# PROGRAM

#### 43RD ANNUAL MEETING



NORTH AMERICAN NEURO-OPHTHALMOLOGY SOCIETY

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# 43<sup>rd</sup> Annual NANOS Meeting SATURDAY, APRIL 1

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2:00 pm - 8:00 pm	Registration/Help Desk	. Thurgood Marshall Foyer
8:00 am - 12:00 pm	NANOS Board Meeting	. Hoover
6:00 pm - 7:30 pm	Opening Reception (All are welcome!)	. Marriott Foyer

# SUNDAY, APRIL 2

6:00 am - 6:45 am	Yoga Class	. Washington Room 1
6:30 am - 5:30 pm	Registration/Help Desk	Thurgood Marshall Foyer
6:30 am - 7:45 am	Breakfast	. Exhibit Hall C
6:30 am - 3:00 pm	Exhibits	. Exhibit Hall C
7:45 am - 5:00 pm	FRANK B. WALSH SESSION [6 CME]	. Thurgood Marshall Ballroom
10:00 am - 10:30 am	Coffee Break	
12:30 pm - 1:00 pm	Lunch	Exhibit Hall C
1:00 pm - 2:45 pm	Poster Session I: Clinical Highlights in Neuro-Ophthalmology	Exhibit Hall C
5:15 pm - 5:45 pm	Frank B. Walsh Committee Meeting	Harding
5:15 pm - 5:45 pm	Fellowship Director's Meeting	. Coolidge
5:30 pm - 6:30 pm	Members-in-Training Program and Reception	Marriott Foyer
5:45 pm - 6:15 pm	Fellowship Committee Meeting	. Coolidge

#### MONDAY, APRIL 3

6:00 am - 6:45 am	Yoga Class	-
6:30 am - 5:30 pm	Registration/Help Desk	
6:30 am - 7:30 am	Breakfast	. Exhibit Hall C
6:30 am - 12:15 pm	Exhibits	. Exhibit Hall C
7:00 am - 7:30 am	NOVEL Editorial Board/Curriculum Committee Meeting	. Washington 2
7:30 am - 9:30 am	Journal Club [2 CME]	. Thurgood Marshall Ballroom
9:30 am - 10:00 am	Coffee Break	. Exhibit Hall C
10:00 am - 12:00 pm	Hot Topics in OCT [2 CME]	. Thurgood Marshall Ballroom
1:30 pm - 3:00 pm	Applications of Advanced Retinal Vascular Imaging in Neuro-Ophthalmology [1.5 CME]	. Thurgood Marshall Ballroom
2:30 pm - 4:30 pm	Forum for New and Future Neuro-Ophthalmologists	. Washington Rooms 3-6
3:15 pm - 4:45 pm	Radiation Oncology for the Neuro-Ophthalmologist [1.5 CME]	. Thurgood Marshall Ballroom
4:45 pm - 5:00 pm	Overview of the NANOS Practice & Compensation Survey	. Thurgood Marshall Ballroom
5:00 pm - 7:00 pm	SCIENTIFIC PLATFORM PRESENTATIONS: SESSION I [2 CME]	. Thurgood Marshall Ballroom
8:30 pm - 9:30 pm	Medicare Reviews and Audits with Dr. Cheryl Ray	. Thurgood Marshall Ballroom

# **TUESDAY, APRIL 4**

6:00 am - 6:45 am 6:30 am - 12:30 pm 6:30 am - 7:30 am 6:30 am - 10:30 am	Yoga Class Registration/Help Desk Breakfast Exhibits	Thurgood Marshall Foyer Exhibit Hall C Exhibit Hall C
6:30 am - 7:30 am 7:30 am - 12:00 pm 9:15 am - 9:30 am 9:30 am - 10:00 am	JNO Editorial Board Meeting SCIENTIFIC PLATFORM PRESENTATIONS: SESSION II [3.75 CME] Update: The Journal of Neuro-Ophthalmology Coffee Break	. Thurgood Marshall Ballroom . Thurgood Marshall Ballroom
12:00 pm - 6:00 pm 12:30 pm - 4:30 pm 6:00 pm - 9:30 pm 9:00 pm - 10:00 pm	Free Afternoon Optional Excursions Poster Session II: Scientific Advancements in Neuro-Ophthalmology Abstract Committee Meeting	. Exhibit Hall C

## WEDNESDAY, APRIL 5

6:30 am - 5:30 pm	Registration/Help Desk	
6:30 am - 7:30 am	Breakfast	Exhibit Hall C
7:00 am - 7:30 am	Annual NANOS Business Meeting (All are encouraged to attend.)	Thurgood Marshall Ballroom
7:30 am - 11:15 am	Afferent and Efferent Rehabilitative Strategies in Neuro-Ophthalmology [3.5 CME]	Thurgood Marshall Ballroom
9:00 am - 9:15 am	Coffee Break	Thurgood Marshall Foyer
11:15 am - 11:20 am	NOVEL Update	Thurgood Marshall Ballroom
11:20 am - 12:00 pm	Jacobson Lecture: Going with the Flow [.75 CME]	Thurgood Marshall Ballroom
12:15 pm - 1:30 pm	Research Committee Meeting Luncheon	Stone's Throw Restaurant
1:30 pm - 2:30 pm	Women in Neuro-Ophthalmology (WIN) Forum: Gender Pay	Exhibit Hall C
1:30 pm - 3:00 pm	My baby can't see! [1.5 CME]	Thurgood Marshall Ballroom
3:00 pm - 3:30 pm	Consortium of Pediatric Neuro-Ophthalmologists Meeting (CPNO)	Thurgood Marshall Ballroom
3:15 pm - 5:15 pm	Coding: A Day in the Life of a Neuro-Ophthalmologist	Washington Room 3-6
4:00 pm - 5:00 pm	International Relations Committee Meeting	Hoover
6:30 pm - 11:30 pm	Annual NANOS Reception and Banquet	Thurgood Marshall Ballroom

### **THURSDAY, APRIL 6**

6:30 am - 12:00 pm	Registration/Help Desk	Thurgood Marshall Foyer
6:30 am - 7:30 am	Breakfast	Exhibit Hall C
7:30 am - 9:30 am	Neuro-Ophthalmologic Side Effects of More Recently Used Medications in Treating Cancer,	
	Rheumatologic Disorders, and Multiple Sclerosis [2 CME]	Thurgood Marshall Ballroom
9:30 am - 10:00 am	Coffee Break	Thurgood Marshall Foyer
10:00 am - 12:00 pm	Eye Movement Challenge: The Advanced Level [2 CME]	Thurgood Marshall Ballroom



Welcome

On Behalf of the North American Neuro-Ophthalmology Society (NANOS), we are delighted to welcome you to the 43<sup>rd</sup> Annual Meeting at the Washington Marriott Wardman Park in Washington, DC!

