



North American Neuro-Ophthalmology Society

## 46th Annual Meeting

March 7– March 12, 2020

Omni Amelia Island Plantation • Amelia Island, FL

### 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	<b>Welcome/Introduction</b>	
7:45 am – 8:05 am	<b>A Myel-In, a Long Way to Go</b> <i>Aishwarya V. Pareek, MD</i>	
8:05 am – 8:25 am	<b>From Brainstem to Stern</b> <i>Neena R. Cherayil, MD</i>	
8:25 am – 8:45 am	<b>Are We "Tilting at Windmills"?</b> <i>Michael Vaphiades, DO</i>	
8:45 am – 9:05 am	<b>Objects Jumping, Body Bumping, Hearing Slumping.... Quick, He is Crumping</b> <i>Jorge C. Kattah, MD</i>	
9:05 am – 9:25 am	<b>Look in The Back</b> <i>Tatiana K. Deveney, MD</i>	
9:25 am – 9:30 am	<b>Wrap-Up</b>	
<b>9:30 am – 10:00 am</b>	<b>Coffee Break</b>	<b>Magnolia Ballroom</b>
<b>10:00 am – 12:00 pm</b>	<b>Frank B. Walsh (II) [1.75 CME]</b>	<b>Amelia Ballroom</b>
	<i>Moderators: Nathan Kung, MD and Gregory Van Stavern, MD</i>	
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.)	

*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.

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>Naghah 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>

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

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>	
<b>9:30 am – 10:00 am</b>	<b>Coffee with Exhibitors</b> (with support from EMD Serono)	<b>Magnolia Ballroom</b>
<b>10:00 am – 12:00 pm</b>	<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>	
<b>12:00 pm – 1:00 pm</b>	<b>Lunch break</b>	<b>Magnolia Garden</b>
	Lunch will be available for purchase in the meeting space. Credit card or room charge only.	
<b>12:15 pm – 1:00 pm</b>	<b>Update ABO Certification/Re-certification,</b>	<b>Cumberland Ballroom</b>
	<i>Jane Bailey, MD, and Lanning Kline, MD</i>	
<b>12:15 pm – 1:00 pm</b>	<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>	
<b>1:00 pm – 2:25 pm</b>	<b>Medicine Beyond Diagnosis: Skills for Handling Challenging Clinical Situations</b> (organized by the WIN Committee) <b>[1.5 CME]</b>	<b>Amelia Ballroom</b>
<p>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.</p> <p>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.</p>		
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 Winges, MD, Victoria Pelak, Lynn Gordon, MD, PhD</i>	
2:20 pm – 2:25 pm	<b>Closing Remarks</b>	
<b>2:30 pm – 4:45 pm</b>	<b>Coding and Billing Symposium [2.25 CME]</b>	<b>Cumberland Ballroom</b>
	<b>(advanced registration required)</b>	
	<i>Moderators: Mark Moster, MD and John Pula, MD</i>	

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 Vicchrilli, 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 Vicchrilli, 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 Vicchrilli, 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**                      **Amelia Ballroom**  
**Neuro-Ophthalmology [2.25 CME]**  
*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.....</b>	
4:42 pm – 4:45 pm	<b>Does It Matter?</b> <i>Rustum Karanjia, MD, PhD</i>	
	<b>Q&amp;A</b>	
<b>5:00 pm – 7:00 pm</b>	<b>Scientific Platform Session I [2.0 CME]</b>	<b>Amelia Ballroom</b>
	<i>Moderators: Nagham Al-Zubidi, MD, PhD and Beau Bruce, MD, PhD</i>	
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 Shamsher</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 Seleme, 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>	
<b>7:00 pm – 8:00 pm</b>	<b>WIN Reception - sponsored by Horizon Therapeutics</b> ( <a href="#">advanced registration required</a> )	<b>Cumberland Ballroom</b>

## Tuesday, March 10

<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>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</b>	<b>Amelia Foyer</b>
<b>6:30 am – 7:30 am</b>	<b>JNO Editorial Board Meeting</b>	<b>Talbot A</b>
<b>7:30 am – 9:30 am</b>	<b>Scientific Platform Session II [2.0 CME]</b>	<b>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, Beau Bruce, MD, PhD</b>	
7:45 am – 8:00 am	<b>Human vs. Machine: The Brain and Optic Nerve Study with Artificial Intelligence (BONSAI), Valerie Biousse, MD</b>	
8:00 am – 8:15 am	<b>Time is vision: early training enhances vision restoration after occipital Stroke, Elizabeth L. Saionz, PhD</b>	
8:15 am – 8:30 am	<b>Measuring Torsion with a Mobile App Compared to Double Maddox Rod, Michael S. Lee, MD</b>	
8:30 am – 8:45 am	<b>Quantitative Visual Assessment in Children with Cortical/Cerebral Visual Impairment (CVI) Using Eye Tracking, Melinda Y. Chang, MD</b>	
8:45 am – 9:00 am	<b>Anterograde Axonal Degeneration in Children with Vision Loss Secondary to NF1 Associated Optic Pathway Glioma, Robert Avery, DO</b>	
9:00 am – 9:15 am	<b>Is Visual Snow a thalamo-cortical dysrhythmia of the visual processing system – a magnetoencephalogram study, Jenny L. Hepschke, MBBS, BSc(Med), PhD</b>	
9:15 am – 9:30 am	<b>Gender distribution of speakers at the North American Neuro-Ophthalmology Society annual meetings, Obadah Moushmouth, BS</b>	
<b>9:30 am - 10:00 am</b>	<b>Coffee with Exhibitors</b>	<b>Magnolia Ballroom</b>
	<i>(with support from GenSight Biologics S.A.)</i>	
<b>10:00 am – 12:00 pm</b>	<b>Scientific Platform Session III [2.0 CME]</b>	<b>Amelia Ballroom</b>
	<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, João Lemos, MD, PhD</b>	
10:15 am – 10:30 am	<b>The 100,000 Genomes Project – Uncovering Pathogenic Variants in inherited Optic Neuropathies with Whole-Genome Sequencing, Neringa Jurkute, MD, FEBO</b>	
10:30 am – 10:45 am	<b>Progressive Optic Atrophy in a Retinal Ganglion Cell-Specific Mouse Model of Complex I Deficiency, Sidney M. Gospe, III, MD, PhD</b>	
10:45 am – 11:00 am	<b>Development of a Retinal Ganglion Cell Specific Gene Therapy Using SIRT1 Signaling for Neuro-Protection, Ahmara G. Ross, MD, PhD</b>	
11:00 am – 11:15 am	<b>Bilateral Visual Improvement with Unilateral Gene Therapy for Leber Hereditary Optic Neuropathy (LHON), Nancy J. Newman, MD</b>	



