PROGRAM

2020 46TH ANNUAL MEETING NANOS
Omni Hotels & Resorts
Amelia Island, Florida
March 7-12
<table>
<thead>
<tr>
<th>SATURDAY, MARCH 7</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am – 12:00 pm</td>
<td>NANOS Board Meeting</td>
</tr>
<tr>
<td>2:00 pm – 7:30 pm</td>
<td>Registration/Help Desk</td>
</tr>
<tr>
<td>3:00 pm – 4:30 pm</td>
<td>Neuro-Radiology Symposium</td>
</tr>
<tr>
<td>6:00 pm – 7:30 pm</td>
<td>Opening Reception</td>
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</tbody>
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<table>
<thead>
<tr>
<th>SUNDAY, MARCH 8</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td>Registration/Help Desk</td>
</tr>
<tr>
<td>7:30 am – 9:30 am</td>
<td>Frank B. Walsh (I)</td>
</tr>
<tr>
<td>9:30 am – 10:00 am</td>
<td>Coffee Break</td>
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<tr>
<td>10:00 am – 12:00 pm</td>
<td>Frank B. Walsh (II)</td>
</tr>
<tr>
<td>12:00 pm – 12:20 pm</td>
<td>Lunch</td>
</tr>
<tr>
<td>12:00 pm – 12:30 pm</td>
<td>International Relations Committee Meeting</td>
</tr>
<tr>
<td>12:00 pm – 1:30 pm</td>
<td>Fellowship Directors Committee Meeting</td>
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<tr>
<td>12:20 pm – 2:20 pm</td>
<td>Poster Session I: Clinical Highlights</td>
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<tr>
<td>2:20 pm – 3:00 pm</td>
<td>Business Meeting</td>
</tr>
<tr>
<td>3:00 pm – 5:15 pm</td>
<td>Frank B. Walsh (III)</td>
</tr>
<tr>
<td>5:30 pm – 6:00 pm</td>
<td>Walsh Committee Meeting</td>
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<tr>
<td>5:45 pm – 6:45 pm</td>
<td>Members-in-Training Reception</td>
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<tr>
<td>6:45 pm – 7:45 pm</td>
<td>YONO Social Hour</td>
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<thead>
<tr>
<th>MONDAY, MARCH 9</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>6:00 am – 6:45 am</td>
<td>Yoga</td>
</tr>
<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast with Exhibitors</td>
</tr>
<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast with the Novices</td>
</tr>
<tr>
<td>6:30 am – 5:00 pm</td>
<td>Registration/Help Desk</td>
</tr>
<tr>
<td>6:30 am – 7:30 am</td>
<td>NOVEL Editorial Board/Curriculum Committee Meeting</td>
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<tr>
<td>7:30 am – 9:30 am</td>
<td>Hot Topics</td>
</tr>
<tr>
<td>9:30 am – 10:00 am</td>
<td>Coffee with Exhibitors (with support from EMD Serono)</td>
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<tr>
<td>10:00 am – 12:00 pm</td>
<td>Telemedicine and Neuro-Ophthalmology 20/20 in 2020</td>
</tr>
<tr>
<td>12:00 pm – 1:00 pm</td>
<td>Lunch Break (lunch available for purchase with credit card or room charge only)</td>
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<tr>
<td>12:15 pm – 1:00 pm</td>
<td>Update ABO Certification/Re-certification</td>
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<tr>
<td>12:15 pm – 1:00 pm</td>
<td>Update ABPN Certification/Re-certification</td>
</tr>
<tr>
<td>1:00 pm – 2:25 pm</td>
<td>Medicine Beyond Diagnosis: Skills for Handling Challenging Clinical Situations</td>
</tr>
<tr>
<td>2:30 pm – 4:45 pm</td>
<td>Coding and Billing Symposium</td>
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<tr>
<td>2:30 pm – 4:45 pm</td>
<td>Lonely Planet’s Guide to Neuro-Ophthalmology</td>
</tr>
<tr>
<td>5:00 pm – 7:00 pm</td>
<td>Scientific Platform Session I</td>
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<tr>
<td>7:00 pm – 8:00 pm</td>
<td>WIN Reception (sponsored by Horizon Therapeutics; advanced registration required)</td>
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<thead>
<tr>
<th>TUESDAY, MARCH 10</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>6:00 am – 6:45 am</td>
<td>Yoga</td>
</tr>
<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast with Exhibitors</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast with the Novices</td>
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<tr>
<td>6:30 am – 1:30 pm</td>
<td>Registration/Help Desk</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td>JNO Editorial Board Meeting</td>
