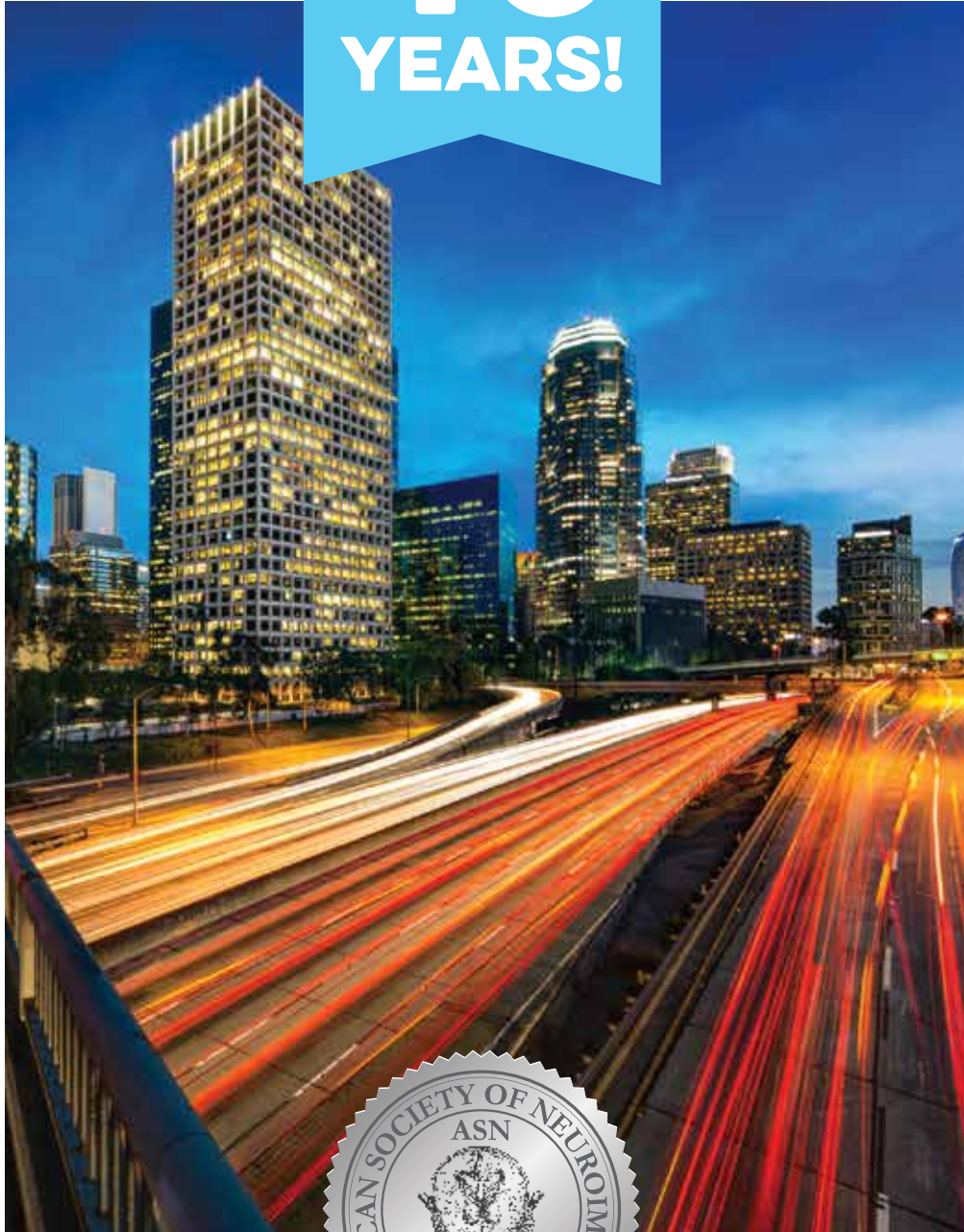


**ASN**  
CELEBRATES  
**40**  
YEARS!



**40<sup>TH</sup> ANNUAL MEETING • JANUARY 19-22, 2017**

LUSKIN CONFERENCE CENTER IN LOS ANGELES • LOS ANGELES CALIFORNIA

# 2017 ASN ANNUAL MEETING

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### NOTE

#### **Refreshments Available.** Centennial and Optimist Foyer

Thursday, January 19: 9:00 am – 12:00 pm and 1:00 pm – 5:00 pm  
Friday, January 20: 8:00 am – 12:30 pm and 2:00 pm – 5:00 pm  
Saturday, January 21: 8:00 am – 12:30 pm and 2:00 pm – 5:00 pm

### NOTE

**Handouts.** Pre-registered attendees were sent a link to the Annual Meeting handouts prior to the meeting. The link was sent from [asn@llmsi.com](mailto:asn@llmsi.com).