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 last year's tradition of holding two poster sessions during the Annual Meeting. Poster Session I: Clinical Highlights in Neuro-Ophthalmology will take place on Sunday, April 2 from 1:00-2:45 pm. Poster Session II: Scientific Advancements in Neuro-Ophthalmology will take place on Tuesday, April 4 from 6:00-9:30 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, attendee portal, or via the on-site kiosks.

Please join us for the Opening Reception on Saturday, April 1, from 6:00 –7:30 pm, in the Marriott Foyer. The reception will feature complimentary cocktails and hors d'oeuvres.

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

The CME meeting evaluation forms will be online only again this year. Further instructions can be found on page 3 of the program. Please bring your computer if you want to complete the evaluation during the sessions or view the online syllabus. 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 Wednesday, April 5, at 7:00 am in the Thurgood Marshall Ballroom. We will be reviewing Society business and your input is needed.

Join us for the Annual Banquet on Wednesday, April 5, from 6:30-11:30 pm in the Thurgood Marshall Ballroom. A pleasant and relaxing evening of camaraderie and networking accompanied by food, music and much more is guaranteed. This event is complimentary for attendees; guest/spouse tickets are available for purchase for \$100 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 2017 NANOS Annual Meeting and your stay at the Washington Marriott Wardman Park!

Edmond J Fitz Julion MD

Edmond J. FitzGibbon, MD NANOS President

#### M is significant N :

NANOS is dedicated to achieving excellence in care of patients with Neuro-Ophthalmic diseases by the support and promotion of

education, research, and

the practice of Neuro-

**Ophthalmology.** 

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# **Download** The 2017 NANOS MOBILE APP!

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# With the 2017 NANOS mobile app, you can:

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- Take notes and download event handouts and presentations
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## To Access the NANOS Mobile App:

- 1. Visit your smartphone's app store (The App Store or Google Play) and **SEARCH** for "Nanos 2017"
- 2. Download and open the mobile app
- 3. Scan the QR code below OR enter the following login information:



## For All Other Device Types

(including BlackBerry, Windows, and

all other web browser-enabled devices):

While on your smartphone, point your mobile browser to m.core-apps.com/nanos2017 to be directed to the proper download version for your device.

Platform Compatibility: Android v4x+ and iOS v7x+

Should you have any questions, please contact support@core-apps.com

# **GENERAL INFORMATION**

# **EXHIBITOR HOURS:**

This year's Exhibit Hall is located in the **Exhibit Hall C.** The Exhibit Hall will be open during the days and times listed below. All breakfasts and breaks will be held in the Exhibit Hall, so be sure to take advantage and visit the exhibitors.

Sunday:	6:30am - 3:00pm
Monday:	6:30am - 12:15pm
Tuesday:	6:30am - 10:30am

# Back Again This Year! 2017 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:

Saturday:	2:00 pm - 8:00 pm
Sunday - Monday:	6:30 am - 5:30 pm
Tuesday:	6:30 am - 12:30 pm
Wednesday:	6:30 am - 5:30 pm
Thursday:	6:30 am - 12:00 pm

### How to Claim CME for the 2017 NANOS Annual Meeting Claiming CME is as easy as 1-2-3:

- 1. Access the NANOS 2017 Annual Meeting Evaluation by scanning the QR code below OR by using the following link: http://nanos2017.sur-sys.com/
- 2. Complete the evaluation of sessions attended. The evaluation may be completed during the meeting or before Friday, April 24.
- 3. Upon completion, download and/or print the interactive PDF CME form from the "CME Verification and Hours" section after entering your name, email, and hours claimed. A copy of the CME verification will also be emailed three weeks after the meeting.





## Total Annual Meeting Credits: 28.5 Credit(s)™

## To Download a QR Code Reader:

- 1. Open your App Store and download a QR Code Reader.
- 2. Open the QR barcode app on your smartphone and choose "scan from camera" or "scan QR code" from the main menu.

# **ABPN Self-Assessment CME**

The American Board of Psychiatry and Neurology has reviewed the NANOS 43rd 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.



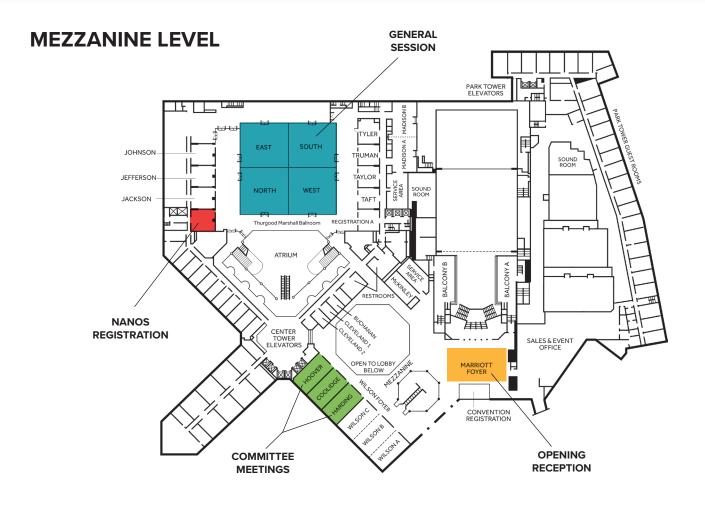
## WIFI Instructions:

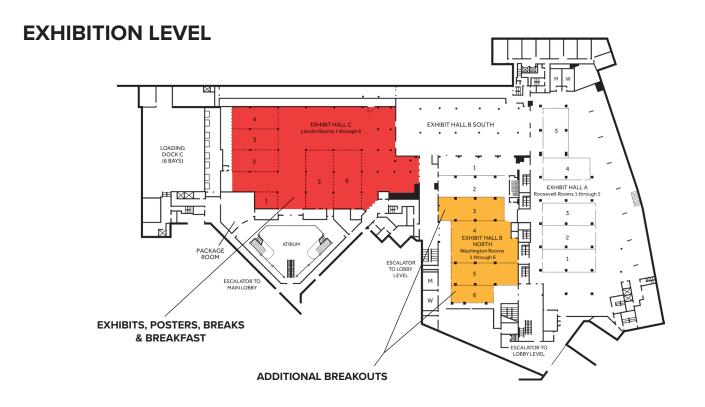
- 1. Activate WiFi on your mobile device
- 2. View available Wireless Networks
- 3. Select the wireless network "MARRIOTT CONFERENCE"
- 4. Click "Connect"
- 5. Launch your Internet browser and navigate to a public website
- 6. Your home page will be redirected to a Login Page
- 7. When prompted, enter the following access code: nanos2017 (not case sensitive)
- 8. Accept the Terms of Service
- 9. The Conference Welcome Page will display and you can now browse the Internet

Complimentary WIFI coverage will be available in all meeting rooms at the Washington Marriott Wardman Park during the course of the meeting.

