



*40<sup>th</sup>* ANNUAL  
NANOS  
MEETING  
PROGRAM

March 1-6, 2014  
Wyndham Rio Mar Beach Resort  
Rio Grande, Puerto Rico



## Friday, February 28

4:00 p.m. – 8:00 p.m.

Registration

Rio Mar Foyer

## Saturday, March 1

9:00 a.m. – 4:00 p.m.

Catamaran Sail and Snorkel

Depart from El Yunque Foyer

7:00 a.m. – 8:00 p.m.

Registration

Rio Mar Foyer

7:00 a.m. – 8:00 a.m.

Breakfast

Rio Mar 6-10/Caribbean

7:00 a.m. – 4:00 p.m.

Exhibits

Rio Mar Foyer

8:00 a.m. – 4:30 p.m.

**When Neurosurgery & Neuro-Ophthalmology Collide [6.5 CME]**

Rio Mar 1-5

*Organizers: Karl Golnik, MD, Neil Miller, MD & Steven Newman, MD*

This one-day, pre-NANOS meeting session is for neurosurgeons and neuro-ophthalmologists. It will include 4 sessions: “Crucial Co-Management Conditions”, “Was it There Before Surgery?”, “When Things Go Wrong” and “Neuro-Ophthalmology to the Rescue.” Each of these sessions will be maximally interactive with case discussions and audience response system used in addition to lecture!

Upon completion of this session, attendees will be able to: 1) List the pros and cons of treatments for IIH; 2) Discuss relevant co-management issues regarding pituitary tumors, orbital apex lesions and cavernous sinus fistula; 3) Describe the importance of identifying pre-existing neuro-ophthalmic deficits prior to surgery; 4) Outline the various neuro-ophthalmic complications of neurosurgery and how to recognize them; and 5) List treatment options for visual loss and diplopia.

12:00 p.m. – 5:00 p.m.

**NANOS Board Meeting**

Pelican

6:30 p.m. – 8:00 p.m.

**Opening Reception (all are welcome)**

Ocean Terrace

8:30 p.m. – 11:59 p.m.

**Bioluminescent Bay Kayak Tour - SOLD OUT**

Depart from El Yunque Foyer

## Sunday, March 2

6:00 a.m. – 6:45 a.m.

Yoga Class

Gazebo

6:30 a.m. – 5:30 p.m.

Registration

Rio Mar Foyer

6:30 a.m. – 7:45 a.m.

Breakfast

Rio Mar 6-10/Caribbean

6:30 a.m. – 3:30 p.m.

Exhibits

Rio Mar Foyer

7:45 a.m. – 5:00 p.m.

**FRANK B. WALSH SESSION [7.25 CME]**

Rio Mar 1-5

*Chair: Prem Subramanian, MD, PhD*

*Expert Panel: Sophia Chung, MD, Deborah Friedman, MD, MPH & Steven Newman, MD*

*Neuroradiologist: Ari Blitz, MD*

*Neuropathologist: Charles Eberhart, MD, PhD*

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. 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.

At the conclusion of this program, 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.

*This course is designed to procure the following desirable physician attributes: medical knowledge; work in interdisciplinary teams*

## Sunday, March 2 (continued)

11:50 a.m. – 1:10 p.m.	Lunch (Included)	Rio Mar 6-10/Caribbean
12:15 p.m. – 1:15 p.m.	Membership Retention and Recruitment Meeting	Seagull
5:15 p.m. – 5:45 p.m.	Frank B. Walsh Committee Meeting	Seagull
5:15 p.m. – 5:45 p.m.	Fellowship Directors Meeting	Pelican
5:45 p.m. – 6:15 p.m.	Professional Standards (Fellowship) Committee Meeting	Pelican
5:30 p.m. – 6:30 p.m.	Members-in-Training Program and Reception	Parrot & Canary
	(All Students, Residents and Fellows are encouraged to attend)	
Evening	Dinner on your own	

## Monday, March 3



6:00 a.m. – 6:45 a.m.	Yoga Class	Gazebo
6:30 a.m. – 12:30 p.m.	Registration	Rio Mar Foyer
6:30 a.m. – 7:30 a.m.	Breakfast	Rio Mar 6-10/Caribbean
6:30 a.m. – 12:15 p.m.	Exhibits	Rio Mar Foyer
7:00 a.m. – 7:30 a.m.	NOVEL Editorial Board/NOVEL Curriculum Committee	Heron
7:00 a.m. – 7:30 a.m.	Finance Committee Meeting	Board Room

7:30 a.m. – 9:30 a.m.	<b>Journal Club [2.0 CME]</b>	Rio Mar 1-5
	<i>Moderators: Madhu Agarwal, MD &amp; Janet Rucker, MD</i>	

Provision of evidence-based medicine is the ultimate goal of high quality medical care and this goal emphasizes the importance of familiarity with pertinent clinical trials and published literature. The symposium is designed to assist the practicing Neuro-ophthalmologist in review of recent important medical literature published on four neuro-ophthalmologic topics: transient ischemia and stroke prediction; myasthenia gravis, traumatic brain injury; and abnormal spontaneous eye movements. Each expert presenter will provide a critical review of recent clinical research studies, practitioner take home points, and ample time for audience interaction, questions, and discussion.

Upon completion of this session, attendees will be able to: 1) Utilize evidence-based medicine to direct the expedited evaluation and predict stroke risk of patients with transient monocular vision loss; 2) Apply an evidence-based approach to the diagnosis and management of myasthenia gravis; 3) Understand the importance of ocular motor testing in the field of traumatic brain injury; and 4) Prescribe medical treatments for various types of nystagmus, with an understanding of the underlying suggested pathomechanisms of treatment efficacy.