### NOTE

**CME Credits.** Statements of credit will be awarded based on the participant's attendance. A statement of credit will be available upon completion of an online evaluation/claimed credit form available at: [www.akhcme.com/ASN](http://www.akhcme.com/ASN). Please claim your credit by February 25, 2017. If you have questions about this CME activity, please contact AKH inc. at [jgoldman@akhcme.com](mailto:jgoldman@akhcme.com).

**Save the Date!** ASN's 41st Annual Meeting, January 25-27, 2018. Austin, TX



# 40th Annual Meeting of the American Society of Neuroimaging

Neuroimaging for Precision Medicine and Health  
January 19 - 22, 2017

## Target Audience

This activity is designed to meet the needs of neurologists, neurosurgeons, neuroradiologists and other neuroscientists.

## Method Of Participation

Statements of credit will be awarded based on the participant's attendance. A statement of credit will be available upon completion of an online evaluation/claimed credit form available at: [www.akhcme.com/ASN](http://www.akhcme.com/ASN)

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### Disclosure of Unlabeled Use and Investigational Product

This educational activity may include discussion of uses of agents that are investigational and/or unapproved by the FDA. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications, and warnings.

### Disclaimer

This course is designed solely to provide the healthcare professional with information to assist in his/her practice and professional development and is not to be considered a diagnostic tool to replace professional advice or treatment. The course serves as a general guide to the healthcare professional, and therefore, cannot be considered as giving legal, nursing, medical, or other professional advice in specific cases. AKH Inc. specifically disclaim responsibility for any adverse consequences resulting directly or indirectly from information in the course, for undetected error, or through participant's misunderstanding of the content.

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Rohit Bakshi, MD

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## Many thanks to the 2017 Program Committee for their work developing this year's program

David Liebeskind, MD, FAAN, FAHA,  
FANA (Chair)  
Andrei Alexandrov, MD, RVT  
John Bertelson, MD  
Emma Fields, APRN-CNP  
Joseph Fritz, PhD  
Ryan Hakimi, DO, MS  
Michael Hutchinson, MD, PhD  
Dara Jamieson, MD  
Joshua Klein, MD, PhD, FANA, FASN  
Paul Maertens, MD  
Marc Malkoff, MD  
Laszlo Mechtler, MD, FAAN, FASN  
Alexander Razumovsky, PhD, FAHA  
Gabriella Szatmáry, MD, PhD  
Charles Tegeler, MD  
Lawrence Wechsler, MD

## NOTE

**Handouts.** Pre-registered attendees were sent a link to the Annual Meeting handouts prior to the meeting. The link was sent from [asn@lmsi.com](mailto:asn@lmsi.com).

# Program At-a-Glance

## THURSDAY, JANUARY 19, 2017

12:00 pm – 7:00 pm	Registration	
9:00 am – 2:00 pm	Precision Medicine and Neuroimaging in Clinical Practice 2017: From Training to Advanced Practice	Optimist
2:00 pm – 5:00 pm	Neurosonology Basics in Precision Medicine	Optimist
5:30 pm – 7:00 pm	Posters/Exhibits/Welcome Reception	Centennial A&B
7:00 pm – 8:30 pm	Keynote Address: NIH and Neuroimaging: Promise of the BRAIN Initiative – Walter Koroshetz, MD – NIH, Director - NINDS	Centennial C&D

## FRIDAY, JANUARY 20, 2017

7:00 am – 4:30 pm	Registration	
7:00 am – 8:00 am	Breakfast with Exhibitors	Centennial A&B
8:00 am – 9:30 am	MR/CT: “Nuts & Bolts”	Centennial C&D
	Ultrasound: “Nuts & Bolts”	Optimist
9:30 am – 10:00 am	Break	
10:00 am – 11:00 am	Theranostics in Acute Stroke – Diagnosis and Treatment in Sync	Centennial C&D
11:00 am – 1:00 pm	MR/CT in Precision Medicine Part I	Centennial C&D
	Neurosonology in Precision Medicine	Optimist
1:00 pm – 2:00 pm	Lunch	
2:00 pm – 4:00 pm	Precision Medicine in Teleneurology	Centennial C&D
4:30 pm – 5:30 pm	Award presentations and “Best of” Oral Abstract trainee presentations	Centennial C&D
5:30 pm – 6:30 pm	40th Anniversary Celebration	Centennial C&D
7:00 pm – 9:00 pm	ASN 40th Anniversary Celebration Reception with Exhibitors	Centennial A&B

