attendees receive a 10% discount on all spa services.

Please call the spa directly at 904-432-2220 to book your treatment and reference the NANOS group.

Visit <https://www.omnihotels.com/hotels/amelia-island-plantation/spa> to view the full treatment menu.

#### **WEDNESDAY, MARCH 11TH**



#### **NANOS ANNUAL BANQUET**

Time: 6:30 pm – 12:00 am

Join colleagues for a fun, casual evening of socializing, dining and dancing at the NANOS Annual Banquet! Dinner will take place in the Amelia Ballroom, followed by dancing in the Magnolia Ballroom. This event is complimentary for registered attendees; guests must purchase tickets for \$150 per person at the Registration Desk.

# DONATIONS

***NANOS would like to thank the following individuals for their generous donations: 02/18/2019 - 12/31/2019***

## **GLASER SOCIETY \$5,000 - \$9,999**

Preston Calvert, MD  
Ben Frishberg, MD (*In honor of Harvey Braufman, MD*)

## **WIRTSCHAFTER CLUB \$1,000 - \$2,499**

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John Keltner, MD  
Patricia McNussen, MD (*In honor of Drs. Sophia Chung and Marilyn Kay; In honor of Preston Calvert, MD and his racing car*)  
Mark Moster, MD  
Nancy Newman, MD and Valerie Biousse, MD (*In memoriam of Simmons Lessell, MD*)  
Valerie Purvin, MD  
Prem Subramanian, MD, PhD (*In honor of Jeffrey L. Bennett, MD, PhD and Victoria S. Pelak*)  
Sharon Tow, MD (*In honor of Dr. Neil Miller*)

## **AVERBUCH-HELLER GUILD \$500 - \$999**

Julie Falardeau, MD  
Gerard Hershewe, DO (*In honor of Thomas Carlow, MD*)  
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## **HEDGES CLUB \$250 - \$499**

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Kimberly Wings  
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# SUPPORT RECOGNITION

*NANOS would like to thank the following Supporters and Exhibitors for their financial support of these activities.*

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Metrovision  
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TDS Health  
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# EXHIBITORS

## EXHIBITOR HOURS:

Monday, March 9 .....6:30 am – 10:00 am  
 Tuesday, March 10 .....6:30 am – 10:00 am  
 Wednesday, March 11 ...6:30 am – 10:00 am

### 1 LHON Project at UMD

www.LHON.org  
 LHONpoince@aol.com  
 (888) 317-8633



Our global LHON community provides support and education to LHON families. We guide LHON families to neuro ophthalmologists with LHON experience and to clinical trials. We conduct an annual LHON conference, monthly teleconferences and online support groups. We raise and grand funds to support LHON research.

### 2 TDS Health

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TDS Health offers a broad selection of healthcare reference and e-learning products for practitioners and students alike. Within our collection of titles we exclusively offer NANOS' Illustrated Curriculum + Walsh & Hoyt's Clinical Neuro-Ophthalmology and the North American Neuro-ophthalmology Society (NANOS) Neuro-ophthalmology Examination Techniques (NExT) curriculum.

### 3 Alexion Pharmaceuticals

https://www.alexion.com/  
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 (475) 230-2596



Alexion is a global biopharmaceutical company focused on serving patients and families affected by rare diseases through the discovery, development and commercialization of life-changing therapies. Alexion has 3,000 passionate and dedicated employees serving patients in 50 countries around the world.

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Viela Bio is a clinical-stage biotechnology company dedicated to the development and commercialization of novel, life-changing medicines for patients with a wide range of autoimmune and severe inflammatory diseases. Our team is comprised of talented, world-class leaders with diverse experience in the autoimmune disease space and has a proven track record of successfully leading the discovery and development of innovative life-changing medicines.

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### 9 Mayo Clinic Laboratories

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GenSight Biologics is a clinical-stage biopharma company focused on discovering and developing innovative gene therapies for retinal neurodegenerative diseases and central nervous system disorders. Its lead product, GS010, is in Phase III trials in Leber Hereditary Optic Neuropathy (LHON).