*This course is designed to procure the following desirable physician attributes: Employ evidence-based practice; work in interdisciplinary teams; medical knowledge*

7:30 a.m. – 7:50 a.m.	<b>Journal Club Update: Transient Ischemic Attack and Stroke Prediction,</b> <i>Valérie Biousse, MD</i>
7:50 a.m. – 8:00 a.m.	<b>Q&amp;A</b>
8:00 a.m. – 8:20 a.m.	<b>Journal Club Update: Myasthenia Gravis,</b> <i>Judith Warner, MD</i>
8:20 a.m. – 8:30 a.m.	<b>Q&amp;A</b>
8:30 a.m. – 8:50 a.m.	<b>Journal Club Update: Traumatic Brain Injury,</b> <i>Steven Galetta, MD</i>
8:50 a.m. – 9:00 a.m.	<b>Q&amp;A</b>
9:00 a.m. – 9:20 a.m.	<b>Journal Club Update: Nystagmus and Saccadic Intrusions,</b> <i>Matthew Thurtell, MBBS, FRACP</i>
9:20 a.m. – 9:30 a.m.	<b>Q&amp;A</b>

## Monday, March 3 (continued)

**9:30 a.m. – 10:00 a.m. Coffee Break**

**Rio Mar Foyer**

**10:00 a.m. – 12:00 p.m. Hot Topics: Zebra Taming 101 [2 CME]**

**Rio Mar 1-5**

*Moderators: Heather Moss, MD, PhD and Clare Fraser, MD*

In medical school we were taught “when you hear hoof beats, think horses not zebras”. However neuro-ophthalmology is the land of zebras. We tend to do a great job of thinking of them, but effective evaluations and treatment are less clear. The focus of this symposium is the rarer neuro-ophthalmic conditions, that we all consider in the differential diagnosis list, but for which there is often little evidence and fewer guidelines. During this session four speakers will distill a breadth of knowledge in the areas of paraneoplastic syndromes, toxic/nutritional optic neuropathies, IgG4 disease and hereditary optic neuropathies into clinically relevant pearls.

At the conclusion of this program, participants should be able to: 1) Approach diagnosis and treatment of possible paraneoplastic syndromes in an effective and efficient manner; 2) Apply Koch’s postulates to determine toxic optic neuropathy causality; 3) Understand how IgG4 disease fits within the framework of orbital, brain and systemic pseudotumors; and 4) Outline alternative and experimental treatment strategies for inherited optic neuropathies.

*This course is designed to procure the following desirable physician attributes: medical knowledge; employ evidence-based practice; critically appraise the current evidence*

10:00 a.m. – 10:20 a.m.	<b>Diagnosis and Treatment of Paraneoplastic Syndromes, Lynn Gordon, MD, PhD</b>
10:20 a.m. – 10:30 a.m.	<b>Q&amp;A</b>
10:30 a.m. – 10:50 a.m.	<b>Toxic/Nutritional Optic Neuropathies: What We Know and What We THINK We Know, Neil Miller, MD, FACS</b>
10:50 a.m. – 11:00 a.m.	<b>Q&amp;A</b>
11:00 a.m. – 11:20 a.m.	<b>IgG: What is It good 4?, Gregory Van Stavern, MD</b>
11:20 a.m. – 11:30 a.m.	<b>Q&amp;A</b>
11:30 a.m. – 12:00 p.m.	<b>Treatment of Hereditary Optic Neuropathies, Patrick-Yu-Wai Man, BMedSci, MBBS, PhD, FRCOphth</b>

**12:15 p.m. – 12:45 p.m.**

**Archives Committee Meeting**

**Canary**

**12:15 p.m. – 1:30 p.m.**

**Women in Neuro-Ophthalmology (WIN) Meeting**

**Caribbean 3**

An optional lunch selection will be available for \$35. All are welcome to attend even without the purchase of a lunch.

**1:15 p.m. – 3:15 p.m.**

**Visual Electrophysiology in Neuro-Ophthalmology [2 CME]**

**Rio Mar 1-5**

*Moderator: Gregory Van Stavern, MD*

The use of Visual Electrophysiology in neuro-ophthalmology practices is increasing. These techniques provide functional information about the visual system that can complement or enhance the clinical examination as well as structural information provided by optical imaging modalities. There is increasing use of these techniques both for clinical purposes, but also as a method to study neurologic disease in general. It is critical for the neuro-ophthalmologist to understand the role of these tests, limitations of their use, and the role they play in localizing functional deficits in the visual system. This session will review basic techniques, their role in clinic and in clinical research, and discuss how neuro-ophthalmologists can incorporate these tests into daily practice. There will also be a live, hands on demonstration of these techniques.

At the conclusion of this program, participants should be able to: 1) Understand the role of visual electrophysiology in a neuro-ophthalmology practice and clinical research; 2) Better understand how to match each test to a specific clinical question; and 3) Develop a better understanding of test interpretation and common artifacts.