## SATURDAY, JANUARY 21, 2017

7:00 am – 5:00 pm	Registration	
7:00 am – 8:00 am	Breakfast	Centennial Foyer
8:00 am – 12:00 pm	MR/CT in Precision Medicine Part II	Centennial C&D
	Advanced Neurosonology in Precision Medicine	Optimist
10:00 am – 10:15 am	Break	
12:00 pm – 1:00 pm	Stroke Etiology and Precision Stroke Medicine	Centennial C&D
2:00 pm – 5:00 pm	MRI Workshop – DTI and Perfusion Processing	Exploration
	Neurosonology Hands-On Workshop	Ronald Reagan Building in Room 6238
5:00 pm – 6:30 pm	Interesting Cases	Centennial C&D
7:00 pm – 8:00 pm	Closing Discussion – Practicing Perfection in Precision Medicine: Minimum Standards vs. Advanced Techniques and Value-Based Care with Neuroimaging	Centennial C&D
8:30 pm	Offsite Social Event	

### NOTE

**Annual Meeting WIFI.** Complimentary wifi will be available in the Annual Meeting space. Please use the password LCC2017 to join the network.

# ASN 2017 Annual Meeting Faculty

**Andrei Alexandrov, MD, RVT**

The University of Tennessee Health  
Science Center  
Memphis, Tennessee

**John Bertelson, MD**

University of Texas – Austin Dell  
Medical School  
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**Sebina Bulic, MD**

Keck School of Medicine of University  
of Southern California  
Los Angeles, CA

**Stefannia Ciscernos, RVS**

University of California Los Angeles  
Los Angeles, CA

**Jessica Erfan, MPA, PA-C**

Seton Family of Hospitals  
Austin, TX

**Edward Feldmann, MD**

Seton Brain and Spine Institute  
Austin, TX

**Emma Fields APRN-CNP**

University of Oklahoma Health  
Sciences Center  
Oklahoma City, Oklahoma

**Joseph Fritz, PhD**

Dent Neurologic Institute  
Amherst, New York

**Zsolt Garami, MD, RPVI**

The Methodist Hospital  
Houston, Texas

**Eduardo Gonzalez-Toledo, MD**

Louisiana State University Health  
Sciences Center  
Shreveport, Louisiana

**Ryan Hakimi, DO, MS**

University of Oklahoma Health  
Sciences Center  
Oklahoma City, Oklahoma

**Maxim Hammer, MD**

University of Pittsburgh Medical Center  
Pittsburgh, Pennsylvania

**Diogo Haussen, MD**

Emory University School of Medicine  
Atlanta, GA

**Jason Hinman, MD, PhD**

University of California Los Angeles  
Los Angeles, CA

**Marge Hutchisson, RVT, RDCS**

Intersocietal Accreditation Commission  
Ellicott City, Maryland

**Dara Jamieson, MD**

Weill Cornell Medical Center  
New York, New York

**Gregory Kapinos, MD, MS, FASN**

North Shore-LIJ Health System  
New York, New York

**Joshua Klein, MD, PhD, FASN**

Brigham and Women's Hospital  
Boston, Massachusetts

**Walter Koroshetz, MD**

NIH/NINDS  
Bethesda, MD

**Meng Law, MBBS, FRACR**

Keck Hospital of USC &  
USC Norris Comprehensive Cancer  
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**Laszlo Mechtler, MD, FAAN, FASN**

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**Alexander Razumovsky, PhD, FAHA**

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Los Angeles, CA

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Medical Center  
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**Gabriella Szatmáry, MD, PhD**

Hattiesburg Clinic  
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Wake Forest University School of  
Medicine  
Winston-Salem, North Carolina

**John Volpi, MD**

Houston Methodist  
Weill Cornell Medical College  
Houston, TX

**Lawrence Wechsler, MD**

Department of Neurology, University of  
Pittsburgh Medical School  
Pittsburgh, PA