Note that VPNs are not meant to stay connected all the time for security reasons, and you may be required to re-establish your VPN connectivity when your current session expires.

# **GENERAL INFORMATION**





# PROGRAM

# SATURDAY, APRIL 1

2:00 pm - 8:00 pm	Registration/Help Desk	Thurgood Marshall Foyer
8:00 am - 12:00 pm	NANOS Board Meeting	Hoover
6:00 pm - 7:30 pm	Opening Reception (All are welcome!)	Marriott Foyer

# SUNDAY, APRIL 2

6:00 am - 6:45 am	Yoga Class	-
6:30 am - 5:30 pm	Registration/Help Desk	<b>v</b>
6:30 am - 7:45 am	Breakfast	Exhibit Hall C
6:30 am - 3:00 pm	Exhibits	Exhibit Hall C
7:45 am - 5:00 pm	FRANK B. WALSH SESSION [6 CME]	Thurgood Marshall Ballroom
	Co-Chairs: John Jing-Wei Chen, MD, PhD and Jacqueline A. Leavitt, MD	
	Neuroradiologist: Jonathan Morris, MD	
	Neuropathologist: Caterina Giannini, MD, PhD	

This symposium 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. Necropsy, surgical pathology, and neuroimaging will help illuminate clinical points. 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 course, 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) Effectively use radiologic procedures in diagnosis; 4) Recognize both the value and limitations of neuropathology; and 5) Discuss newly described diseases and their connection to Neuro-Ophthalmology.

7:45 am - 8:00 am 8:00 am - 10:00 am	IntroductionThurgood Marshall Ballroom Frank B. Walsh Session I
	Moderators: Sophia M. Chung, MD & Collin McClelland, MD
8:00 am - 8:20 am	Pseudo-Pseudotumor Cerebri, Valerie Biousse, MD
8:20 am - 8:40 am	A "Frosty" Altered Level of Consciousness, Alaa Bou Ghannam, MD
8:40 am - 9:00 am	Uncertainty with a Twist of Lyme, Amrita-Amanda Lakraj, MD
9:00 am - 9:20 am	Papilledema Gone Wrong, Ahmara Ross, MD
9:20 am - 9:40 am	Occam Rings True, Reid Longmuir, MD
9:40 am - 10:00 am	A Prolonged Path To The Final Diagnosis, Cindy Lam, MD, FRCSC
10:00 am - 10:30 am	Coffee BreakExhibit Hall C

# PROGRAM

# SUNDAY, APRIL 2 (Continued)

10:30 am - 12:30 pm	Frank B. Walsh Session II	
10:30 am - 10:50 am	Keep Your Eye On the Ball, Danielle Rudich, MD	
10:50 am - 11:10 am	Alcohol is Never the Answer, but it Does Make You Forget the Question, Ali Saber Tehrani, MD	
11:10 am - 11:30 am	Nonchalant Midterm-taker Develops Altered Mental Status, Shira Simon, MD, MBA	
11:30 am - 11:50 am	It Must Be Voodoo and he was Far from Spineless, Norah Sydney Lincoff, MD	
11:50 am - 12:10 pm	M.I.A., Julie DeBacker, MD	
12:10 pm - 12:30 pm	The Sound of Hoofbeats, Lilangi Ediriwickrema, MD	
12:30 pm - 1:00 pm	LunchExhibit Hall C	
1:00 pm - 2:45 pm	Poster Session I: Clinical Highlights in Neuro-Ophthalmology Exhibit Hall C	
Authors will be standing by their posters during the following times:		
Odd-Numbered Posters: 1:15 pm - 2:00 pm		
	Even-Numbered Posters: 2:00 pm - 2:45 pm	
3:00 pm - 5:00 pm	Frank B. Walsh Session III Thurgood Marshall Ballroom	
	Moderators: James A. Garrity, MD & Heather E. Moss, MD, PhD	
3:00 pm - 3:20 pm	A Wrong Turn at the Angle, Erica Archer, MD	
3:20 pm - 3:40 pm	Strike a Chord, Anastasia Neufeld, MD	
3:40 pm - 4:00 pm	Island Fever, Laura Hanson, MD	
4:00 pm - 4:20 pm	Lions and Tigers and Bears, Oh My!, Larissa Ghadiali, MD	
4:20 pm - 4:40 pm	Not Surprised Surprise, Yu Zhao, MD	
4:40 pm - 5:00 pm	A Diagnostic Potpourri, Padmaja Sudhakar, MD	
5:15 pm - 5:45 pm	Frank B. Walsh Committee Meeting Harding	
5:15 pm - 5:45 pm	Fellowship Director's Meeting Coolidge	
5:30 pm - 6:30 pm	Members-in-Training Program and ReceptionMarriott Foyer	
	(All students, residents and fellows-in-training are encouraged to attend.)	
5:45 pm - 6:15 pm	Fellowship Committee MeetingCoolidge	



# **MONDAY, APRIL 3**

6:00 am - 6:45 am	Yoga Class	Washington Room 1
6:30 am - 5:30 pm	Registration/Help Desk	Thurgood Marshall Foyer
6:30 am - 7:30 am	Breakfast	Exhibit Hall C
6:30 am - 12:15 pm	Exhibits	Exhibit Hall C
7:00 am - 7:30 am	NOVEL Editorial Board/Curriculum Committee Meeting	Washington 2
7:30 am - 9:30 am	Journal Club [2 CME]	•
	Moderators: Y. Joyce Liao, MD, PhD and Matthew J. Thurtell, MBBS, I	MSc, FRACP

The Journal Club symposium will cover updates on medical conditions of importance to Neuro-Ophthalmic practice, with review of recent important literature relating to masquerade retinopathies, pediatric optic neuritis, and myasthenia gravis.

Upon completion of this course, participants should be able to: 1) Describe the features, investigation, and management of retinopathies that can masquerade as optic neuropathy; 2) Discuss the investigation and management of pediatric optic neuritis; and 3) Discuss recent updates in the investigation and management of myasthenia gravis.

7:30 am - 7:55 am	Masquerade Retinopathies (AZOOR, MEWDS, AIBSES, ARRON, AIR, Paraneoplastic CAR, MAR, PON), Y. Joyce Liao, MD, PhD
7:55 am - 8:00 am	Q & A
8:00 am - 8:25 am	Clinical Trials of Neuro-Ophthalmic Interest, Neil R. Miller, MD
8:25 am - 8:30 am	Q & A
8:30 am - 8:55 am	Pediatric Optic Neuritis, Grant T. Liu, MD
8:55 am - 9:00 am	Q & A
9:00 am - 9:25 am	Myasthenia Gravis, Matthew J. Thurtell, MBBS, MSc, FRACP
9:25 am - 9:30 am	Q & A
9:30 am - 10:00 am	Coffee BreakExhibit Hall C
10:00 am - 12:00 pm	Hot Topics in OCT [2 CME] Thurgood Marshall Ballroom Moderators: Eric R. Eggenberger, DO and Victoria S. Pelak, MD

Optical Coherence Tomography (or OCT) is quickly advancing our understanding of disease pathology and becoming an important research tool for both discovery and outcomes. The use of OCT for the diagnosis of conditions that previously required more invasive techniques is quickly evolving.