## Monday, March 3 (continued)

<b>1:15 p.m. – 3:15 p.m.</b>	<b>Hands-on Ophthalmic and Neurologic Examination Techniques for Neuro-Ophthalmologists [2 CME]</b> <i>Moderator: Mitchell B. Strominger, MD</i>	<b>Caribbean 2</b>
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Neuro-ophthalmologists are in the unique situation of utilizing a variety of examination techniques that overlap between neurology and ophthalmology. Many Neurology trained neuro-ophthalmologists have only one year of training to learn ophthalmic skills, while Ophthalmology trained neuro-ophthalmologists only three months in advanced strabismus and minimal exposure to the general neurologic examination. A panel of experts in neuro-ophthalmology including an orthoptist will discuss these techniques and then divide into small groups to demonstrate and have the participant improve their skills hands-on. Key topics will include: Retinoscopy (use of retinoscopy/lens racks), Binocular vision examination (Worth 4 dot, prism cover test measurement, Maddox Rod and Double Maddox Rod), Color vision testing, Gradient acuity testing, Contrast acuity testing, Lancaster red/green and neurologic examination pearls.

At the conclusion of this program, participants should be able to: 1) Learn the nuances of advanced examination skills and equipment used in neuro-ophthalmology; 2) Gain hands on experience with the equipment needed for these techniques; and 3) Learn how to integrate these examination skills into neuro-ophthalmic practice and patient care.

<b>3:00 p.m. – 5:00 p.m.</b>	<b>Young Neuro-Ophthalmologist (YONO) Forum: Career GPS: Navigating the early years in Neuro-Ophthalmology: Finding your path, avoiding the potholes</b>	<b>Parrot &amp; Canary</b>
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While all are welcome to attend, this forum is specifically designed for residents, fellows and neuro-ophthalmologists in the early years of their career. We have incorporated last year's positive, constructive feedback and present a re-vamped format. The revised forum will have multiple rotating roundtable discussions in small groups facilitated by YONOs, who have just walked in your footsteps, to mid-career folks, who can shed light on the next steps ahead.

Topics include: How to negotiate your first contract (academic and private practice), Demystifying academic promotion: from assistant to associate professor, a hands-on CV workshop: how to put your best foot forward on paper (bring your CV), and neuro-ophthalmology 2014: how to blend your neuro-ophthalmic career with pediatrics, oculoplastics, clinical research and more! Because you asked, we will also work to provide additional networking opportunities with fellowship directors and prospective employers during the latter half of the forum!

<b>5:00 p.m. – 7:00 p.m.</b>	<b>SCIENTIFIC PLATFORM PRESENTATIONS: SESSION I [2 CME]</b>	<b>Rio Mar 1-5</b>
<b>8:30 p.m. – 11:59 p.m.</b>	<b>Bioluminescent Bay Kayak Tour - SOLD OUT</b>	<b>Depart from El Yunque Foyer</b>

## Tuesday, March 4

<b>6:00 a.m. – 6:45 a.m.</b>	<b>Yoga Class</b>	<b>Gazebo</b>
<b>6:30 a.m. – 12:30 p.m.</b>	<b>Registration</b>	<b>Rio Mar Foyer</b>
<b>6:30 a.m. – 7:30 a.m.</b>	<b>Breakfast</b>	<b>Rio Mar 6-10/Caribbean</b>
<b>6:30 a.m. – 12:15 p.m.</b>	<b>Exhibits</b>	<b>Rio Mar Foyer</b>
<b>6:30 a.m. – 7:30 a.m.</b>	<b>JNO Editorial Meeting</b>	<b>Parrot</b>
<b>7:00 a.m. – 7:30 a.m.</b>	<b>YONO Committee Meeting</b>	<b>Pelican</b>
<b>7:00 a.m. – 7:30 a.m.</b>	<b>Practice Management Career Support Subcommittee Meeting</b>	<b>Seagull</b>
<b>7:00 a.m. – 7:30 a.m.</b>	<b>CME Committee Meeting</b>	<b>Board Room</b>
<b>7:30 a.m. – 12:00 p.m.</b>	<b>SCIENTIFIC PLATFORM PRESENTATIONS: SESSION II [3.75 CME]</b>	<b>Rio Mar 1-5</b>
<b>9:15 a.m. – 9:30 a.m.</b>	<b>Update: The Journal of Neuro-Ophthalmology</b> <i>Lanning Kline, MD, Editor-in-Chief &amp; Jason Roberts, PhD, Managing Editor</i>	<b>Rio Mar 1-5</b>
<b>9:30 a.m. – 10:00 a.m.</b>	<b>Coffee Break</b>	<b>Rio Mar Foyer</b>

## Tuesday, March 4 (continued)

12:15 p.m. – 5:00 p.m. Rainforest Tour  
12:15 p.m. – 6:00 p.m. Old San Juan Historical Tour  
6:00 p.m. – 9:30 p.m. POSTER SESSION [3.5 CME]

*Guests are welcome. Event is complimentary for attendees but guests must purchase tickets.*

Depart from El Yunque Foyer  
Depart from El Yunque Foyer  
Rio Mar 6-10/Caribbean 1

## Wednesday, March 5

6:30 a.m. – 12:30 p.m. Registration  
6:30 a.m. – 7:30 a.m. Breakfast  
7:00 a.m. – 7:30 a.m. Annual NANOS Business Meeting (all encouraged to attend)  
7:30 a.m. – 9:30 a.m. The Latest on OCT [2 CME]

*Moderators: Laura Balcer, MD, MSCE & Robert Sergott, MD*

Rio Mar Foyer  
Rio Mar 6-10/Caribbean  
Rio Mar 1-5  
Rio Mar 1-5

Although initially designed to provide a structural biomarker for “intra-ocular diseases” such as diabetic retinopathy, macular degeneration, and glaucoma, optical coherence tomography [OCT] has undergone exponential growth in neuro-ophthalmology for clinical evaluations, single center clinical research projects, and multi-centered national and international clinical trials. How has OCT found its way into neuro-ophthalmology?