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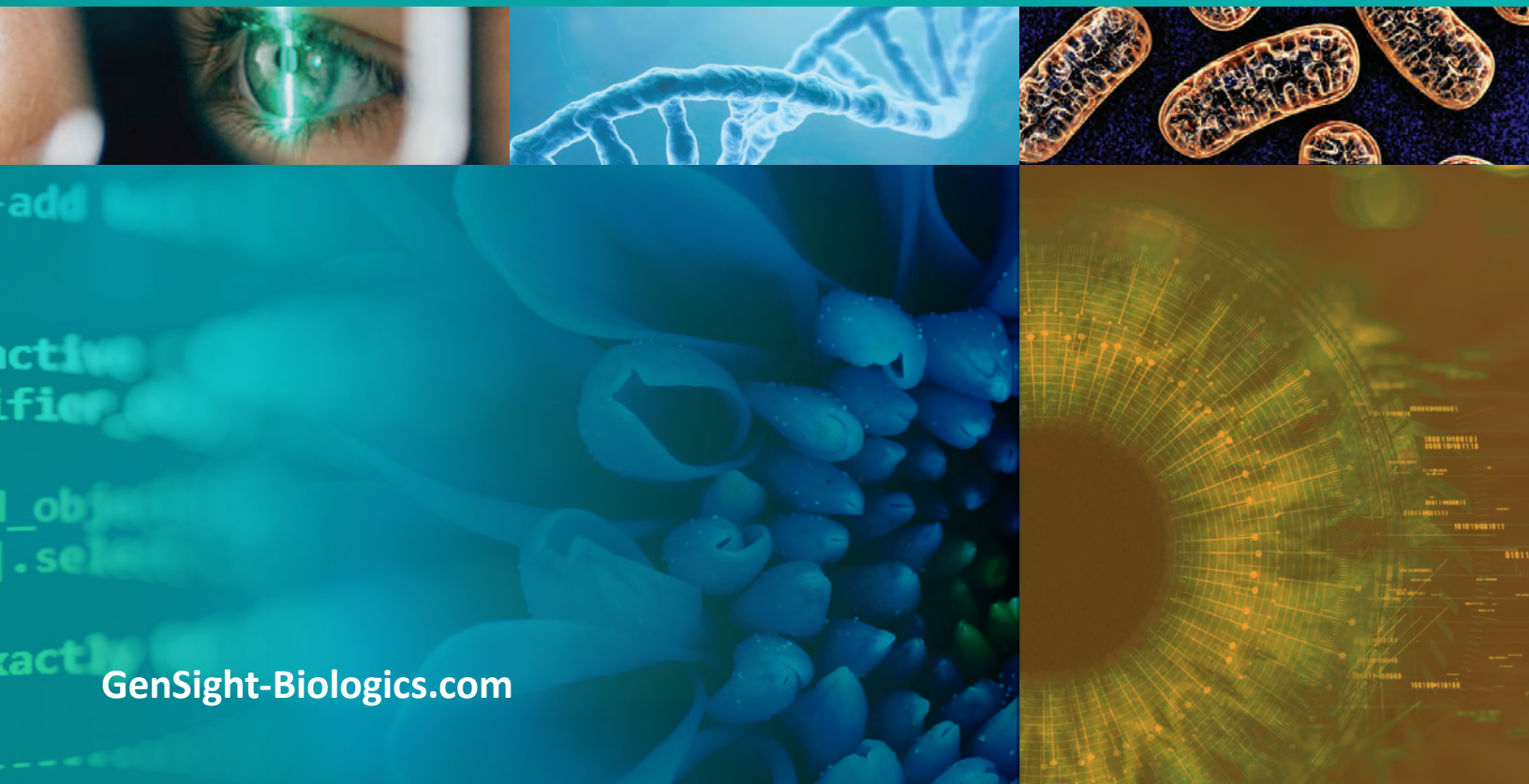
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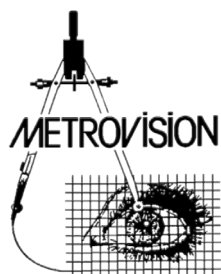
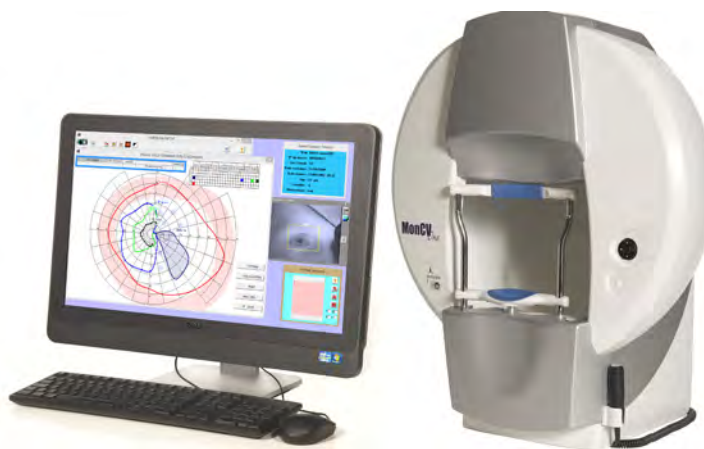


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## NETWORKING AND PROFESSIONAL DEVELOPMENT:

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*

Visit [www.nanosweb.org](http://www.nanosweb.org) to become a member and get involved with NANOS today!

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