Upon completion of this course, participants should be able to: 1) Employ OCT imaging to diagnose optic nerve head drusen; 2) Describe the imaging technique and potential applications of OCT angiography; 3) Describe current utility of OCT in tracking progression and effectiveness of treatment in multiple sclerosis; and 4) Explain current findings and potential utility of OCT in assessment of neurodegeneration in Alzheimer's disease and Parkinson's disease.

10:00 am - 10:15 am	OCT and Optic Nerve Head Drusen, Fiona Costello, MD, FRCP
10:15 am - 10:20 am	Q & A
10:20 am - 10:35 am	OCT Angiography, Guy V. Jirawuthiworavong, MD, MA
10:35 am - 10:40 am	Q & A
10:40 am - 10:55 am	Optical Coherence Tomography (OCT) and Multiple Sclerosis (MS), Steven Galetta, MD
10:55 am - 11:00 am	Q & A
11:00 am - 11:15 am	OCT and Neurodegeneration of Alzheimer's Disease and Parkinson's Disease, Victoria S. Pelak, MD
11:15 am - 11:20 am	Q & A
11:20 am - 11:35 am	The Future of OCT: Merging Structure and Function, Robert C. Sergott, MD
11:35 am - 12:00 pm	Q & A

# **MONDAY, APRIL 3** (Continued)

#### 1:30 pm - 3:00 pm Applications of Advanced Retinal Vascular Imaging in

Neuro-Ophthalmology [1.5 CME] ......Thurgood Marshall Ballroom Moderator: Hong Jiang, MD, PhD

The recent advances of ophthalmic imaging techniques, such as the Optic Coherence Tomography Angiography (OCTA) and the retinal function imager (RFI), enable vascular changes in the posterior segment of the eye to be qualitatively and quantitatively analyzed. This symposium will provide an overview of these fast growing, state of the art imaging techniques and their applications to the field of Neuro-Ophthalmology with clinical study outcomes.

Upon completion of this course, participants should be able to: 1) Recognize the vascular link between the eye and brain; 2) Describe currently available advanced ophthalmic imaging modalities for retinal vascular imaging and their applications in Neuro-Ophthalmology; and 3) Discuss possible changes of retinal microvasculature in optic neuropathy and central nervous system disorders, such as cerebral vascular diseases, multiple sclerosis, and dementia.

1:30 pm - 1:50 pm Update of Retinal Vascu	lar Imaging Quantitative Analysis, Jianhua Wang, MD, PhD
1:50 pm - 2:10 pm The Application of OCTA	in Optic Neuropathy, Marie-Benedicte Rougier, MD, PhD
2:10 pm - 2:30 pm Retinal Vascular Change	s as a Biomarker for Cerebral Vascular Disease, Heather Moss, MD, PhD
2:30 pm - 2:50 pm Retinal Microvascular In	npairment in Multiple Sclerosis and Dementia, Hong Jiang, MD, PhD
2:50 pm - 3:00 pm Q&A	

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All are welcome to attend. This gathering, however, is especially for students, residents, fellows, and Neuro-Ophthalmologists in the early years of their career. There will be small group discussions that provide an opportunity to ask questions, or listen to the questions and advice of others. Attendees can rotate between tables during the session. The first hour of discussions will be led by members of the Young Neuro-Ophthalmology (YONO) Committee who are recently out of fellowship, and is geared towards trainees, residents, and fellows. The second hour will be led by senior Neuro-Ophthalmologists, and is geared towards those in their first years of practice. Attendees can come for one or both hour-long sessions.

2:30 pm - 3:30 pm	Session I: What Do You Want to Know About Becoming a Neuro-Ophthalmologist? Table 1: Top 10 Financial Mistakes We Make (And How to Avoid Them), <i>Kaushal Kulkarni, MD</i> Table 2: Practice Models For Neuro-Ophthalmologists, <i>Kevin Lai, MD</i> Table 3: From an Ophthalmology Perspective, <i>Colin McClelland, MD</i> Table 4: What it's like to be a Neuro-Ophthalmologist, <i>Courtney E. Francis, MD</i>
3:30 pm - 4:30 pm	<ul> <li>Session II: What Do You Want to Know About Your First Few Years of Practice?</li> <li>Table 1: Becoming a Clinician Scientist, Alfredo Sadun, MD, PhD</li> <li>Table 2: Building Collaborations, Local and International, Christian Lueck, MB BChir MA PhD</li> <li>FRCP(Ed) FRCP(UK) FRACP FAAN and Walter Jay, MD</li> <li>Table 3: Changing Jobs - Is This the Right Job for Me?, Janet Rucker, MD</li> <li>Table 4: Work Life Balance, Andrew Lee, MD</li> <li>At large: Jorge Kattah, MD</li> </ul>
3:15 pm - 4:45 pm	Radiation Oncology for the Neuro-Ophthalmologist [1.5 CME]Thurgood Marshall Ballroom

Facilitator: Scott L. Stafford, MD

This symposium is designed to introduce the basics of radiation oncology to the audience and will start with an introduction on the physical characteristics of photons and protons that are generated for medicinal use. Then, a case oriented approach to the tumors/ conditions seen by Neuro-Ophthalmologists will be conducted including technique, toxicity, and outcomes.

Upon completion of this course, participants should be able to: 1) Describe the differences between protons and photons; 2) Define the role of radiation in orbital and optic nerve tumors; and 3) Evaluate the complexity of radiation as it applies to treating tumors of the orbit.

# **MONDAY, APRIL 3** (Continued)

4:45 pm - 5:00 pm

**Overview of the NANOS Practice & Compensation Survey.....Thurgood Marshall Ballroom** Speaker: Meg Guerin-Calvert, President and Senior Managing Director, Center for Healthcare Economic and Policy, FTI Consulting, Inc.

NANOS leadership and the FTI Center for Healthcare Economics and Policy teamed together in an effort to obtain the most complete information on practices and compensation across the diverse practice settings of NANOS members. This was done to respond to members' requests for reliable benchmarks for Neuro-Ophthalmologic compensation and productivity. The collaboration resulted in the NANOS Practice & Compensation Survey launch in 2016; with the survey remaining open for member participation into 2017. The presentation will provide an overview and summary of survey results.