Starting with a brief review of the history of this technology and the status of the current devices, this symposium will: 1) Provide practical information in a didactic format so that practicing neuro-ophthalmologists can understand normal OCT structures; 2) Differentiate papilledema from optic disc drusen, distinguish maculopathy from optic neuropathy; and 3) Be able to evaluate the immense amount of data generated by OCT for clinical trials and how to interpret the results, clinically and statistically. The “pipeline” for future optic nerve and retinal imaging technologies will also be discussed.

Finally, a series of cases will be presented in a CPC format in which OCT provided critical data for the diagnosis and management of complex clinical situations.

*This course is designed to procure the following desirable physician attributes: Patient care, medical knowledge, practice based learning and improvement.*

7:30 a.m. – 7:40 a.m.	<b>OCT Technologies: Which Machine Do You Want to Own?</b> <i>Fiona Costello, MD, FRCP</i>
7:40 a.m. – 7:45 a.m.	<b>Q&amp;A</b>
7:45 a.m. – 7:55 a.m.	<b>OCT in Papilledema: What am I Missing?</b> <i>Randy Kardon, MD, PhD</i>
8:55 a.m. – 8:00 a.m.	<b>Q&amp;A</b>
8:00 a.m. – 8:10 a.m.	<b>Clinical Trials to Clinical Use: Using Vision as a Model for MS and Beyond,</b>
	<i>Laura Balcer, MD, MSCE</i>
8:10 a.m. – 8:15 a.m.	<b>Q&amp;A</b>
8:15 a.m. – 8:25 a.m.	<b>The Developmental Pipeline—Multi-Color Laser Imaging,</b> <i>Robert Sergott, MD</i>
8:25 a.m. – 8:30 a.m.	<b>Q&amp;A</b>
8:30 a.m. – 9:30 a.m.	<b>Case Presentations: Panel</b>

9:30 a.m. – 9:45 a.m. Coffee Break

Rio Mar Foyer



## Wednesday, March 5 (continued)

### 9:45 a.m. – 11:00 a.m. Idiopathic Intracranial Hypertension Treatment Baseline Results [1.25 CME]

*Moderators: Anil Patel, MD, FRCSC, FACS & Michael Wall, MD*

**Rio Mar 1-5**

Idiopathic intracranial hypertension (IIH) is a disease of overweight women in the childbearing years, characterized by elevated intracranial pressure of unknown cause. We have completed enrollment and six month follow-up for the NORDIC IIH Treatment Trial (IIHTT), a multicenter, randomized, double-masked, placebo-controlled study designed to determine if acetazolamide can reduce or reverse visual loss in IIH subjects with mild visual loss that are enrolled in a low sodium, weight-loss program. A secondary objective is to identify genetic risk factors for IIH by comparing IIH subjects and controls. We will be performing primary outcome analyses in summer 2013. We will report the methods, analysis of baseline data and the sixth month primary and secondary outcomes.

At the conclusion of this symposium, the attendees should be able to: 1) Understand the methods of the IIHTT; 2) Understand the subject characteristics at baseline; and 3) Learn the primary and secondary outcomes and how to apply these outcomes to their practice.

*This course is designed to procure the following desirable physician attributes: patient care; medical knowledge*

9:45 a.m. – 10:02 a.m. **The Idiopathic Intracranial Hypertension Treatment Trial: Clinical Profile at Baseline,**  
*Michael Wall, MD (For the NORDIC Idiopathic Intracranial Hypertension Study Group)*

10:03 a.m. – 10:07 a.m. **Q&A**

10:08 a.m. – 10:22 a.m. **Quality of Life in Idiopathic Intracranial Hypertension at Diagnosis: A Prospective Study,**  
*Kathleen Digre, MD (For the NORDIC Idiopathic Intracranial Hypertension Study Group)*

10:23 a.m. – 10:27 a.m. **Q&A**

10:28 a.m. – 10:42 a.m. **Baseline Visual Field Findings,**  
*John Keltner, MD (For the NORDIC Idiopathic Intracranial Hypertension Study Group)*

10:43 a.m. – 10:47 a.m. **Q&A**

10:48 a.m. – 10:56 a.m. **NANOS IIH Symposium: Role of OCT,**  
*Mark Kupersmith, MD (For the NORDIC Idiopathic Intracranial Hypertension Study Group)*

10:57 a.m. – 11:00 a.m. **Q&A**

### 11:00 a.m. – 11:10 a.m. NOVEL Update

**Rio Mar 1-5**

### 11:10 a.m. – 12:10 p.m. Jacobson Lecture: Seeking Sense in Cecocentral Scotomas: Three Questions and Four Answers [1 CME]

**Rio Mar 1-5**

*Presenter: Leonard A. Levin, MD, PhD*

*Moderator: Jonathan Trobe, MD*

Bilateral cecocentral scotomas are distinctive visual field defects seen in remarkably few optic neuropathies. The most common in this group include Leber hereditary optic neuropathy, toxic optic neuropathies, and vitamin B12 deficiency, raising the question of what they have in common, what is their shared pathophysiology, and how does that pathophysiology lead to the distinctive visual field defect. Evidence from the bench and the bedside will be presented in an attempt to answer these questions, and in the process suggest a mechanism to explain some of the peculiarities of the onset, progression, and reversibility of one of the group.

At the conclusion of this program, participants should be able to: 1) Improve the understanding of diseases associated with cecocentral scotomas; 2) Gain an appreciation of mechanisms causing death of retinal ganglion cells in optic neuropathies; and 3) Learn some of the causes of toxic optic neuropathies.