**Andy Woo, MD, PhD**

David Geffen School of Medicine at  
UCLA  
Santa Monica Neurological Consultants  
Los Angeles, CA

# 2017 ANNUAL MEETING PROGRAM

## Thursday, January 19

### Precision Medicine and Neuroimaging in Clinical Practice 2017: From Training to Advanced Practice\*

CME: 4.0

9:00 am – 2:00 pm (break for lunch 11:30-12:30), Optimist

#### Course Directors

Ryan Hakimi, DO, MS and Emma Fields, APRN-CNP

#### Course Description

This course is intended for providers in training as well as the Advanced practice providers (Physician Assistants, Nurse Practitioners and Clinical Nurse Specialists) practicing in both outpatient and acute care settings to be knowledgeable in interpreting neuro-imaging for accurate diagnosis and timely interventions to ensure better patient outcomes. The advanced medical providers are presented with limited neuro-imaging during their training as there is no specialty based training. With the limited exposure during training as well as during national meetings; this course offering will be addressing this practice gap for those in the Neurology specialty. It will also be beneficial to the advanced practice provider who wants to specialize or is switching specialties to Neurology

#### Learning Objectives

- Discuss neuroimaging modalities in relation to various epilepsy etiologies (AVM, mesial temporal sclerosis, focal heterotopias, hypoplastic hamartomas).
- Describe transcranial Doppler ultrasound and its various neuroimaging applications
- Describe the significance of neuroimaging in the

- management of patients presenting with acute stroke
- Identify various neuroimaging tools in the management of patients with acute stroke
- Review diagnostic neuroimaging modalities for CVT
- Distinguish neuroimaging differences between demyelinating disease and cerebrovascular disease

#### Schedule

9:00-9:30	Headache and CVT- Jessica Erfan , MPAS, PA-C & Emma Fields, APRN-CNP
9:30-10:00	Demyelinating disease-Jessica Erfan , MPAS, PAC & Emma Fields, APRN-CNP
10:00-11:00	Neuroimaging of the acute stroke patient from ED to neurointervention-Guillermo Linares, MD
11:00-11:30	Understanding the basics of TCD's-Ryan Hakimi, DO, MS
11:30-12:30	Lunch – Complimentary in Plateia
12:30- 1:45	Neuroimaging of the patient with epilepsy-Gregory Kapinos, MD, MS,FASN
1:45- 2:00	Panel discussion : Jessica Erfan, MPAS PA-C, Ryan Hakimi, DO, MS, Guillermo Linares, MD, Gregory Kapinos, MD, MS,FASN & Emma Fields APRN-CNP

#### Modalities

MR, CT, TCD, EEG, and Angiography

\*Participants in this session will receive a complimentary lunch in the Plateia Restaurant.

**NOTE**

### Poster Session, Exhibits, and Welcome Reception.

January 19, 2017 in the Centennial Ballroom at 5:30 pm – 7:00 pm.

Please see page 15-16 for Abstract index.

# Thursday, January 19

## Neurosonology Basics in Precision Medicine

CME: 2.75

2:00 pm – 5:00 pm, Optimist

### Course Director

Zsolt Garami, MD, RPVI

### Course Description

This course will highlight basics of Transcranial Doppler (TCD) and carotid ultrasound physics as well as techniques of examinations, their clinical applications, and interpretations. Part I is for individuals seeking basic knowledge of Neurosonology. Part II is for individuals interested in performing and interpreting carotid duplex and Transcranial Doppler studies. Exposure to practical application and interpretation in the form of real case presentations will be done. This part of the Advanced Neurosonology Course will provide attendees with an opportunity to review cases with expert faculty. Case materials will include both carotid duplex and Transcranial Doppler examinations, and will highlight examples showing multiple concepts, unusual findings, and artifacts. The format will include team teaching with presentation of cases and time for discussion and questions between cases.

### Learning Objectives

- Demonstrate a basic knowledge of the extra- and intracranial arterial vascular anatomy, physiology, and pathophysiology.
- Recognize characteristic patterns of blood flow in the extra- and intracranial vessels.

- Identify proper techniques for performing comprehensive carotid and TCD studies. Relate normal and abnormal blood flow patterns to clinical presentation.
- Recognize and interpret carotid and TCD ultrasound findings. Understand clinical usefulness and limitations of the carotid and TCD ultrasound evaluations.