5:00 pm - 7:00 pm	Scientific Platform Presentations: Session I [2 CME]Thurgood Marshall Ballroom Moderators: Matthew J. Thurtell, MBBS, MSc, FRACP & Michael S. Vaphiades, DO
5:00 pm - 5:15 pm	Tocilizumab in Patients with Giant Cell Arteritis: Results From a Phase 3 Randomized Controlled Trial, Susan Mollan, MBCHB, FRCOPHTH
5:15 pm - 5:30 pm	Headache Outcomes in the Idiopathic Intracranial Hypertension Treatment Trial, Deborah Friedman, MD, MPH
5:30 pm - 5:45 pm	Determining the Optimal Angle of Two-Dimensional Optical Coherence Tomography Scans to Detect Abnormal Intracranial Pressure, Kiran Malhotra, BA, BS
5:45 pm - 6:00 pm	<b>Oscillopsia and Reading Abnormalities in Patients with Down-Beating Nystagmus</b> , Carmel Mercado, MD
6:00 pm - 6:15 pm	Role of SIRT1 Activity and pAKT Signaling in ST266-Mediated RGC Neuroprotection, Kenneth Shindler, MD, PhD
6:15 pm - 6:30 pm	Effect of Combined Systemic Erythropoietin and Steroid, on Non-Arteritic Anterior Ischemic Optic Neuropathy, Mohammad Pakravan, MD
6:30 pm - 6:45 pm	Saccade Sequences and Rapid Number Naming in Chronic Concussion, Weiwei Dai, DO
6:45 pm - 7:00 pm	Visual Structure and Function in Contact Sport Athletes, Danielle Leong, OD, PhD
8:30 pm - 9:30 pm	Medicare Reviews and Audits with Dr. Cheryl RayThurgood Marshall Ballroom Moderator: Larry Frohman, MD
8:30 pm - 9:15 pm 9:15 pm - 9:30 pm	Medicare Reviews, Probes & AuditsOh My! Q&A

Join us for the rare opportunity to hear from a Medical Official who genuinely understands our practice! Dr. Cheryl Ray is a VP of Medicare-Clinical and Lead Contractor Medical Director at WPS- Government Health Administrators.

# **TUESDAY, APRIL 4**

6:00 am - 6:45 am 6:30 am - 12:30 pm 6:30 am - 7:30 am 6:30 am - 10:30 am 6:30 am - 7:30 am	Yoga Class
7:30 am - 12:00 pm	Scientific Platform Presentations: Session II [3.75 CME]Thurgood Marshall Ballroom Moderators: Y. Joyce Liao, MD, PhD & Steven A. Newman, MD
7:30 am - 7:45 am	Retinal Vascular Complications in Obstructive Sleep Apnea, Clare Fraser, MBBS (Hons) MMed FRANZCO
7:45 am - 8:00 am	Optical Coherence Tomography Angiography in Patients with Migraine with Aura Demonstrates Deceased Macular Vessel Density, <i>Melinda Chang, MD</i>
8:00 am - 8:15 am	Reduction of the Photopic Negative Response in Optic Neuropathy: Assessment Using a New Handheld Device, Shira Simon, MD, MBA

# PROGRAM

# TUESDAY, APRIL 4 (Continued)

8:15 am - 8:30 am	The Useful Dynamic Ranges for Visual Field Progression with Stimulus Sizes III and V, Michael Wall, MD	
8:30 am - 8:45 am	Seasonal Variation In Non-Visual, Light-Dependent Responses Mediated By Melanopsin, Myriam Ladaique, Ms	
8:45 am - 9:00 am 9:00 am - 9:15 am	The Study of Posterior Cortical Atrophy Using Online Surveys and Social Media, William Hills, MD The Effect of Amblyopia on the Developmental Calibration of Sound Localization, Agnes Wong, MD, PhD, FRCSC	
9:15 am - 9:30 am	Update: The Journal of Neuro-OphthalmologyThurgood Marshall Ballroom Lanning Kline, MD, Editor-in-Chief	
9:30 am - 10:00 am	Coffee BreakExhibit Hall C	
10:00 am - 12:00 pm	Scientific Platform Presentations: Session II ContinuedThurgood Marshall Ballroom Moderators: Laura Balcer, MD, MSCE & Ruth Huna-Baron, MD	
10:00 am - 10:15 am	Phase I/IIa Visual Acuity Outcomes 1.5-Years Post-Treatment with rAAV2/2-ND4, Investigational Gene Therapy for ND4 LHON, Catherine Vignal, MD	
10:15 am - 10:30 am		
10:30 am - 10:45 am		
10:45 am - 11:00 am		
11:00 am - 11:15 am	A Novel Mechanism for the Central Nervous System Transit of Aquaporin-4 Autoantibody in Neuromyelitis Optica, <i>Jeffrey Bennett, MD, PhD</i>	
11:15 am - 11:30 am	Effect of Contrast Sensitivity on Pseudoisochromatic Plate Color Vision Tests, Anvesh Annadanam, BS	
11:30 am - 11:45 am	Obligate Impairment of Vertical Vestibulo-ocular Reflexes in Internuclear Ophthalmolplegia, Gabor Halmagyi, BSC, MBBS, MD	
11:45 am - 12:00 pm	Visual Disability and Reading Difficulties in Patients with Parkinson's Disease, Y. Joyce Liao, MD, PhD	
12:00 pm - 6:00 pm	Free Afternoon	
12:30 pm - 4:30 pm	Optional Excursions: Capitol Tour, Segway Tour & Mount Vernon	
6:00 pm - 9:30 pm	<b>Poster Session II: Scientific Advancements in Neuro-OphthalmologyExhibit Hall C</b> Dinner buffet is included. Guests are welcome. Event is complimentary for attendees but guests must purchase tickets. Tickets are available for \$50 per person.	
	Authors will be standing by their posters during the following hours:	
	Odd-Numbered Posters: 6:45 pm - 7:30 pm	
	Even-Numbered Posters: 7:30 pm - 8:15 pm	
9:00 pm - 10:00 pm	Abstract Committee Meeting	

# WEDNESDAY, APRIL 5

6:30 am - 5:30 pm	Registration/Help Desk	Thurgood Marshall Foyer
6:30 am - 7:30 am	Breakfast	
7:00 am - 7:30 am	Annual NANOS Business Meeting	Thurgood Marshall Ballroom

# WEDNESDAY, APRIL 5 (Continued)

#### 7:30 am - 11:15 am

Afferent and Efferent Rehabilitative Strategies in Neuro-Ophthalmology [3.5 CME] ......Thurgood Marshall Ballroom Moderators: Sashank Prasad, MD and Paul H. Phillips, MD

After diagnosis and treatment, rehabilitation quickly becomes one of the most important aspects of the management of a patient with Neuro-Ophthalmic disease. There have been many important recent advances in rehabilitative methods for both afferent and efferent visual dysfunction. In this symposium, these methods will be reviewed, with an emphasis on both underlying neuroscientific principles and practical strategies.