*This course is designed to procure the following desirable physician attributes: medical knowledge; employ evidence-based practice*

### 12:15 p.m. – 1:30 p.m. Research Committee Meeting Luncheon

**Parrot**

## Wednesday, March 5 (continued)

### 1:30 p.m. – 4:30 p.m. **Observational Clinical Research Studies: Pearls and Pitfalls [3 CME]**

**Caribbean 1-2**

*Presenters: Beau Bruce, MD & Deborah Friedman, MD, MPH*

Hypothesis-driven clinical trials often arise from clinical observations. Whether planning to report your own case series or reading reports in the literature, certain clinical research principles must be considered to avoid making potentially erroneous conclusions. Although the topics will be broadly applicable to all types of clinical research, we will primarily discuss common issues in the concept, design, analysis, and interpretation of observational studies. The course is directed toward practicing physicians in academic medicine and private practice, as well as trainees, with limited or no background/experience in clinical research. Examples from the literature will be used.

At the conclusion of this program, participants should be able to: 1) Determine whether retrospective observations merit reporting and further investigation; 2) Design a basic prospective observational study; 3) Identify different types of observational studies; and 4) Understand basic statistical concepts in observational research: a. Name common sources of bias and confounding in clinical research studies b. Identify the correct statistical test(s) for a given analysis c. Explain randomness and the importance of using measures of variation d. Distinguish standard error from standard deviation e. Differentiate description, inference, and prediction f. Define a p-value and understand its (un)importance.

### 1:30 p.m. – 4:30 p.m. **Smartphones and Gadgets: How to Practice Neuro-Ophthalmology Anywhere in the 21st Century [3 CME]**

**Rio Mar 1-5**

*Presenters: Y. Joyce Liao, MD, PhD and Thomas Hwang, MD, PhD*

Smartphones and portable electronic devices have become ubiquitous and are emerging as the latest tools in the practice of medicine. In this symposium, we will describe ways we can incorporate portable devices into everyday clinical practice with special focus on: 1) Taking high quality anterior and posterior segment photographs using smartphones and inexpensive adapters to enhance lighting and magnification; 2) Building your own eye movement and pupil recording set-up; 3) Internet resources for vision assessment and telemedicine, including secure exchange and storage of images and videos; 4) A round table discussion on the use of portable devices to enhance clinical care and education and the potential issues of incorporating portable devices in clinical practice.

At the conclusion of this program, participants should be able to: 1) Learn about the basic techniques and assistive devices to take good images and videos using portable devices; 2) Understand the internet resources for neuro-ophthalmic examination and to exchange information in a secured fashion; and 3) Recognize the benefits and challenges of telemedicine for patients and clinicians.

### 4:30 p.m. – 5:30 p.m. **Abstract Committee Meeting**

**Board Room**

### 4:30 p.m. – 5:30 p.m. **International Relations Committee Meeting**

**Parrot**

### 6:45 p.m. – 12:00 a.m. **Annual NANOS Reception and Banquet**

**Coco Rio**

Event is casual. Please wear comfortable shoes as the banquet will take place in the rainforest.

Buses depart El Yunque Foyer at 6:45 p.m. – Buses will return as they fill. Due to the location and minimal parking, driving separately is strongly discouraged.



## Thursday, March 6

**6:30 a.m. – 12:30 p.m. Registration**

**6:30 a.m. – 7:30 a.m. Breakfast**

**Rio Mar Foyer**

**Rio Mar 6-10/Caribbean**

**7:30 a.m. – 9:30 a.m. Eye Pain in the “Quiet Eye” [2 CME]**

**Rio Mar 1-5**

*Moderators: Benjamin Frishberg, MD & Julie Falardeau, MD*

Eye pain in the absence of clear neurologic or ophthalmologic findings is a common clinical presentation encountered by neuro-ophthalmologists on a daily basis. In this session, we will present the usual and unusual etiologies and diagnoses with special attention to clinical relevance. This is case based learning with use of the ARS system and will include walking through several interesting cases and 30 minutes for questions and discussion. Each lecture will include clinical cases with an additional 15 minutes of case presentation and questions using ARS to see how people would work up and treat some of the various conditions.

At the conclusion of this program, participants should be able to: 1) Provide a practical evaluation of the patient with eye pain secondary to ocular and orbital/cavernous sinus disorders; 2) Provide a practical evaluation of the patient with eye pain secondary to various headache disorders; and 3) Review the clinical characteristics and disorders associated with photophobia and provide an approach to diagnosis and treatment

*This course is designed to procure the following desirable physician attributes: medical knowledge; practice-based learning and improvement*

7:30 a.m. – 7:50 a.m.	<b>Eye Pain: A Neurologic Perspective - Primary Headache Disorders, Benjamin Frishberg, MD</b>
7:50 a.m. – 8:10 a.m.	<b>Eye Pain: A Neurologic Perspective - Secondary Headache Disorders, Kathleen Digre, MD</b>
8:10 a.m. – 8:30 a.m.	<b>Eye Pain: An Ophthalmic Perspective, Howard Krauss, MD</b>
8:30 a.m. – 8:45 a.m.	<b>Eye Pain: Photophobia – What’s New?, Bradley Katz, MD, PhD</b>
8:45 a.m. – 9:00 a.m.	<b>Case Presentation, Julie Falardeau, MD</b>
9:00 a.m. – 9:30 a.m.	<b>Discussion/Closing Remarks</b>

**9:30 a.m. – 10:00 a.m. Coffee Break**

**Rio Mar Foyer**

**10:00 a.m. – 12:00 p.m. Non-Organic Neuro-Ophthalmology [2 CME]**

**Rio Mar 1-5**

*Moderators: Valerie Purvin, MD & François-Xavier Borruat, MD, PD, MER*

This symposium will provide an overview of the spectrum of non-organic neuro-ophthalmic presentations and review the testing techniques used to determine their non-physiologic basis. The history of somatoform disorders will be reviewed with an update on current concepts and definitions. The neurobiology of these disorders, as demonstrated by electrophysiologic and neuroimaging techniques, will be reviewed. Treatment options, natural history and prognosis will also be discussed.