### Schedule

2:00 – 2:20	Carotid Duplex Protocol – Zsolt Garami, MD, RPVI
2:20 – 2:40	Transcranial Doppler Protocol - Zsolt Garami, MD, RPVI
2:40 – 3:00	Reporting Requirement – Marge Hutchisson, RVT, RDCS
3:00 – 3:20	Waveform Recognition, Detecting Occlusion – Andrei Alexandrov, MD, RVT
3:20 – 3:30	Q&A
3:30 – 4:45	BREAK
3:45 – 4:00	Subclavian vs. Vertebral Steal - Zsolt Garami, MD, RPVI
4:00 – 4:15	TCD in the ICU – Brain Death – Alexander Razumovsky, PhD, FAHA
4:15 – 4:30	TCD Bubble Test for PFO/ASD - Zsolt Garami, MD, RPVI
4:30 – 4:45	IAC Accreditation: Issues and Answers - Marge Hutchisson, RVT, RDCS
4:45 – 5:00	Q&A

### Modalities

Ultrasound

## Keynote Address: NIH and Neuroimaging: Promise of the BRAIN Initiative

CME: 1.5

7:00 pm – 8:30 pm, Centennial C&D

### Keynote Speaker

Walter Koroshetz, MD – NIH, Director - NINDS

### Course Description:

Many of the obstacles in the path of developing better treatments for persons with neurological disorders fall into a single class- the inability to image the underlying neuropathology. Multiple sclerosis and Alzheimer's disease are great examples of the power of neuroimaging in moving human science forward, informing the important preclinical questions, and even attracting whole industries into therapy development. However, there is much to do; both from the reproducibility/proving utility side for the techniques currently available and from the technology development side for new neuroimaging techniques. With regard to the latter the NIH BRAIN Initiative is an ambitious program to develop tools that will allow investigators to monitor and modulate neural circuits. Successful translational of BRAIN Initiative projects, such as next generation neuroimaging, to patients has the potential to transform the diagnosis and treatment of neuro/mental/substance abuse disorders.



# Friday, January 20

## Concurrent Session MR/CT: "Nuts & Bolts"

CME: 1.5

8:00 am – 9:30 am, Centennial C&D

*Course Director*

Joseph Fritz, PhD

### *Course Description*

An image based review of MRI and CT techniques will be presented. Rationale for MR sequences and CT techniques will be tied to referring clinical indications. Representative neurology cases will be presented that highlight the requirements for specific acquisition and viewing parameters, as well as illustrate and interpret through artifacts that may confound interpretation.

### *Learning Objectives*

- Identify how to order MRIs with greater precision
- Recognize artifacts that may confound interpretation.
- Explain the purpose of commonly used imaging techniques

### *Schedule*

8:00-8:15	Introduction to CT and MRI technologies, Joseph Fritz, PhD
8:20-9:20	Case study approach to Understanding CT and MRI Techniques, Nandor Pinter, MD

### *Modalities*

MRI and CT

## Concurrent Session Neurosonology: "Nuts & Bolts"

CME: 1.5

8:00 am – 9:30 am, Optimist

*Course Director*

Andrei Alexandrov, MD, RVT

### *Course Description*

This seminar is being offered to review ultrasound physics and fluid dynamics, demonstrate typical imaging artifacts and waveforms that interpreting physicians and sonographers need to identify and correct and to interact with the audience and answer questions about these typical findings. Course faculty will discuss applied principles of ultrasound physics and fluid dynamics using a set of approximately 50 typical images/waveforms.

Discussion format includes brief case/symptom presentation and an ultrasound image. Faculty will ask the audience to interpret the image and engage in discussion of differential diagnosis and common pitfalls that are linked to ultra sound physics and fluid dynamics.

### *Learning Objectives*

- Review most common ultrasound imaging artifacts and spectral waveforms.
- Learn key principles of applied ultrasound physics and fluid dynamics that are responsible for these findings.
- Learn how to differentiate, optimize, and interpret typical ultrasound imaging artifacts and spectral waveforms.

### *Modalities*

Ultrasound

## NOTE

**CME Credits.** Statements of credit will be awarded based on the participant's attendance. A statement of credit will be available upon completion of an online evaluation/claimed credit form available at: [www.akhcme.com/ASN](http://www.akhcme.com/ASN). Please claim your credit by February 25, 2017. If you have questions about this CME activity, please contact AKH inc. at [jgoldman@akhcme.com](mailto:jgoldman@akhcme.com).