Upon completion of this course, participants should be able to: 1) Examine recent data assessing the value of visual field stimulation to attempt to reduce a homonymous visual field deficit; 2) Recognize conceptual issues impacting the use of prisms and augmented vision to treat patients with visual field deficits; 3) Describe rehabilitation strategies for patients with visual loss from optic neuropathy; and 4) Appraise methods to treat convergence insufficiency.

7:30 am - 7:35 am	Introduction and Overview, Paul H. Phillips, MD	
7:35 am - 7:40 am	Case Presentation: Homonymous Hemianopia, Sashank Prasad, MD	
7:40 am - 8:00 am	Update on Visual Field Expansion with Rehabilitative Training, Krystel Huxlin, PhD	
8:00 am - 8:20 am	Fitting Peripheral Prisms for Hemianopia, Eli Peli, MSc, OD	
8:20 am - 8:40 am	Driving Considerations in Teens with Optic Neuropathies, Judith E. Goldstein, OD	
8:40 am - 9:00 am	Q & A	
9:00 am - 9:15 am	Coffee Break Thurgood Marshall Foyer	
9:15 am - 9:35 am	The Roles and Effects of Diplopia and Visual Confusion in the Treatment of Visual Field Loss, Eli Peli, MSc, OD	
9:35 am - 9:55 am	Rehabilitation Strategies for Optic Neuropathies in Adults (AION), Judith E. Goldstein, OD	
9:55 am - 10:00 am	Case Presentation: Convergence Insufficiency, Paul H. Phillips, MD	
10:00 am - 10:20 am	<b>Convergence Insufficiency: Review of Treatment Trials (Office versus Home Based Treatment)</b> , Susan Cotter, OD, MS	
10:20 am - 10:40 am		
10:40 am - 11:15 am		
11:15 am - 11:20 am	NOVEL Update	
11:20 am - 12:00 pm	Jacobson Lecture: Going with the Flow [.75 CME]Thurgood Marshall Ballroom Moderator: Patricia Johnston-McNussen, MD Presenter: Randy Kardon, MD, PhD	

A perspective will be provided on newly discovered aspects of ocular blood flow and how it relates to causes of vision loss seen by Neuro-Ophthalmologists.

Upon completion of this course, participants should be able to: 1) Describe disorders in which choroidal blood flow can be decreased; 2) Describe disorders in which retinal blood flow can be decreased; and 3) Recognize the relationship between retinal blood flow and metabolic activity of retinal neurons.

12:15 pm - 1:30 pm	Research Committee Meeting Luncheon	. Stone's Throw Restaurant
1:30 pm - 2:30 pm	Women in Neuro-Ophthalmology (WIN) Forum: Gender Pay	Exhibit Hall C

Join your colleagues for a networking event where we will explore the evidence for, perspectives surrounding, and potential solutions to the gender pay gap in medicine. NANOS members, Dr. Lynn Gordon and Dr. Melissa Ko, will give brief presentations, and there will be small table strategy-focused brainstorming. All are welcome.

# WEDNESDAY, APRIL 5 (Continued)

1:30 pm - 3:00 pm

My baby can't see! [1.5 CME]......Thurgood Marshall Ballroom Moderator: Gena Heidary, MD, PhD

The purpose of this optional symposium, presented by members of the Consortium of Pediatric Neuro-Ophthalmologists (CPNO), is to review the assessment of vision during infancy, highlight important symptoms and signs of common Neuro-Ophthalmic conditions that cause visual dysfunction during infancy, and provide a framework for the diagnostic work up and management of these disease processes.

The workshop will begin with a brief overview of visual development during infancy to frame the discussion. After this overview, four topics including nystagmus in infants, congenital optic nerve anomalies, inherited retinal dystrophies/degenerations, and cortical/ central visual impairment will be covered with an illustrative case presentation and a didactic talk.

The nystagmus in infants section will provide insight into the characteristic clinical features of infantile nystagmus syndrome, spasmus nutans, and latent nystagmus with a focus on diagnostic tools useful in clarifying the underlying etiology of nystagmus. The congenital optic nerve anomalies section will focus on novel insights into optic nerve hypoplasia. The retinal dystrophy/degeneration section will review the clinical presentation of an inherited retinal dystrophy/degeneration with a discussion on diagnostic evaluation in that setting. The cortical/central visual impairment section will review the clinical manifestations of this condition. In addition, data on the use of novel DTI-related imaging techniques to evaluate the neuro-anatomy of individuals affected with cortical/central visual impairment and recommendations for visual rehabilitation and management of these children will be highlighted.

Upon completion of this course, participants should be able to: 1) Develop an understanding of important milestones in visual development during the first year of life; 2) Review the clinical presentation of nystagmus during infancy and its diagnostic evaluation; and 3) Promote awareness of cortical visual impairment: its clinical features, epidemiology, and management.

1:30 pm - 1:35 pm	Consortium for Pediatric Neuro-Ophthalmologists brief overview, Grant T. Liu, MD
1:35 pm - 1:40 pm	Case 1, Grant T. Liu, MD
1:40 pm - 1:55 pm	Case 1, Discussant: Paul Phillips, MD
1:55 pm - 2:00 pm	Case 2, Grant T. Liu, MD
2:00 pm - 2:15 pm	Case 2, Discussant: Mark Borchert, MD
2:15 pm - 2:20 pm	Case 3, Grant T. Liu, MD
2:20 pm - 2:30 pm	Case 3, Discussant: Stacy Pineles, MD
2:30 pm - 2:35 pm	Case 4, Grant T. Liu, MD
2:35 pm - 2:50 pm	Case 4, Discussant: Gena Heidary, MD, PhD
3:00 pm - 3:30 pm	Consortium of Pediatric Neuro-Ophthalmologists Meeting (CPNO) Thurgood Marshall Ballroom Facilitator: Mark Borchert, MD
3:15 pm - 5:15 pm	Coding: A Day in the Life of a Neuro-Ophthalmologist
	Moderators: Mark Moster, MD and John Pula, MD
	Presenters: Jenny Edgar, CPC, CPCO, OCS
	Coding Specialist, American Academy of Ophthalmology
	David B. Glasser, MD
	American Academy of Ophthalmology
	Chair, Academy Health Policy Committee

For many practices, not only is correct claim submission a goal, making sure documentation meets medical necessity is a must, as audits are on the rise. This two hour course will walk through real-life Neuro-Ophthalmology cases focusing on how time is a factor for exams, plus how modifiers and bundling edits may impact services being submitted. The group will review testing service requirements providing what is necessary for both minor and major surgical procedures. Also present in the session will be David B. Glasser, MD, American Academy of Ophthalmology, Chair, Academy Health Policy Committee.

Upon completion of this course, the participant should be able to: 1) Recognize when to report and E/M vs Eye visit code; 2) Link CPT to ICD-10 to avoid claim denials; 3) Identify appropriate use of the Advance Beneficiary Notice; 4) Apply payer rules to testing services; and 5) Successfully avoid penalties under the MIPS program.