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>	
<b>12:00 pm – 12:10 pm</b>	<b>JNO Update, <i>Laura Balcer, MD, MSCE</i></b>	<b>Amelia Ballroom</b>
<b>12:10 pm – 6:00 pm</b>	<b>Afternoon free for activities</b>	
<b>6:00 pm – 6:30 pm</b>	<b>Meet the Legends of Neuro-Ophthalmology</b>	<b>Magnolia Ballroom</b>
<b>6:30 pm – 8:30 pm</b>	<b>Poster Session II: Scientific Advancements</b> (Heavy hors d’oeuvres buffet included. Guest must purchase tickets for \$125 per person from the Registration Desk.)	<b>Magnolia Ballroom</b>
6:30 pm – 7:30 pm	<b>Odd Numbered Posters</b>	
7:30 pm – 8:30 pm	<b>Even Numbered Posters</b>	
<b>8:30 pm – 9:30 pm</b>	<b>Abstract Committee Meeting</b>	<b>Talbot B</b>

### **Wednesday, March 11**

<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>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, BEE, SM and Kevin Lai, MD</i>	
<b>6:30 am – 7:30 am</b>	<b>CME Committee Meeting</b>	<b>Ossabaw A</b>
<b>6:30 am – 5:30 pm</b>	<b>Registration/Help Desk</b>	<b>Amelia Foyer</b>
<b>6:30 am – 7:30 am</b>	<b>Consortium of Pediatric Neuro-Ophthalmologists Meeting (CPNO) - All are welcome to attend</b> <i>Facilitator: Paul H. Phillips, MD</i>	<b>Talbot</b>
<b>7:30 am – 9:30 am</b>	<b>Skullbase Disorders and Surgical Approaches [2.0 CME]</b> <i>Moderators: M. Tariq Bhatti, MD and Vivek Patel, MD</i>	<b>Amelia Ballroom</b>

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 – 8:35am	<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>	<b>Magnolia Ballroom</b>
<b>10:00 am – 11:25 am</b>	<b>2020: What’s New in Low Vision [1.5 CME]</b> <i>Moderators: Marie D. Acierno, MD and Joseph F. Rizzo III, MD</i>	<b>Amelia Ballroom</b>

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>	
<b>11:25 am – 12:00 pm</b>	<b>Jacobson Lecture- Optic Neuritis: Past, Present and Future [0.5 CME]</b> <i>Speaker: Steven Galetta, MD</i>	<b>Amelia Ballroom</b>
<b>12:00 pm – 12:15 pm</b>	<b>Announcements/NOVEL Update</b>	<b>Amelia Ballroom</b>
12:00 pm – 12:05 pm	<b>Announcements</b> , <i>Valerie Biousse, MD</i>	
12:05 pm – 12:15 pm	<b>NOVEL Update</b> , <i>Kathleen Digre, MD</i>	
<b>12:15 pm – 1:15 pm</b>	<b>Lunch break</b> Lunch will be available for purchase in the meeting space. Credit card or room charge only.	<b>Magnolia Garden</b>
<b>12:15 pm – 1:45 pm</b>	<b>Research Committee Luncheon</b>	<b>Talbot</b>
<b>12:20 pm – 1:10 pm</b>	<b>A Paradigm Shift for the Management of Thyroid Eye Disease (TED)* (advanced registration required)</b> *This symposium is organized by Horizon Therapeutics.	<b>Cumberland Ballroom</b>

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	<b>A Paradigm Shift for the Management of Thyroid Eye Disease (TED)</b> <i>Kimberly P. Cockerham, MD, FACS</i>	
<b>1:15 pm – 3:15 pm</b>	<b>3D Anatomy [2.0 CME]</b> <i>Moderators: M. Tariq Bhatti, MD and Vivek Patel, MD</i>	<b>Amelia Ballroom</b>

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”**                      **Cumberland Ballroom**  
**Dissection [1.75 CME] 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**                      **Amelia Ballroom**  
**7:30 am – 9:30 am**                      **New Treatments in Neuro-Ophthalmology-**                      **Amelia Ballroom**  
**2020 Trends [2.0 CME]**  
*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	<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>
<b>9:30 am – 10:00 am</b>	<b>Coffee break</b>
<b>10:00 am – 12:00 pm</b>	<b>Strabismus: Image? Operate? [2.0 CME]</b> <i>Moderators: Shannon Beres, MD and Paul H. Phillips, MD</i>
	<b>Amelia Foyer</b> <b>Amelia Ballroom</b>

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</b>

11:24 am – 11:38 am

**Operate?** *R. Michael Siatkowski, MD*

**Baby With Tonic Downgaze: Do I Image? Do I Operate?** *Ellen Mitchell, MD*

11:38 am – 12:00 pm

**Q&A**