## Friday, January 20

### Theranostics in Acute Stroke – Diagnosis and Treatment in Sync

CME: 1.0

10:00 am – 11:00 am, Centennial C&D

#### Course Director

David Liebeskind, MD

#### Course Description

The diagnosis and treatment of acute stroke are no longer sequential steps in patient care, as theranostics or providing the right treatment for the right diagnosis at the right moment occur in sync. Real time decision-making by neurologists incorporates both clinical and imaging information to rapidly define individualized care that is focused on best outcomes for each patient. This session on the theranostics of acute stroke includes separate topics on telestroke/mobile imaging triage, transient ischemic attacks/minor strokes, and endovascular strategies. Each speaker will provide an overview on how neuroimaging technologies are now being used by neurologists in real time to optimally treat specific stroke presentations in the acute phase, concluding with a guiding statement on the future of such precision stroke care. Five minutes of audience discussion are then utilized to engage participants and expand such innovative strategies.

#### Learning Objectives

- To understand how telestroke/mobile imaging decisions are being used in triage.
- To develop knowledge on how neuroimaging may be used to guide treatment of TIA/minor stroke.
- To learn about the advantages and disadvantages of multimodal imaging with CT or MRI in the peri-procedural management of stroke patients undergoing endovascular therapy.

#### Schedule

10:00-10:15	Telestroke/Mobile CT – Andrei Alexandrov
10:15-10:20	Discussion
10:20-10:35	TIA and Minor Stroke – Edward Feldmann
10:35-10:40	Discussion
10:40-10:55	Endovascular - Diogo Haussen
10:55-11:00	Discussion

#### Modalities

CT, MRI, Ultrasound, and Angiography

### Concurrent Session MR/CT in Precision Medicine Part I

CME: 2.0

11:00 am – 1:00 pm, Centennial C&D

#### Course Directors

John Bertelson, MD and Gabriella Szatmary, MD, PhD

#### Course Description

In the first session of the MR/CT in Precision Medicine course, 3 speakers will present the neuroimaging markers of a patient presenting with an acute focal neurological deficit. In turn, early identification of these imaging findings should allow the clinician-neuroimager the timely and accurate establishment of patient-specific diagnosis, and assist in management in a cost conscious manner.

#### Learning Objectives

The Course describes the neuroimaging characteristics of neurological disorders encountered in in-and outpatient clinical practice. The lectures focus on subjects previously

determined as practice gaps by audience feedback from prior neuroimaging meetings. At the conclusion of the course, the audience will be able to utilize the gained knowledge in several ways in their daily patient care, such as by improving image interpretation skills and integrate clinical with neuroimaging information, and therefore improve diagnosis of neurological disorders and complications related to their treatments.

#### Schedule

Imaging in a Patient with an Acute Focal Neurological Deficit	
11:00-11:35	Neuroimaging in Demyelinating Disorders – Andy Woo
11:35-12:10	MRI of Small Vessel Disease – Jason Hinman
12:10-12:45	Mapping of MRI Patterns of Infarct Evolution to Tailor Therapy – Fabien Scalzo
12:45-1:00	Questions and Discussion

#### Modalities

MR, CT, MRA, CTA, MRV, and CTV

# Friday, January 20

## Concurrent Session Neurosonology in Precision Medicine

CME: 2.0  
11:00 am – 1:00 pm, Optimist

*Course Director*  
Zsolt Garami, MD, RPVI

*Course Description*  
The concept of precision medicine - prevention and treatment strategies that take individual variability into account — is not new. The prospect of applying this concept broadly has been dramatically improved by the recent development of large-scale biologic databases (such as the human genome sequence), powerful methods for characterizing patients (such as proteomics, metabolomics, genomics, diverse cellular assays, and even mobile health technology), and computational tools for analyzing large sets of data. What is needed now is a broad research program to encourage creative approaches to precision medicine, test them rigorously, and ultimately use them to build the evidence base needed to guide clinical practice in neurosonology. The proposed initiative has two main components: help to make decisions and connect dots in literature to generate knowledge applicable to the whole range of health and disease.