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<tr>
<td>7:30 am – 9:30 am</td>
<td>Scientific Platform Session II</td>
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<tr>
<td>9:30 am – 10:00 am</td>
<td>Coffee with Exhibitors (with support from GenSight Biologics S.A.)</td>
</tr>
<tr>
<td>10:00 am – 12:00 pm</td>
<td>Scientific Platform Session III</td>
</tr>
<tr>
<td>12:00 pm – 12:10 pm</td>
<td>JNO Update</td>
</tr>
<tr>
<td>12:10 pm – 6:00 pm</td>
<td>Afternoon free for activities</td>
</tr>
<tr>
<td>6:00 pm – 6:30 pm</td>
<td>Meet the Legends of Neuro-Ophthalmology</td>
</tr>
<tr>
<td>6:30 pm – 8:30 pm</td>
<td>Poster Session II: Scientific Advancements</td>
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<tr>
<td>8:30 pm – 9:30 pm</td>
<td>Abstract Committee Meeting</td>
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<tr>
<th>WEDNESDAY, MARCH 11</th>
<th>LOCATION</th>
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<tr>
<td>6:00 am – 6:45 am</td>
<td>Yoga</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast with Exhibitors</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast with the Novices</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td>CME Committee Meeting</td>
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<tr>
<td>6:30 am – 5:30 pm</td>
<td>Registration/Help Desk</td>
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<tr>
<td>6:30 am – 7:45 am</td>
<td>Consortium of Pediatric Neuro-Ophthalmologists Meeting (CPNO) [All are welcome to attend]</td>
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<tr>
<td>7:30 am – 9:30 am</td>
<td>Skullbase Disorders and Surgical Approaches</td>
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<tr>
<td>9:30 am – 10:00 am</td>
<td>Coffee with Exhibitors</td>
</tr>
<tr>
<td>10:00 am – 11:25 am</td>
<td>2020: What’s New in Low Vision</td>
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<tr>
<td>11:25 am – 12:00 pm</td>
<td>Jacobson Lecture: Optic Neuritis: Past, Present and Future</td>
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<tr>
<td>12:00 pm – 12:15 pm</td>
<td>Announcements/NOVEL Update</td>
</tr>
<tr>
<td>12:15 pm – 1:15 pm</td>
<td>Lunch break (lunch available for purchase via credit card or room charge only)</td>
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<tr>
<td>12:15 pm – 1:45 pm</td>
<td>Research Committee Luncheon</td>
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<tr>
<td>12:20 pm – 1:10 pm</td>
<td>A Paradigm Shift in the Treatment of Thyroid Eye Disease (TED) (organized by Horizon Therapeutics; advanced registration required)</td>
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<tr>
<td>1:15 pm – 3:15 pm</td>
<td>3D Anatomy</td>
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<tr>
<td>3:30 pm – 5:15 pm</td>
<td>Skullbase Surgical Approaches - “Live” Dissection</td>
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<tr>
<td>6:30 pm – 12:00 am</td>
<td>Banquet</td>
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<tr>
<th>THURSDAY, MARCH 12</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td>Breakfast with the Novices</td>
</tr>
<tr>
<td>6:30 am – 12:00 pm</td>
<td>Registration/Help Desk</td>
</tr>
<tr>
<td>7:30 am – 9:30 am</td>
<td>New Treatments in Neuro-Ophthalmology-2020 Trends</td>
</tr>
<tr>
<td>9:30 am – 10:00 am</td>
<td>Coffee break</td>
</tr>
<tr>
<td>10:00 am – 12:00 pm</td>
<td>Strabismus: Image? Operate?</td>
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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 Vicchrilli, 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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<td>Speakers and Moderators</td>
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<td>Social Functions</td>
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<td>Donations</td>
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<td>Support Recognition</td>
<td>19</td>
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<tr>
<td>Exhibitor Listing</td>
<td>20</td>
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</tbody>
</table>
GENERAL 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