At the conclusion of this symposium, the attendee should be able to: 1) Recognize the common neuro-ophthalmic presentations of non-organic disease; 2) Be Adept at demonstrating the non-physiologic nature of these disorders using “bedside” testing techniques; 3) Be familiar with current psychiatric concepts regarding somatoform disorders; 4) Establish a management plan for these patients, including knowing the indications for psychiatric referral; and 5) Be familiar with ancillary testing that taps into the neurobiologic basis for these conditions.

*This course is designed to procure the following desirable physician attributes: patient care; medical knowledge*

10:00 a.m. – 10:10 a.m.	<b>Non-Neuroanatomic Disorders in the 21<sup>st</sup> Century: Somatoform Disorders, W. Curt LaFrance, Jr., MD, MPH</b>
10:10 a.m. – 10:30 a.m.	<b>Non-Organic Visual Loss, François-Xavier Borruat, MD, PD, MER</b>
10:30 a.m. – 10:50 a.m.	<b>Non-Organic Ocular Motor and Eyelid Disorders, Valerie Purvin, MD</b>
10:50 a.m. – 11:10 a.m.	<b>The Neurobiology of Non-Organic Disorders – Imaging, Eric Eggenberger, DO</b>
11:10 a.m. – 11:40 a.m.	<b>Management of Somatoform Disorders: A Neuro-Psychiatric Perspective, W. Curt LaFrance, Jr., MD, MPH</b>
11:40 a.m. – 12:00 p.m.	<b>Discussion Panel</b>

## Thursday, March 6 (continued)

12:00 p.m. Meeting adjourns

5:30 p.m. – 9:00 p.m. Bioluminescent Bay Kayak Tour

8:30 p.m. – 11:59 p.m. Bioluminescent Bay Kayak Tour

Depart from El Yunque Foyer

Depart from El Yunque Foyer

ACCREDITATION: This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through sponsorship of the North American Neuro-Ophthalmology Society. NANOS is accredited by the ACCME to provide continuing medical education (CME) for physicians. The North American Neuro-Ophthalmology Society NANOS designates this live activity for a maximum of 40.25 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity. **Please complete the online OR print version of the meeting evaluation form in your registration packet. Upon completion, please pick up the CME certificate at the registration desk.**

## REGISTRATION INFORMATION

**ON-SITE REGISTRATION HOURS:** (located in the Rio Mar Foyer)

Friday 4:00 p.m. – 8:00 p.m.

Saturday 7:00 a.m. – 8:00 p.m.

Sunday 6:30 a.m. – 5:30 p.m.

Monday–Thursday 6:30 a.m. – 12:30 p.m.

**KOSHER:** Due to the destination, Kosher is limited and very expensive. If applicable, we encourage you to bring any necessary meals. If you need additional information about purchasing meals, please contact the NANOS Executive Office at [info@nanosweb.org](mailto:info@nanosweb.org).

**SPECIAL REQUIREMENTS:** NANOS fully complies with the legal requirements of the Americans with Disabilities Act and the rules and regulations thereof.

## GROUND TRANSPORTATION

Travel time between the airport and the hotel is approximately 30 minutes. Dragonfly services will set up shuttles to and from the airport. Round trip fare is \$65 (gratuity is not included). Please visit the NANOS 2014 Annual Meeting website to make transportation arrangements. If you call (787 889-7430 ext 26) or email ([dragonfly@dragonflyadventurespr.com](mailto:dragonfly@dragonflyadventurespr.com)) to set up your transfer you must refer to “NANOS” in order to receive the group discount. No refunds will be issued for cancellations less than 48 hours in advance. If you are staying at the Gran Milea, please indicate this when making your reservation. Upon your arrival to the airport, you should proceed to the baggage claim area where you will see a Dragonfly Adventures greeter with a sign reading Wyndham Rio Mar or Gran Milea. Walk-ups are accepted on a space available basis at the Dragonfly Tour desk located in the baggage claim area.

## SOCIAL FUNCTIONS

### SATURDAY, MARCH 1

**Catamaran Sail and Snorkel - \$140 (Buffet lunch included) 9:00 a.m. – 4:00 p.m.**

The group will board for a relaxing sail aboard a splendid catamaran to one of the nearby coral reefs. When the boat anchors you may choose to snorkel among live reef and hundreds of colorful types of fish which you can hand feed or, relax on the pristine beaches and crystal clear waters of the Caribbean Sea.



## SOCIAL FUNCTIONS (continued)

### Opening Reception

6:30 p.m. – 8:00 p.m.

Please join us for the Opening Reception in the Ocean Terrace. All are welcome to attend the opening reception, which features complimentary cocktails and heavy hors d'oeuvres.

### SUNDAY, MARCH 2

#### Members-in-Training Program and Reception

5:30 p.m. – 6:30 p.m.

New to neuro-ophthalmology? All students, residents and fellows are encouraged to attend!