### Course Objectives

- Diagnostic methods of PFO detection (Echos, TCD, MRI)
- Ongoing Trials and Evidence Based Treatment option for intracranial aneurysms
- Neurosonology in the patient specific clinical practice in NICU: diagnostics, follow up and angiographic correlations with treatment outcomes

### Schedule

11:00-11:20	Carotid IMT, Genes and Big Data – Tanja Rundek, MD, PhD
11:20-11:40	PFO : Close it or Not? – John Volpi, MD
11:40-12:00	MoyaMoya – Sebina Bulic, MD
12:00-12:20	Neurosonology in the ICU – How Do I Use the Results? – Sebina Bulic, MD
12:20-12:40	Aneurysm Selection for Intervention - John Volpi, MD
12:40-12:50	Remote Proctoring – TCD Monitoring – Zsolt Garami, MD, RPVI
12:50-1:00	Q&A

### Modalities

MRI, CT, Ultrasound, and Angiography

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## Precision Medicine in Teleneurology

CME: 2.0  
2:00 pm – 4:00 pm, Centennial C&D

*Course Director*  
Lawrence Wechsler, MD

*Course Description*  
This session will emphasize personalized approaches to imaging through examples of teleneurology cases encountered in the UPMC teleneurology network. Teleneurology presents challenges to neurological diagnosis due to the limitations of the neurological examination and the technology involved in remote consultation. The choice of imaging and the integration of imaging results in individual cases becomes critically important to help offset the limitations and assist with proper diagnosis and choice of treatment.

### Learning Objectives

- To acquire and understanding of teleneurology
- To choose imaging modalities to complement teleneurology evaluations
- To apply the results of imaging to teleneurology diagnosis and treatment decisions

### Schedule

2:00-4:00	Case presentations and discussion with faculty. Audience participation is welcomed.
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### Modalities

MR, CT, Angiography, and Ultrasound

# Friday, January 20

## ASNR Award Ceremony and Oral Abstract Session

CME: None

4:30 pm- 5:30 pm, Centennial C&D

### Schedule

4:30-4:35	<b>Welcome and announcement of ASN Fellows and abstract poster award winners</b>
4:35-4:45	<b>McKinney Award Recipient.</b> Transcranial Sonographic Measurement of Optic Nerve Sheath Diameter in Collegiate Soccer Players: A Prospective Analysis Over Three Months - Rasadul Kabir, MD
4:45-4:55	<b>Oldendorf Award Recipient.</b> Clinical Correlations of Vectors of Neoplastic Spread in Patients with Pituitary Adenomas - Natasha Topoluk, PhD
4:55-5:05	<b>Qureshi Award Recipient.</b> Flow diversion headaches and facial pain in patients with asymptomatic internal carotid artery stenosis - Nabeel Herial, MD, MPH
5:05-5:10	<b>Oral Abstract Presentation.</b> Does the Presence of Pretreatment "Hyperdense MCA Sign" Predict the Outcome of Intraarterial Thrombectomy Plus Intravenous tPA for Acute Stroke? - Ashkan Mowla

## ASN 40th Anniversary Celebration!

Program: 5:30 pm – 6:30 pm, Centennial C&D

Reception: 7:00 pm – 9:00 pm, Centennial A&B

We look forward to seeing all attendees at this special event as we look back and celebrate the history of the ASN and neuroimaging. Dr. Laszlo Mechtler will be the Emcee. Dr. Ryan Hakimi will give an engaging presentation on where we have been and how far we have come over the past 40 years from a scientific perspective. A special award will be given at the end of this event and will be followed by a completely different kind of trip down memory lane. Be sure to celebrate with us while enjoying, refreshments and special entertainment.

## Become an ASN Member and Receive:

### REDUCED RATES ON:

- Continuing Medical Education credits offered through symposia, seminars, and the scientific program at the ASN Annual Meeting
- Certification Examinations in neurosonology
- Article publication in *Brain and Behavior*

### ACCESS TO THE LATEST DEVELOPMENTS, INCLUDING:

- The *Journal of Neuroimaging*, the official journal of ASN
- Up-to-date information on advocacy initiatives
- Updates on neuroimaging training and fellowship opportunities
- The ASN Member Directory, to quickly and easily locate colleagues
- Annual Meeting video presentations

### PRESTIGE AND INFLUENCE, INCLUDING:

- ASN Membership Certificate
- Full representation in the AMA's House of Delegates, with access to the AMA policy-making bodies to present a unified position on issues dealing with neuroimaging, through the Specialty and Service Society of the AMA
- Opportunities to be involved in the process of creating guidelines for the performance of different neuroimaging procedures in the workup of patients with neurological disorders
- A multidisciplinary forum for sharing ideas and viewpoints with colleagues from other specialties involved in neuroimaging

# Saturday, January 21

## Concurrent Session MR/CT in Precision Medicine Part II

CME: 3.75

8:00 am – 12:00 pm, Centennial C&D

### Course Directors

John Bertelson, MD and Gabriella Szatmary, MD, PhD

### Course Description

In the second session of the MR/CT in Precision Medicine course, 6 speakers will present the neuroimaging markers of a patient presenting with mental status change and in the second part of the session with headache.