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)™

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.

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.

WIFI Instructions:
Wifi network/SSID: NANOS2020
Security key/password: NANOS2020
Select wifi network/SSID NANOS2020
Click Connect/Join
Enter security key/password NANOS2020

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

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
OMNI AMELIA ISLAND PLANTATION RESORT MEETING SPACE

CONFEERENCE CENTER

- Magnolia Ballroom
- Magnolia Foyer
- Magnolia Terrace and Garden
- Amelia Ballroom
- Amelia Foyer
- 8 Flags Patio
- To Oceanside Wing
- To Sunrise Wing
- Parking Deck

Legend:
- Green: Receptions
- Pink: General Session
- Red: Registration
- Orange: Committee Meetings
- Blue: Exhibits/Coffee Breaks/Meals
- Light Blue: Posters
- Purple: 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

Manu S. Goyal, MD, MSc, Laurie A. Loevner, MD, and Aseem Sharma, MD

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

Moderators: Sophia Chung, MD and Leanne Stunkel, MD

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

Moderators: Nathan Kung, MD and Gregory Van Stavern, MD
### SUNDAY, MARCH 8 (Continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 am – 10:20 am</td>
<td><strong>Not All Men with Thick Skulls Have High Testosterone</strong> Yosbelkys Martin Paez, MD</td>
<td>Magnolia Ballroom</td>
</tr>
<tr>
<td>10:20 am – 10:40 am</td>
<td><strong>You’re Too Young for That!</strong> Sravanthi Vegunta, MD</td>
<td>Magnolia Ballroom</td>
</tr>
<tr>
<td>10:40 am – 11:00 am</td>
<td><strong>Tumefictive MS</strong> Anthony J. Brune III, DO</td>
<td>Magnolia Ballroom</td>
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<tr>
<td>11:00 am – 11:20 am</td>
<td><strong>Tissue Is the Issue</strong> Christine Greer, MD, MS</td>
<td>Magnolia Ballroom</td>
</tr>
<tr>
<td>11:20 am – 11:40 am</td>
<td><strong>Well Here Is Another Uveo-Meningeal Syndrome You Might Muck Up</strong> David DeLeon</td>
<td>Magnolia Ballroom</td>
</tr>
<tr>
<td>11:40 am – 11:45 am</td>
<td><strong>Morning Wrap-Up</strong></td>
<td>Magnolia Ballroom</td>
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<tr>
<td>12:00 pm – 12:20 pm</td>
<td><strong>Lunch</strong></td>
<td>Magnolia Ballroom</td>
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<tr>
<td>12:00 pm – 12:30 pm</td>
<td><strong>International Relations Committee Meeting</strong></td>
<td>Ossabaw A</td>
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<tr>
<td>12:00 pm – 1:30 pm</td>
<td><strong>Fellowship Directors Committee Meeting</strong></td>
<td>Talbot</td>
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<tr>
<td>12:20 pm – 2:20 pm</td>
<td><strong>Poster Session I: Clinical Highlights</strong></td>
<td>Magnolia Ballroom</td>
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<tr>
<td>12:20 pm – 1:20 pm</td>
<td><strong>Odd Numbered Posters</strong></td>
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<tr>
<td>1:20 pm – 2:20 pm</td>
<td><strong>Even Numbered Posters</strong></td>
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<tr>
<td>2:20 pm – 3:00 pm</td>
<td><strong>Business Meeting</strong></td>
<td>Amelia Ballroom</td>
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<tr>
<td>3:00 pm – 5:15 pm</td>
<td><strong>Frank B. Walsh (III) [2.25 CME]</strong></td>
<td>Amelia Ballroom</td>
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<tr>
<td>3:00 pm – 3:20 pm</td>
<td><strong>A Par 3 Macular Hole?</strong> Archana Srinivasan, MBBS, MD</td>
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<td>3:20 pm – 3:40 pm</td>
<td><strong>Smoke Gets In Your Eyes</strong> Tatiana Bakaeva, MD, PhD</td>
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<td>3:40 pm – 4:00 pm</td>
<td><strong>Undiscovered Islands - So Close, Yet So Far</strong> Magdalena Wirth, MD</td>
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<td>4:00 pm – 4:20 pm</td>
<td><strong>Bones of the Past</strong> Bart K. Chwalisz, MD</td>
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<tr>
<td>4:20 pm – 4:40 pm</td>
<td><strong>Close Encounters of The Third Kind</strong> Trishal Jeeval-Patel, MD</td>
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<tr>
<td>4:40 pm – 5:00 pm</td>
<td><strong>Oh Oh Oh It’s Magic, You Know...Never Believe It’s Not So!</strong> Zeeshan Haq, MD</td>
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<tr>
<td>5:00 pm – 5:15 pm</td>
<td><strong>Closing Remarks</strong></td>
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<td>5:30 pm – 6:00 pm</td>
<td><strong>Walsh Committee Meeting</strong></td>
<td>Ossabaw B</td>
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<tr>
<td>5:45 pm – 6:45 pm</td>
<td><strong>Members-in-Training Reception</strong></td>
<td>Magnolia Foyer</td>
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**New this year!** 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.

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<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>6:00 pm – 6:15 pm</td>
<td><strong>2020 - 2021 Fellowship Period</strong></td>
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<tr>
<td>6:15 pm – 6:35 pm</td>
<td><strong>2021 – 2022 Fellowship Period</strong></td>
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<td>6:35 pm – 6:45 pm</td>
<td><strong>2022 – 2023 Fellowship Period</strong></td>
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<tr>
<td>6:45 pm – 7:45 pm</td>
<td><strong>YONO Social Hour</strong></td>
<td>Magnolia Foyer</td>
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**MONDAY, MARCH 9**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00 am – 6:45 am</td>
<td><strong>Yoga</strong></td>
<td>Oceanview Room</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Breakfast with Exhibitors</strong></td>
<td>Magnolia Ballroom</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Breakfast with the Novices</strong></td>
<td>Magnolia Ballroom</td>
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</table>

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.

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<th>Time</th>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Tips to Building an Academic Career</strong> Nagham Al-Zubidi, MD, PhD, John Chen, MD, PhD and</td>
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<td><strong>Lanning Kline, MD</strong></td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Tips on Publishing and Performing Reviews</strong> Laura Balcer, MD, MSCE, Robert M Mallory, MD,</td>
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<td></td>
<td><strong>Heather E. Moss, MD</strong></td>
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</table>
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  Introduction
7:35 am – 7:55 am  I Have an Empty Sella, What Does This Mean? Susan Mollan, MBchB, FRCOphth
7:55 am – 8:15 am  DOA, Wolfram, Is It All the Same? Nancy J. Newman, MD
8:15 am – 8:50 am  AI ON Precipitants
Nocturnal Hypotension Anthony Arnold, MD
Obstructive Sleep Apnea Clare Fraser, FRANZCO
PDE5 Inhibitors Howard Pomeranz, MD, PhD
Cataract Surgery Helen Danesh-Meyer, MD, PhD
8:50 am – 9:10 am  Vessel Imaging for the Diagnosis of Giant Cell Arteritis François-Xavier Borruat, MD
9:10 am – 9:30 am  Q&A

9:30 am – 10:00 am  Coffee with Exhibitors ................................................................. Magnolia Ballroom
(with support from EMD Serono)
10:00 am – 12:00 pm  Telemedicine and Neuro-Ophthalmology 20/20 in 2020 [2.0 CME] .......................... Amelia Ballroom
Moderators: Melissa W. Ko, MD, FAAN, CPE and Kevin Lai, MD

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  Telemedicine 20/20 in 2020: How Far Have We Come, Where Are We Headed and How Is It Relevant to Neuro-Ophthalmology? Melissa W. Ko, MD, FAAN, CPE
10:10 am – 10:55 am  Panoramic View of a System-Wide Telemedicine Program at an Academic Medical Center
Ingrid Zimmer-Galler, MD
10:55 am – 11:05 am  Teleconsultation in the ED for Neuro-Otology at JHU Don Gold, DO
11:05 am – 11:20 am  Telemedicine: Does It Pay to Play? Billing, Coding, Reimbursement Ingrid Zimmer-Galler, MD and Kevin Lai, MD
11:20 am – 11:40 am  Neuro-Ophthalmology Digital Consultations: The Stanford Model Heather E. Moss, MD, PhD
11:40 am – 12:00 pm  Panel Discussion/Q&A