### MONDAY, MARCH 3

#### WIN Luncheon

12:15 p.m. – 1:30 p.m.

Join your female colleagues for the Women in Neuro-Ophthalmology (WIN) Luncheon & Meeting. A lunch selection will be available for purchase in your registration for \$35; however, all are welcome to attend even without the purchase of a lunch.

#### Young Neuro-Ophthalmologist Forum: Career GPS 2.0: Finding your path, avoiding the potholes (NEW FORMAT!)

3:00 p.m. – 5:00 p.m.

While all are welcome to attend, this forum is specifically designed for residents, fellows and neuro-ophthalmologists in the early years of their career. We have incorporated last year's positive, constructive feedback and present a re-vamped format. The revised forum will have multiple rotating roundtable discussions in small groups facilitated by YONOs, who have just walked in your footsteps, to mid-career folks, who can shed light on the next steps ahead.

Topics include: How to negotiate your first contract (academic and private practice), Demystifying academic promotion: from assistant to associate professor, a hands-on CV workshop: how to put your best foot forward on paper (bring your CV), and neuro-ophthalmology 2014: how to blend your neuro-ophthalmic career with pediatrics, oculoplastics, clinical research and more! Because you asked, we will also work to provide additional networking opportunities with fellowship directors and prospective employers during the latter half of the forum!

### TUESDAY, MARCH 4

#### Choose an Afternoon Excursion – Both Depart from the Yunque Foyer in the Wyndham Rio Mar Resort



##### Rainforest Tour - \$70 (boxed lunch included)

12:15 p.m. – 5:00 p.m.

Explore El Yunque - the only tropical rainforest in the United States Forest System encompassing 28,000 acres and reaching an elevation of 3,526 feet. The certified and professional guide will lead you along well marked trails and paths as you embark on an adventure through the vast Palo Colorado forest which receives over 200 inches of rainfall a year and nourishes over 240 species of trees and a variety of animals including the endangered Puerto Rican parrot. Wear comfortable shoes and loose fit clothing that you would not mind getting dirty or wet; don't forget your camera!



##### Old San Juan Historical Tour - \$75 (boxed lunch included)

12:15 p.m. – 6:00 p.m.

Fall in love with the beautiful cobblestone streets, and colorful buildings that date back to the 16th and 17th century, when Puerto Rico was under Spanish possession. With its abundance of shops, historic places, museums, open air cafés, restaurants, gracious homes, tree-shaded plazas, and its old beauty and architectural peculiarity, "Old San Juan" is a main spot for local and international tourism. Consisting of 400 restored buildings from the 16th- and 17th-century Spanish colonial period, this area in San Juan is steeped in history with an old-world and romantic European charm.

## **SOCIAL FUNCTIONS (continued)**

### **TUESDAY, MARCH 4**

#### **Poster Session**

**6:00 p.m. – 9:30 p.m.**

There was a 35% increase in poster submissions this year. Therefore, we encourage all presenters to put up the poster(s) starting on Sunday to maximize exposure.

This year's Poster Session will include a reception and dinner buffet. Event is complimentary for attendees but guests must purchase tickets. Tickets are available for purchase for \$50 per person. The buffet will open at 6:00 p.m. Authors will present their posters between 6:45 p.m. and 8:15 p.m. Odd numbered posters: 6:45 p.m. – 7:30 p.m., Even numbered posters: 7:30 p.m. – 8:15 p.m.

### **WEDNESDAY, MARCH 5**

#### **Annual NANOS Reception and Banquet (6:45 p.m. – 12:00 a.m.)**

Buses will depart from the El Yunque Foyer at 6:45 p.m. to bring attendees to the Coco Rio which is located in the Rainforest. Join your colleagues for a fun, casual evening of socializing, dining and dancing at the NANOS Annual Reception and Banquet. Guests and children are welcome. Event is complimentary for attendees but guests must purchase tickets. Tickets are available for purchase for \$100 per person. Comfortable shoes are highly recommended. Buses will bring guests back to the hotel as they fill throughout the evening. Last bus will depart at 11:45 p.m. Since the event is in the rainforest, driving separately is strongly discouraged.

#### **BIOLUMINESCENT BAY KAYAK TOURS**

**Saturday, March 1 and Monday, March 3 – 8:30 p.m. – 11:59 p.m. - \$89 – SOLD OUT**

**Thursday, March 6 – 5:30 p.m. – 9:00 p.m. (boxed meal included) - \$104 and 8:30 p.m. – 11:59 p.m. - \$89**

Buses will depart from the El Yunque Foyer. Visit one of the most amazing natural phenomenon's of the world! As you paddle your way through the mystical mangrove channels, you will be introduced to the Pyrodinium Bahamans, microscopic plankton capable of producing natural light when the water is disturbed. Watch how every stroke of your paddle leaves behind a glowing swirl of blue light, and fish light up their path like shooting stars in the water. You can bring your own towel or one can be rented for \$10.

#### **GUEST MEETING LOUNGE AREA**

**Sunday, March 2 – Thursday, March 6**

No set hours; between 9-11am is recommended.

Relax and enjoy the company of other guests in the Gazebo, located in "La Playa Beach Event Area" of the Wyndham Rio Mar Resort.