# WEDNESDAY, APRIL 5 (Continued)

3:15 pm - 5:00 pm 5:00 pm - 5:15 pm	Coding for Neuro-Ophthalmology with Interactive Case Studies, Jenny Edgar, CPC, CPCO, OCS Q&A
4:00 pm - 5:00 pm	International Relations Committee MeetingHoover
6:30 pm - 11:30 pm	Annual NANOS Reception and Banquet

# **THURSDAY, APRIL 6**

6:30 am - 12:00 pm	Registration/Help Desk	Thurgood Marshall Foyer
6:30 am - 7:30 am	Breakfast	Exhibit Hall C
7:30 am - 9:30 am	Neuro-Ophthalmologic Side Effects of More Recently	
	Used Medications in Treating Cancer, Rheumatologic Disorders,	
	and Multiple Sclerosis [2 CME]	Thurgood Marshall Ballroom
	Moderators: Rod Foroozan, MD and Judith E. A. Warner, MD	-

This symposium includes a brief case-based overview of Neuro-Ophthalmic complications limited to new or more recently used systemic medications (including an update from a NANOS platform symposium of 2010 which discussed side effects of chemotherapeutic agents). Participants will recognize relevant potential side effects of systemic medications they may encounter in clinical practice, directed to ophthalmic and Neuro-Ophthalmic issues. The symposium will focus on medications developed more recently in the treatment of epilepsy, cancer, rheumatologic disorders, and multiple sclerosis.

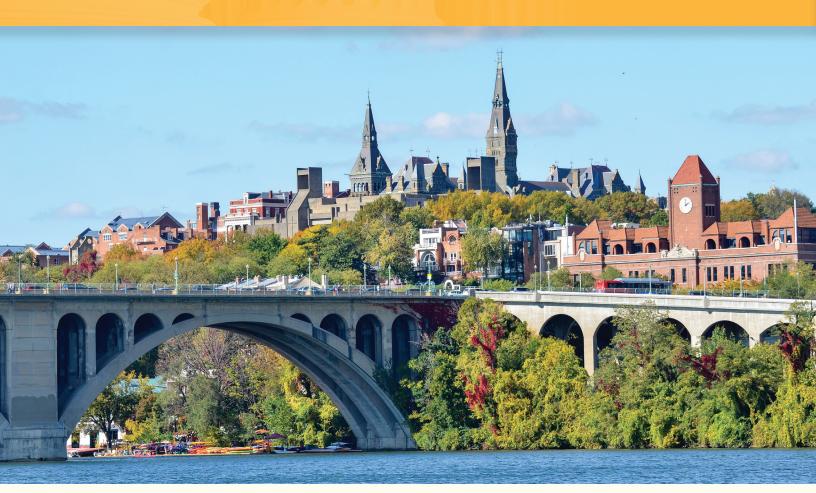
Upon completion of this course, participants will be able to: 1) Learn the frequency of visual deficits in patients with refractory epilepsy; 2) List the newer agents used to treat multiple sclerosis, cancer, and rheumatologic disease; and 3) Link the side effects of each agent to the expected Neuro-Ophthalmic finding.

7:30 am - 7:50 am	Introduction and Lessons from Vigabatrin, Rod Foroozan, MD	
7:50 am - 7: 55 am	Q&A	
7:55 am - 8:25 am	Neuro-Ophthalmic Side Effects of New Cancer Drugs, M. Tariq Bhatti, MD	
8:25 am - 8:35 am	Q & A	
8:35 am - 8:55 am	Side Effects of New Immuno-Modulators, Ore-ofe Oluwaseun Adesina, MD	
8:55 am - 9:00 am	Q&A	
9:00 am - 9:20 am	Neuro-Ophthalmic Consequences of Medications for Multiple Sclerosis: The Good, The Bad,	
	The Ugly and The Unknown, Heather E. Moss, MD, PhD	
9:20 am - 9:25 am	Q & A	
9:25 am - 9:30 am	Closing Remarks, Rod Foroozan, MD and Judith E. A. Warner, MD	
9:30 am - 10:00 am	Coffee Break Thurgood Marshall Foyer	
10:00 am - 12:00 pm	Eye Movement Challenge: The Advanced Level [2 CME]Thurgood Marshall Ballroom	
	Moderators: Jason S. Barton, MD, PhD, FRCPC and William A. Fletcher, MD, FRCPC	
	Panelists: David S. Zee, MD, Caroline Tilikete, MD, PhD, and Michael C. Brodsky, MD	

This symposium will use a case-based format rather than didactic lectures. There will be two 50-minute sessions, each comprising several brief case presentations of unusual eye movements. For each case, a panelist will present a short history and video, followed by questions for the audience. The other panelists may comment briefly on the salient clinical features. The presenting panelist will conclude with the diagnosis and a brief summary of the condition. At the end of each session there will be a 10-minute question period.

Upon completion of this course, participants should be able to: 1) Recognize and diagnose uncommon ocular motor disorders; 2) Localize uncommon oculomotor disorders; and 3) Describe the pathophysiology of uncommon oculomotor disorders.

# **NANOS 2017 SPEAKERS AND MODERATORS**



**Ore-ofe O. Adesina, MD** McGovern Medical School *Houston, TX* 

Laura J. Balcer, MD, MSCE New York University School of Medicine *New York, NY* 

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James A. Garrity, MD Mayo Clinic Rochester, MN



Caterina Giannini, MD, PhD Mayo Clinic Rochester, MN

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Y. Joyce Liao, MD, PhD Stanford University Stanford, CA

**Grant T. Liu, MD** University of Pennsylvania Children's Hospital of Philadelphia *Philadelphia, PA*  **Collin McClelland, MD** University of Minnesota *Minneapolis, MN* 

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David S. Zee, MD Johns Hopkins University School of Medicine *Baltimore, MD* 

# **SOCIAL FUNCTIONS**

# **SATURDAY, APRIL 1**

Opening Reception – Marriott Foyer 6:00 pm - 7:30 pm

Please join us for the Opening Reception at the Washington Marriott Wardman Park. All are welcome to attend the opening reception, which features complimentary cocktails and hors d'oeuvres.

# **SUNDAY, APRIL 2**

Members-in-Training Program and Reception – Marriott Foyer 5:30 pm - 6:30 pm New to Neuro-Ophthalmology? All students, residents, and fellows-in-training are encouraged to attend!

# **TUESDAY, APRIL 4**

Afternoon Excursions 12:30 pm - 4:30 pm

All excursions depart from the Marriott entrance near Harry's Pub at 12:30 pm and include transportation, a boxed lunch, and admission (if applicable). Excursions return to the hotel at 4:30 pm.