12:00 pm – 1:00 pm  Lunch break ................................................................. Magnolia Garden
Lunch will be available for purchase in the meeting space. Credit card or room charge only.
12:15 pm – 1:00 pm  Update ABO Certification/Re-certification ........................................ Cumberland Ballroom
Jane Bailey, MD, and Lanning Kline, MD
12:15 pm – 1:00 pm  Update ABPN Certification/Re-certification ........................................ Ossabaw
Yanjun (Judy) Chen, MD, PhD, Christopher Glisson, DO, MS, FAAN and Heather E. Moss, MD, PhD
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 Introduction
1:05 pm – 1:30 pm Legalese-Ease: Practices to Minimize Risk for Litigation Barbara Yates, MD, Sophia Chung, MD, Howard R. Krauss, MD, BEEE, SM
1:30 pm – 1:55 pm The Art of Breaking Bad News Madhura Tamhankar, MD, Jane Bailey, MD
1:55 pm – 2:20 pm Word of Mouth: Communicating With Patients Who Have Dementia or Language Difficulties Kimberly Winges, MD, Victoria Pelak, MD, Lynn Gordon, MD, PhD
2:20 pm – 2:25 pm Closing Remarks

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

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 Pre-Vacation Immunization Triggered Neuro-Ophthalmic Conditions Including Optic Neuritis Faycal Mokhtari, MD
2:52 pm – 3:14 pm Holiday Headaches: From Ice-Cream to Caffeine Withdrawal, Holidays Don’t Always Mean Less Headache. Highlighting Common Headache Disorders and How to Manage Them Alex Sinclair, MRCP, FRCP, PhD
3:14 pm – 3:36 pm Holiday Hell: Highlighting Underlying Neuro-Ophthalmic Disorders That May Surface Causing Holiday Mayhem Laura Bonelli, MD
3:36 pm – 3:58 pm Trauma On Your Travels: An Update On the Latest Thinking About Traumatic Optic Neuropathy Richard Blanch, MD, PhD
Maybe It Was Something I Ate? An Update on Food Borne Neuro-Ophthalmic Conditions
Christian Lueck, PhD, FRACP, FRCP(UK), FAAN

Flight Level in NA10N - A380, 747, 777.....Does It Matter? Rustum Karanjia, MD, PhD

Q&A

Scientific Platform Session I [2.0 CME]............................ Amelia Ballroom
Moderators: Nagham Al-Zubidi, MD, PhD and Beau Bruce, MD, PhD

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

WIN Reception - sponsored by Horizon Therapeutics ........................................ Cumberland Ballroom (advanced registration required)

Yoga ................................................................. Oceanview Room (Sunrise Tower, B level next to workout room)
Breakfast with Exhibitors.................................................. Magnolia Ballroom
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.

Combining Neurology Subspecialties with Neuro-Ophthalmology Nathan Kung, MD and Stacy Smith, MD
Job Hunting and Your First Year in Practice Melinda Y. Chang, MD and Evan Price, MD

Registration/Help Desk ............................................................ Amelia Foyer
JNO Editorial Board Meeting.................................................. Talbot A
Scientific Platform Session II [2.0 CME]........................................... Amelia Ballroom
Moderators: Stacy Pineles, MD, MS and Alex Sinclair, MBChB, FRCP, PhD

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

**TUESDAY, MARCH 10 (Continued)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>9:00 am – 9:15 am</td>
<td><strong>Is Visual Snow a thalamo-cortical dysrhythmia of the visual processing system</strong> – a magnetoencephalogram study, Jenny L. Hepschke, MBBS, BSc(Med), PhD</td>
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<tr>
<td>9:15 am – 9:30 am</td>
<td><strong>Gender distribution of speakers at the North American Neuro-Ophthalmology Society annual meetings</strong>, Obadah Moushmoush, BS</td>
</tr>
<tr>
<td>9:30 am – 10:00 am</td>
<td><strong>Coffee with Exhibitors</strong> ........................................................................................................ Magnolia Ballroom (with support from GenSight Biologics S.A.)</td>
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| 10:00 am – 12:00 pm | **Scientific Platform Session III [2.0 CME]** ........................................................................... Amelia Ballroom

Moderators: Ruth Huna-Baron, MD and Kenneth Shindler, MD, PhD

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<tr>
<th>Time</th>
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<tr>
<td>10:00 am – 10:15 am</td>
<td><strong>Static and Abduction Versus Adduction Dynamic Ocular Motor Abnormalities in Spinocerebellar Ataxia Type 3</strong>, João Lemos, MD, PhD</td>
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<tr>
<td>10:15 am – 10:30 am</td>
<td><strong>The 100,000 Genomes Project – Uncovering Pathogenic Variants in inherited Optic Neuropathies with Whole-Genome Sequencing</strong>, Neringa Jurkute, MD, FEBO</td>
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<tr>
<td>10:30 am – 10:45 am</td>
<td><strong>Progressive Optic Atrophy in a Retinal Ganglion Cell-Specific Mouse Model of Complex I Deficiency</strong>, Sidney M. Gospe, III, MD, PhD</td>
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<td>10:45 am – 11:00 am</td>
<td><strong>Development of a Retinal Ganglion Cell Specific Gene Therapy Using SIRT1 Signaling for Neuro-Protection</strong>, Ahmara G. Ross, MD, PhD</td>
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<tr>
<td>11:00 am – 11:15 am</td>
<td><strong>Bilateral Visual Improvement with Unilateral Gene Therapy for Leber Hereditary Optic Neuropathy (LHON)</strong>, Nancy J. Newman, MD</td>
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<td>11:15 am – 11:30 am</td>
<td><strong>Expanded access program (EAP) in Leber’s hereditary optic neuropathy (LHON) patients treated for 24 months</strong>, Xavier Llòria</td>
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<td>11:30 am – 11:45 am</td>
<td><strong>Proof of Concept for Levodopa Treatment in Rescuing Retinal Morphology and Visual Function in Albinism</strong>, Helena Lee, PhD, FRCOphth</td>
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<td>11:45 am – 12:00 pm</td>
<td><strong>Ectopic Melanopsin For Visual Restoration: Comparisons With Alternative Optogenetic Tools</strong>, Michael J. Gilhooley, MA, MB, BChir, FRCOphth</td>
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<td>12:00 pm – 12:10 pm</td>
<td><strong>JNO Update</strong>, Laura Balcer, MD, MSCE .................................................................................. Amelia Ballroom</td>
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<tr>
<td>12:10 pm – 6:00 pm</td>
<td>Afternoon free for activities</td>
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<tr>
<td>6:00 pm – 6:30 pm</td>
<td><strong>Meet the Legends of Neuro-Ophthalmology</strong> ........................................................................ Magnolia Ballroom</td>
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| 6:30 pm – 8:30 pm | **Poster Session II: Scientific Advancements** ..................................................................... Magnolia Ballroom