# **See you in Puerto Rico!**



## NANOS 2014 Speakers and Moderators

**Madhu Agarwal, MD**  
California Orbital  
Consultants  
*Redlands, CA*

**Laura Balcer, MD, MSCE**  
Langone Medical Center  
*New York, NY*

**Rudrani Banik, MD**  
New York Eye & Ear  
Infirmary  
*New York, NY*

**Valérie Biousse, MD**  
Emory University  
*Atlanta, GA*

**Ari Blitz, MD**  
Johns Hopkins School of  
Medicine  
*Baltimore, MD*

**François-Xavier Borruat,  
MD, PD, MER**  
Hôpital Ophtalmique Jules-  
Gonin  
*Lausanne, Switzerland*

**Preston Calvert, MD**  
Johns Hopkins University  
School of Medicine  
*Baltimore, MD*

**Sophia Chung, MD**  
St. Louis University Eye  
Institute  
*St. Louis, MO*

**Fiona Costello, MD, FRCP**  
University of Calgary  
*Calgary, Canada*

**Kathleen Digre, MD**  
John Moran Eye Center,  
University of Utah  
*Salt Lake City, UT*

**Charles Eberhart, MD,  
PhD**  
Johns Hopkins School of  
Medicine  
*Baltimore, MD*

**Eric Eggenberger, DO**  
Michigan State University  
*East Lansing, MI*

**Julie Falardeau, MD**  
Casey Eye Institute  
*Portland, OR*

**Clare Fraser, MD**  
Sydney Eye Hospital  
*New South Wales, AU*

**Deborah I. Friedman, MD,  
MPH**  
University of Texas  
Southwestern  
*Dallas, TX*

**Benjamin Frishberg, MD**  
The Neurology Center  
*Oceanside, CA*

**Steven Galetta, MD**  
Langone Medical Center  
*New York, NY*

**Lynn Gordon, MD, PhD**  
Jules Stein Eye Institute  
David Geffen School of  
Medicine at UCLA  
*Los Angeles, CA*

**Randy Kardon, MD, PhD**  
University of Iowa, Hospitals  
& Clinics and Veterans  
Administration  
*Iowa City, IA*

**Bradley Katz, MD, PhD**  
John Moran Eye Center,  
University of Utah  
*Salt Lake City, UT*

**Shalom Kelman, MD**  
Maryland Neuro-  
Ophthalmology  
*Baltimore, MD*

**John Keltner, MD**  
University of California  
Davis Medical Center  
*Sacramento, CA*

**Howard Krauss, MD**  
Southern California Neuro-  
Ophthalmology and Orbital  
Surgical Associates  
*Los Angeles, CA*

**Mark Kupersmith, MD**  
Roosevelt Hospital/NYEEI  
*New York, NY*

**W. Curt LaFrance, MD**  
Rhode Island Hospital  
*Providence, RI*

**Michael Lee, MD**  
University of Minnesota,  
Dept. of Ophthalmology and  
Visual Neurosciences  
*Minneapolis, MN*

**Leonard A. Levin, MD,  
PhD**  
McGill University,  
University of Wisconsin  
*Montreal, Canada*

**Y. Joyce Liao MD, PhD**  
Stanford University School  
of Medicine  
*Stanford, CA*

**Timothy McCulley, MD**  
The Wilmer Eye Institute,  
Johns Hopkins School of  
Medicine  
*Baltimore, MD*

**Luis Mejico, MD**  
SUNY, Upstate Medical  
University  
*Syracuse, NY*

**Neil Miller, MD, FACS**  
Johns Hopkins University  
School of Medicine  
*Baltimore, MD*

**Heather Moss, MD, PhD**  
University of Illinois  
*Chicago, IL*

**Steven Newman, MD**  
University of Virginia  
*Charlottesville, VA*

**Anil Patel, MD, FRCSC,  
FACS**  
Dean McGee Eye Institute  
*Oklahoma City, OK*

**Howard Pomeranz, MD,  
PhD**  
North Shore Long Island  
Jewish Health System  
*Great Neck, NY*

**Valerie Purvin, MD**  
Midwest Eye Institute  
*Indianapolis, IN*

**Vivian Rismondo, MD**  
Greater Baltimore Medical  
Center  
*Baltimore, MD*

**Janet Rucker, MD**  
Mount Sinai School of  
Medicine  
*New York, NY*

**Robert Sergott, MD**  
Wills Eye Hospital, Thomas  
Jefferson University  
*Philadelphia, PA*

**Robert Shin, MD**  
University of Maryland  
School of Medicine  
*Baltimore, MD*

**Prem Subramanian, MD,  
PhD**  
The Wilmer Eye Institute,  
Johns Hopkins School of  
Medicine  
*Baltimore, MD*

**Matthew Thurtell, MBBS,  
FRACP**  
University of Iowa  
*Iowa City, IA*

**Valerie Toutou, MD, PhD**  
Pitie Salpetriere Hospital  
*Paris, France*

**Jonathan Trobe, MD**  
Kellogg Eye Center  
*Ann Arbor, MI*

**Gregory Van Stavern, MD**  
Washington University  
School of Medicine in St.  
Louis  
*St. Louis, MO*

**Nicholas Volpe, MD**  
Feinberg School of Medicine,  
Northwestern University  
*Chicago, IL*

**Michael Wall, MD**  
University of Iowa College of  
Medicine  
*Iowa City, IA*

**Judith Warner, MD**  
John Moran Eye Center,  
University of Utah  
*Salt Lake City, UT*

**Patrick Yu-Wai-Man,  
BMedSci, MBBS, PhD,  
FRCOphth**  
Institute of Genetic Medicine,  
International Centre for Life,  
Newcastle University  
*Newcastle, United Kingdom*



# SAVE THE DATE!

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FOR THE

# 41<sup>st</sup>

# NANOS ANNUAL MEETING

February 20-26, 2015 | Hotel Del Coronado | San Diego, CA