# VIP TOUR OF THE UNITED STATES CAPITOL BUILDING - Full

No building in the country exudes such an aura of power and drama as The United States Capitol! Guests will be able to enjoy a once in a lifetime opportunity when touring the building with a former member of Congress. Once inside, guests will travel the ornately painted Brumidi Corridors until they reach Statuary Hall, which served as the House of Representatives' Chamber until 1857. Following Statuary Hall, guests will pass through the Rotunda for a closer look at its magnificent architecture and stunning murals depicting early America and its growth as a democracy. When congress is not in session, guests will have the rare opportunity to visit the House of Representatives' chamber and sit in the Member's chairs on the "floor" of the House as they listen to more fascinating facts from the former member and our master tour guide.

Recommended Attire: Casual attire. Comfortable walking shoes.

**Prohibited Items:** Food, drinks, water bottles (even empty ones), liquids, aerosols, hand lotion, perfumes, Mace, lighters, matches, pocketknives, scissors, large bags/backpacks and nail files.



#### **TUESDAY, APRIL 4** AFTERNOON EXCURSIONS (CONTINUED)

#### TOUR OF MOUNT VERNON ~ GEORGE WASHINGTON'S ESTATE - Full

Mount Vernon was the plantation home of George Washington, first President of the United States, and his wife, Martha Dandridge Custis Washington. The historic estate includes not only the Mount Vernon Mansion, George and Martha's home, but also a host of colonial era buildings, beautiful gardens, a working distillery and gristmill, and museum and interactive education center. Guests will tour the mansion and the surrounding service buildings, the interactive education center, and the Washington family museum, where personal effects of George and Martha are on display. Located 15 miles south of Washington, DC along the scenic Potomac River, Mount Vernon is a true national treasure guests will enjoy exploring.



**Recommended Attire:** Casual attire. Comfortable walking shoes that may get dirty. Umbrella or rain jacket. Sunglasses.



#### **SEGWAYS IN THE CITY - Full**

The Segway is the first of its kind—a self-balancing, personal transportation device that's designed to operate in any pedestrian environment. Your private tour will begin with luxury mini coach transportation to your tour start location. Upon arrival, guests will receive a thirty minute training session on the operation and safety of the Segway and will have ample time for practice. Then, it's all aboard and off to the Smithsonian Castle along the National Mall, the U.S. Capitol Building, Washington Monument, and World War II Memorial. The Vietnam Veterans Memorial (including the Three Servicemen and Nurses Memorial), the Lincoln Memorial, and the Korean War Memorial are also visited throughout the tour. Guests will enjoy this unique perspective along the National Mall!

Recommended Attire: Comfortable/athletic attire. Closed-toe, athletic sneakers or walking shoes. Sunglasses.

# WEDNESDAY, APRIL 5

## Annual NANOS Reception and Banquet 6:30 pm - 11:30 pm

Join colleagues for a fun, casual evening of socializing, dining, and dancing at the NANOS Annual Banquet and Reception which will be held in the Thurgood Marshall Ballroom at the Washington Marriott Wardman Park. Event is complimentary for attendees, but guests must purchase tickets for \$100 per person.



# SUPPORT RECOGNITION

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

# **2017 SUPPORTORS**

Biogen	\$10,000
<b>TEVA Pharmaceuticals</b>	\$10,000
Merz North America	\$ 7,500
Quark Pharmaceuticals	\$ 7,500

# 2017 Exhibitors:

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# **EXHIBITORS**

# NANOS Exhibitors

#### Biogen – Booth 1

133 Boston Post Road Weston, MA 02493 Email: megan.burnett@biogen.com Website: https://www.biogen.com/en\_us/about-biogen/ contact.html

Through cutting-edge science and medicine, Biogen discovers, develops and delivers worldwide innovative therapies for people living with serious neurological, autoimmune and rare diseases. Founded in 1978, Biogen is one of the world's oldest independent biotechnology companies and patients worldwide benefit from its leading multiple sclerosis and innovative hemophilia therapies.

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Merz North America is a specialty healthcare company that develops and commercializes innovative treatment solutions in aesthetics, dermatology and neurology in the U.S. and Canada. Our ambition is to become a recognized leader in the treatment of movement disorders, and in aesthetics and dermatology.

## Heidelberg Engineering – Booth 3

10 Forge Parkway Franklin, MA 02038 Phone: (800) 931-2230 Email: salesUSA@HeidelbergEngineering.com Website: www.HeidelbergEngineering.com

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#### Haag-Streit USA - Booth 4

3535 Kings Mills Road Mason, OH 45040 Phone: (800) 787-5426 Email: obecerra@haag-streit-usa.com Website: **www.haag-streit-usa.com** 

Haag-Streit USA is a leading provider of medical equipment for ophthalmologists, optometrists, and opticians. This experience institutes a solid groundwork for the development, design, and production of unparalleled medical instruments and equipment. We set the standard for precision mechanics and innovative technology with an emphasis on usability and functionality.

## Konan Medical USA – Booth 5

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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.

#### Diagnosys, LLC – Booth 7

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#### Shanghai New Eyes Medical Inc – Booth 10

Rm 902-904, 3rd Bldg, NO.1800 Huangxing Rd, 200433 Shanghai, China Phone: +8613818388745 Email: icy@neweyes.com.cn Website: **www.eyesmed.com** 

Shanghai New Eyes Medical Inc. is a comprehensive corporation integrating multiple sectors such as Medical-Investment, Management, Digital Ophthalmic Equipment Development, Production, and the General Agent around China of American TTI Digital High Definition Products.

#### Wolters Kluwer – Booth 11

2001 Market Street Philadelphia, PA 19103 Phone: (215) 521-8300 Email: customerservice@lww.com Website: www.lww.com

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# International Susac Syndrome Foundation (ISSF) – Booth 12

2401 Trusty Trail Raleigh, NC 27615 Phone: (403) 620-3032 Email: **susacfoundation@gmail.com** 

The International Susac Syndrome Foundation is dedicated to spreading awareness of a rare autoimmune disease afflicting 400+ worldwide, possibly more. It affects the Corpus Callosum, Cochlea and Retina. SS is often misdiagnosed as Multiple Sclerosis. It was first discovered in 1979 by Dr. John Susac who noted psychotic episodes of several women found in a psychiatric ward.

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LHON Project at UMDF – Booth 13 8085 Saltsburg Road, Suite 201 Pittsburgh, PA 15237 Phone: (760) 518-3184 Email: LHONpoince@aol.com Website: www.LHON.org

Our global LHON community provides support and education to LHON families through an Annual Conference, monthly teleconferences, online support groups, a podcast, and local gatherings. We guide LHON families to Neuro-Ophthalmologists, genetic counselors, genetic genealogists, psychologists, and other support services. We raise and grant funds in support of LHON research.

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Neuro-Ophthalmology Virtual Education Library: NOVEL Update Nancy T. Lombardo, Christy Jarvis, Spencer S. Eccles Health Sciences Library, University of Utah; Kathleen B. Digre, Moran Eye Center, University of Utah;





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