(Heavy hors d’oeuvres buffet included. Guests must purchase tickets for $125 per person from the Registration Desk.)

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<th>Time</th>
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<tr>
<td>6:30 pm – 7:30 pm</td>
<td><strong>Odd Numbered Posters</strong></td>
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<tr>
<td>7:30 pm – 8:30 pm</td>
<td><strong>Even Numbered Posters</strong></td>
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<tr>
<td>8:30 pm – 9:30 pm</td>
<td><strong>Abstract Committee Meeting</strong> ............................................................................................. Talbot B</td>
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**WEDNESDAY, MARCH 11**

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<tr>
<th>Time</th>
<th>Event</th>
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| 6:00 am – 6:45 am | **Yoga** ................................................................................................................................... Oceanview Room

(Sunrise Tower, B level next to workout room)

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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Breakfast with Exhibitors</strong> ................................................................................................. Magnolia Ballroom</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Breakfast with the Novices</strong> ............................................................................................... Magnolia Ballroom</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Relations to Industry - Diversifying Your Career</strong> Barrett Katz, MD</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>Private Practice Neuro-Ophthalmology</strong> Howard R. Krauss, MD, BEEE, SM and Kevin Lai, MD</td>
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<tr>
<td>6:30 am – 7:30 am</td>
<td><strong>CME Committee Meeting</strong> ........................................................................................................ Ossabaw A</td>
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<tr>
<td>6:30 am – 5:30 pm</td>
<td><strong>Registration/Help Desk</strong> ......................................................................................................... Amelia Foyer</td>
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6:30 am – 7:30 am  Consortium of Pediatric Neuro-Ophthalmologists Meeting (CPNO)  .............................................. Talbot
All are welcome to attend.
Facilitator: Paul H. Phillips, MD

7:30 am – 9:30 am  Skullbase Disorders and Surgical Approaches [2.0 CME]  .............................................. Amelia Ballroom
Moderators: M. Tariq Bhatti, MD and Vivek Patel, MD

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  Welcome and Symposium Overview  M. Tariq Bhatti, MD
7:35 am – 8:15 am  “The Invisible Anatomy;” Exo- and Endophytic Neural Network  Amin Kassam, MD
8:15 am – 8:35 am  Case 1
Superior Orbital Fissure Mass  Vivek Patel, MD
Surgical Approach  Amin Kassam, MD
Q&A/Discussion  M. Tariq Bhatti, MD and Vivek Patel, MD
8:35 am – 8:55 am  Case 2
Chiasmal Compression  M. Tariq Bhatti, MD
Surgical Approach  Amin Kassam, MD
Q&A/Discussion  M. Tariq Bhatti, MD and Vivek Patel, MD
8:55 am – 9:15 am  Case 3
Large Acute Brainstem Hematoma  Vivek Patel, MD
Surgical Approach  Amin Kassam, MD
Q&A/Discussion  M. Tariq Bhatti, MD and Vivek Patel, MD
9:15 am – 9:25 am  New Frontiers: Vertical Rami of the Superior Longitudinal Fasciculus and the White Matter Chassis: A Functional Anatomic Perspective of the Subcortical Neural Network  Amin Kassam, MD
9:25 am – 9:30 am  Closing Remarks, Review  M. Tariq Bhatti, MD and Vivek Patel, MD

9:30 am – 10:00 am  Coffee with Exhibitors  ............................................................ Magnolia Ballroom

10:00 am – 11:25 am  2020: What’s New in Low Vision [1.5 CME]  ............................................................ Amelia Ballroom
Moderators: Marie D. Acierno, MD and Joseph F. Rizzo III, MD

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  Visual Neuro-Rehabilitative Approaches: Rehabilitative Strategies and the Role in How One Develops, Adapts, and Responds to Injury in the Visual System  Lotfi Merabet, OD, PhD, MPH
10:25 am – 10:50 am  Virtual Reality: How to Assess Functional Vision Performance in Patients With Neurological Injury  Lotfi Merabet, OD, PhD, MPH
10:50 am – 11:05 am  Visual Prosthetics: Enabling Technology to Give Sight to the Visually Impaired  Joseph F. Rizzo III, MD
11:05 am – 11:15 am  Visual Rehabilitation: How Do We Empower Our Visually Impaired Patients?  Marie D. Acierno, MD
11:15 am – 11:25 am  Discussion/Q&A
11:25 am – 12:00 pm  Jacobson Lecture- Optic Neuritis: Past, Present and Future [0.5 CME] ............................ Amelio Ballroom
  
Steven Galetta, MD

12:00 pm – 12:15 pm  Announcements/NOVEL Update ................................................................. Amelio 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.

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

6:30 am – 12:00 pm  Registration/Help Desk ............................................................................................ Ameliona Ballroom
Moderators: Bradley Katz, MD, PhD and Ahmara Ross, MD, PhD

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

9:30 am – 10:00 am  Coffee break.............................................................................................................. Amelia Foyer

10:00 am – 12:00 pm  Strabismus: Image? Operate? [2.0 CME].............................................................. Amelia Ballroom
Moderators: Shannon Beres, MD and Paul H. Phillips, MD

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 neuro-imaging, (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  Child With Crossed Eyes Since Infancy: Do I Image? Do I Operate? Lauren Ditta, MD
10:28 am – 10:42 am  Adult With Acquired Diplopia at Distance: Do I Image? Do I Operate? Mitchell Strominger, MD
10:42 am – 10:56 am  Adult With Acquired Vertical Diplopia: Do I Image? Do I Operate? Nicholas Volpe, MD
10:56 am – 11:10 am  Adult With Acquired Oblique Diplopia: Do I Image? Do I Operate? Hilda Capo, MD
11:10 am – 11:24 am  Teenager With Acquired Strabismus: Do I Image? Do I Operate? R. Michael Siatkowski, MD
11:24 am – 11:38 am  Baby With Tonic Downgaze: Do I Image? Do I Operate? Ellen Mitchell, MD
11:38 am – 12:00 pm  Q&A
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 Borrutat, MD
Hôpital Ophtalmique Jules-Gonin
Lausanne, Switzerland

Beau Bruce, MD, PhD
Emory University
Atlanta, GA

Hilda Capo, MD
Bascom Palmer Eye Institute,
University of Miami Miller School of Medicine
Miami, FL

Yanjun (Judy) Chen, MD, PhD
University of Wisconsin School of Medicine
and Public Health
Madison, WI

Sophia Chung, MD
Department of Ophthalmology and Visual Science, University of Iowa
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
Department of Ophthalmology,
University of Ottawa
Ottawa, Canada

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
Salt Lake City, UT

Sangeeta Khanna, MD
Saint Louis University
St. Louis, MO

Lanning Kline, MD
Department of Ophthalmology University of Alabama School of Medicine
Birmingham, AL

Melissa W. Ko, MD, FAAN, CPE
Indiana University School of Medicine
Indianapolis, IN
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Location</th>
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<tbody>
<tr>
<td>Howard R. Krauss, MD, BEEE, SM</td>
<td>Pacific Neuroscience Institute</td>
<td>Santa Monica, CA</td>
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<tr>
<td>Nathan Kung, MD</td>
<td>Blue Sky Neurology</td>
<td>Denver, CO</td>
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<tr>
<td>Kevin Lai, MD</td>
<td>Circle City Neuro-Ophthalmology/Midwest Eye Institute/Indiana University School</td>
<td>Indianapolis, IN</td>
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<td>Y. Joyce Liao, MD, PhD</td>
<td>Stanford University</td>
<td>Stanford, CA</td>
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<td>Laurie A. Loenvner, MD</td>
<td>University of Pennsylvania</td>
<td>Philadelphia, PA</td>
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<td>Christian Lueck, PhD, FRACP, FRCP(UK), FAAN</td>
<td>Canberra Hospital and Australian National University</td>
<td>Canberra, Australia</td>
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<tr>
<td>Devin Mackay, MD</td>
<td>Indiana University School of Medicine</td>
<td>Indianapolis, IN</td>
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<td>Collin McClelland, MD</td>
<td>University of Minnesota Department of Ophthalmology and Visual Neurosciences</td>
<td>Minneapolis, MN</td>
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<td>Lotfi Merabet, OD, PhD, MPH</td>
<td>Mass Eye and Ear - Harvard Medical School</td>
<td>Boston, MA</td>
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<tr>
<td>Ellen Mitchell, MD</td>
<td>UPMC Children’s Hospital of Pittsburgh</td>
<td>Pittsburgh, PA</td>
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<td>Fayçal Mokhtari, MD</td>
<td>Groupe Hospitalier Pitié Salpetrière, Paris, France</td>
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<tr>
<td>Susan Mollan, MBcHB, FRCOphth</td>
<td>Birmingham Neuro-Ophthalmology, Queen Elizabeth Hospital, University Hospitals Birmingham</td>
<td>Birmingham, United Kingdom</td>
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<td>Heather E. Moss, MD, PhD</td>
<td>Stanford University</td>
<td>Palo Alto, CA</td>
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<td>Mark Moster, MD</td>
<td>Wills Eye Hospital/Sidney Kimmel Medical College of Thomas Jefferson University</td>
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<td>Nancy J. Newman, MD</td>
<td>Emory University School of Medicine</td>
<td>Atlanta, GA</td>
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<td>Vivek Patel</td>
<td>University of Southern California, Roski Eye Institute</td>
<td>Los Angeles, CA</td>
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<td>Victoria Pelak, MD</td>
<td>University of Colorado School of Medicine</td>
<td>Aurora, CO</td>
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<td>Paul H. Phillips, MD</td>
<td>University of Arkansas for Medical Sciences/Arkansas Children’s Hospital</td>
<td>Little Rock, AR</td>
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<td>Stacy Pineles, MD, MS</td>
<td>University of California, Los Angeles</td>
<td>Los Angeles, CA</td>
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<td>Howard Pomeranz, MD, PhD</td>
<td>Northwell Health and Donald and Barbara Zucker School of Medicine at Hoftra/Northwell</td>
<td>Great Neck, NY</td>
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<td>Joseph Rizzo, MD</td>
<td>Professor of Ophthalmology, Harvard Medical School</td>
<td>Boston, MA</td>
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<td>Ahmara Ross, MD, PhD</td>
<td>University of Pennsylvania and Scheie Eye Institute</td>
<td>Philadelphia, PA</td>
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<td>Aseem Sharma, MD</td>
<td>Mallinckrodt Institute of Radiology, Washington University Saint Louis</td>
<td>St. Louis, MO</td>
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<td>Kenneth Shindler, MD, PhD</td>
<td>University of Pennsylvania</td>
<td>Philadelphia, PA</td>
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<tr>
<td>R. Michael Siatkowski, MD</td>
<td>Dean McGee Eye Institute/University of Oklahoma</td>
<td>Oklahoma City, OK</td>
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<td>Alex Sinclair, MBChB (Hons), FRCP, PhD</td>
<td>University of Birmingham</td>
<td>Birmingham, United Kingdom</td>
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<td>Mitchell Strominger, MD</td>
<td>Renown Medical Center University</td>
<td>Reno, NV</td>
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<tr>
<td>Leanne Stunkel, MD</td>
<td>Washington University St. Louis School</td>
<td>St. Louis, MO</td>
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<tr>
<td>Prem Subramanian, MD, PhD</td>
<td>Sue Anschutz-Rodgers UC Health Eye Center/University of Colorado School of Medicine</td>
<td>Aurora, CO</td>
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<tr>
<td>Gregory Van Stavern, MD</td>
<td>Washington University St. Louis</td>
<td>St. Louis, MO</td>
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<tr>
<td>Sue Vicchrilli, AAO Director, Coding and Reimbursement</td>
<td>American Academy of Ophthalmology</td>
<td>San Francisco, CA</td>
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<tr>
<td>Nicholas Volpe, MD</td>
<td>Department of Ophthalmology, Northwestern University, Feinberg School of Medicine, Northwestern Medicine</td>
<td>Chicago, IL</td>
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<tr>
<td>Kimberly Winges, MD</td>
<td>VA Portland Health Care System, Casey Eye Institute, Oregon Health &amp; Science University</td>
<td>Portland, OR</td>
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<tr>
<td>Barbara Yates, MD</td>
<td>Martin Luther King Jr. Outpatient Center, Charles Drew University</td>
<td>Valley Village, CA</td>
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<tr>
<td>Patrick Yu-Wai-Man, MD, PhD</td>
<td>University of Cambridge and Moorfields Eye Hospital</td>
<td>United Kingdom</td>
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<tr>
<td>Ingrid Zimmer-Galler, MD</td>
<td>Johns Hopkins University</td>
<td>Baltimore, MD</td>
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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
- Edmond FitzGibbon, MD
- John Keitner, 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*)
- Andrea Stahulak, MD

### HEDGES CLUB $250 - $499
- David Bellows, MD, FACS
- Ratna Bitra, MD
- Joseph Chacko, MD
- Nick Hogan, MD (*In honor of Preston Calvert, MD*)
- Matt Kay, MD
- Sachin Kedar, MD
- Klara Landau, MD (*In memoriam of William F. Hoyt, MD*)
- Ruth and Robert Lesser, MD
- Fayçal Mokhtari, MD
- Barry Skarf, MD (*In memoriam of William F. Hoyt, MD*)
- Sashank Prasad, MD

### ZARET SOCIETY $100 - $249
- Anonymous Donor
- Anonymous Donor (*In honor of Preston Calvert, MD*)
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- Rachid Aouchiche, MD
- John Chen, MD
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- Bradley Katz, MD (*In honor of Preston Calvert, MD*)
- David Katz, MD (*In honor of Preston Calvert, MD*)
- Teresa Maria Vives, MD
- Collin McClelland, MD
- Anil Patel, MD
- Victoria Pelak, MD (*In honor Of Marie Fabrizio Pelak*)
- David J. Singer, MD (*In honor Of Norman Schatz, MD and in memoriam of Drs. Joel S. Glaser, Noble J. David, J. Lawton Smith and Ron Burde*)
- Kimberly Winges
- Charles Winkelman, MD
- Xiaojun Zhang, MD (*In honor of Jonathan Trobe*)

### CONTRIBUTORS $1 - $99
- John Charley, MD (*In honor of Preston Calvert, MD*)
- Mark Robinson, MD (*In honor of Preston Calvert, MD*)
- Richard Sogg, MD (*In memoriam of Ron Burde, MD*)
NANOS would like to thank the following Supporters and Exhibitors for their financial support of these activities.

## 2020 SUPPORTERS

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- HORIZON

### SILVER LEVEL

- SANOFI GENZYME
- GenSight Biologics S.A.

### BRONZE LEVEL

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- Eschenbach Optik
- GenSight Biologics S.A.
- Horizon Therapeutics
- Interacoustics
- KLS Martin Group
- Konan Medical USA
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- Novartis Pharmaceuticals
- Sanofi Genzyme
- TDS Health
- Teva Pharmaceuticals USA
- Viela Bio
- Wolters Kluwer
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<th>EXHIBITOR HOURS:</th>
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<tr>
<td><strong>Monday, March 9</strong> .......... 6:30 am – 10:00 am</td>
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<td><strong>Tuesday, March 10</strong> ........ 6:30 am – 10:00 am</td>
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<td><strong>Wednesday, March 11</strong> ... 6:30 am – 10:00 am</td>
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<tr>
<th>1</th>
<th>LHON Project at UMDF</th>
<th><a href="http://www.LHON.org">www.LHON.org</a></th>
<th><a href="mailto:LHONpointe@aol.com">LHONpointe@aol.com</a></th>
<th>(888) 317-8633</th>
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<tr>
<td><strong>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.</strong></td>
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<tr>
<th>2</th>
<th>TDS Health</th>
<th><a href="http://tetondata.com/">http://tetondata.com/</a></th>
<th><a href="mailto:information@tetondata.com">information@tetondata.com</a></th>
<th>(800) 901-5494</th>
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<tr>
<td><strong>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 &amp; Hoyt’s Clinical Neuro-Ophthalmology and the North American Neuro-ophthalmology Society (NANOS) Neuro-ophthalmology Examination Techniques (NExT) curriculum.</strong></td>
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<tr>
<th>3</th>
<th>Alexion Pharmaceuticals</th>
<th><a href="https://www.alexion.com/">https://www.alexion.com/</a></th>
<th><a href="mailto:media@alexion.com">media@alexion.com</a></th>
<th>(475) 230-2596</th>
</tr>
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<tr>
<td><strong>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.</strong></td>
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<tr>
<th>4</th>
<th>KLS Martin Group</th>
<th><a href="http://www.klsmartinnorthamerica.com">www.klsmartinnorthamerica.com</a></th>
<th><a href="mailto:brittany.henshaw@klsmartinusa.com">brittany.henshaw@klsmartinusa.com</a></th>
<th>(904) 641-7746</th>
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<tbody>
<tr>
<td><strong>KLS-Martin is a company dedicated to providing innovative medical devices for neurosurgery. We offer a wide variety of surgical instruments, titanium plates and mesh, custom cranial implants, and the revolutionary SonicWeld Rx system for resorbable fixation. Currently based out of Jacksonville, Florida, we have highly qualified representatives covering the needs of surgeons throughout North America.</strong></td>
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<th>5</th>
<th>Viela Bio</th>
<th><a href="http://www.vielabio.com">www.vielabio.com</a></th>
<th><a href="mailto:info@vielabio.com">info@vielabio.com</a></th>
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<tr>
<td><strong>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.</strong></td>
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<th>6</th>
<th>Diagnosys LLC</th>
<th>diagnosysllc.com</th>
<th><a href="mailto:mail@diagnosysllc.com">mail@diagnosysllc.com</a></th>
<th>(978) 458-1600</th>
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<tr>
<td><strong>Electrophysiology with integrity! Diagnosys supplies a complete suite of Visual Electrophysiology encompassing VEP, ERG, and Psychophysical testing. Suitable for children and adults alike, you may assess visual acuity objectively (Sweep VEP) and quantity slowdowns in the visual pathway (ERG / VEP).</strong></td>
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<th>7</th>
<th>Nextech</th>
<th><a href="http://www.nextech.com">www.nextech.com</a></th>
<th><a href="mailto:info@nextech.com">info@nextech.com</a></th>
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<th>8</th>
<th>Interacoustics</th>
<th>Interacoustics.com/us</th>
<th>info@interacoustics.-us.com</th>
<th>(800) 947-6334</th>
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</thead>
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<tr>
<td><strong>Interacoustics is a world leading provider of diagnostic solutions in the field of vestibular disorders. Our exhibit will feature video ocular recording goggles and gaze stabilization equipment. Interacoustics products accommodate the complexities of patient care, are easy to use, have efficient testing options and provide fast, reliable results.</strong></td>
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<th>9</th>
<th>Mayo Clinic Laboratories</th>
<th><a href="http://www.mayocliniclabs.com">www.mayocliniclabs.com</a></th>
<th><a href="mailto:mcl@mayo.edu">mcl@mayo.edu</a></th>
<th>(855) 516-8404</th>
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<tr>
<td><strong>Our laboratories, led by clinical neurologists, offer a highly specialized test menu that provides answers for everything from the simplest to the most complex cases. Our neurologists are experts in their field and available seven days a week to help fellow physicians interpret each evaluation to provide clinically actionable answers, not just results.</strong></td>
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Committed to advancing healthcare by developing diagnostic ophthalmic devices that are best in class, innovative and unique. Visual Function Diagnostics
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Wolters Kluwer Health is a leading global provider of information and point of care solutions for the healthcare industry. Our solutions are designed to help professionals build clinical competency and improve practice so they can make important decisions on patient care. Our leading product brands include Audio-Digest, Lippincott, Ovid®, UpToDate®, and others.

Metrovision instruments are used for the screening and diagnosis of diseases affecting the eye and the visual system. Celebrating 31 years! We often ask, “Can your perimeter do this?” because the MonCvONE-CR is the most functional perimeter in the world. SAP, Goldmann, photopic, mesopic, scotopic, dark adapted chromatic and more.

Novartis Pharmaceuticals is dedicated to discovering, developing, manufacturing and marketing prescription drugs that help meet our customers’ medical needs and improve their quality of life. Please visit the Novartis exhibit where our sales representatives will be available to discuss our products.

Creating hardware and software to perform diagnostics through eye movements. BulbiTech has developed the BulbiCAM, the first eye tracking camera that offers diagnostic support while integrating multiple eye examination tests to screen neuro-ocular pathology.
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GenSight Biologics is discovering and developing novel gene therapy-based treatments for patients with severe degenerative diseases of the eye and central nervous system. Our lead product GS010 is in late-stage clinical development as a pioneering treatment for the blinding disease LHON.

Come visit our booth to meet our team and learn why we are excited about GS010’s promise.
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Learn more at Booth 13

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- Mixed perimetry - kinetic + static
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- Manual Goldmann
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- Attraction perimetry for infants (to 2 yrs)
- Diplopia test
- Programmable background from scotopic through photopic. (Yes, that means the entire mesopic range)
- User defined dichroic filters
- Dark adapted chromatic perimetry
- Dark adaptometry
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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
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What do you treasure most in your NANOS membership?

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

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

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

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

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

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