In turn, early identification of these imaging findings should allow the clinician-neuroimager the timely and accurate establishment of patient-specific diagnosis, and assist in management in a cost conscious manner.

### Learning Objectives

The Course describes the neuroimaging characteristics of neurological disorders encountered in in-and outpatient clinical practice. The lectures focus on subjects previously determined as practice gaps by audience feedback from prior neuroimaging meetings. At the conclusion of the course, the audience will be able to utilize the gained knowledge in several ways in their daily patient care, such as by improving image interpretation skills and

integrate clinical with neuroimaging information, and therefore improve diagnosis of neurological disorders and complications related to their treatments.

### Schedule

#### Imaging in a Confused Patient

8:00-8:35	Toxic-Metabolic – Dara Jamieson, MD
8:35-9:10	Infectious-Inflammatory – Joshua Klein, MD, PhD
9:10-9:45	Dementia – John Bertelson, MD
9:45-10:00	Questions and Discussion
10:00-10:15	Break

#### Imaging in Patients with Headache

10:15-10:45	Imaging in Primary Headache Disorders and the Symptomatology of Secondary Headaches – Soma Sahai-Srivastava, MD
10:45-11:15	Neuroimaging in Secondary Headaches – Meng Law, MD
11:15-11:45	Neuroimaging in a Traumatic Brain Injury – Laszlo Mechtler, MD, FAAN, FASN
11:45-12:00	Questions and Discussion

### Modalities

MR, CT, MRA, CTA, MRV, and CTV

## Concurrent Session Advanced Neurosonology in Precision Medicine

CME: 3.75

8:00 am – 12:00 pm, Optimist

### Course Director

Alexander Razumovsky, PhD, FAHA

### Course Description

Course objective will be to provide a comprehensive update on TCD clinical applications in the critical care setting, including acute ischemic stroke, subarachnoid hemorrhage and traumatic brain injury. New promising TCD clinical utilization for patients after concussion will be presented. Neuromonitoring protocols during Cardiovascular Surgery using TCD, Near-Infrared Spectroscopy and other modalities for CEA, CABG, aortic arch surgeries, etc.) will be discussed. An internationally renowned faculty of leaders in field of Neurosonology will be assembled to provide the latest in retrospective areas of expertise. This will be accomplished via didactic lectures but will be enhanced by ample time for faculty panel discussions to provide interaction with the audience.

### Learning Objectives

- Competence: Achieve experience in understanding and applying contemporary TCD protocols in common neurovascular disorders, i.e., stroke, extra- and intracranial stenosis, subarachnoid hemorrhage, trauma.
- Performance: Have acquired new knowledge for TCD utilization in critical care and during cardiovascular procedures
- Patient Outcomes: Improved patient outcome due to utilization of TCD testing during different clinical pathways

### Schedule

8:00-8:45	TCD and acute ischemic stroke – Andrei Alexandrov, MD
8:45-9:30	Concussion: Is there role for TCD – Alexander Razumovsky, PhD, FAHA
9:30-10:00	Specifics TCD Applications for Patients after SAH – Ryan Hakimi, DO, MS
10:00-10:15	Coffee break
10:15-11:00	TCD: critical tool in critical care – Alexander Razumovsky, PhD, FAHA
11:00-12:00	TCD Monitoring during invasive cardiovascular procedures – Zsolt Garami, MD

### Modalities

Ultrasound, angiography, MRI, MRA, CT, and CTA

# Saturday, January 21

## Stroke Etiology and Precision Stroke Medicine

CME: 1.0

12:00 pm – 1:00 pm, Centennial C&D

### Course Directors

David Liebeskind, MD

### Course Description

Determination of stroke etiology or the underlying cause, advanced by neuroimaging patterns and the evolution of brain and blood vessel changes over time, is critical to develop precision stroke medicine or optimal care of the individual stroke patient. Subacute management of the stroke patient in the intensive care unit to definitive treatment of underlying small vessel disease or intracranial atherosclerosis may be guided by serial neuroimaging in clinical context. Neurologists are poised to define such precision stroke medicine, leveraging expertise in both image interpretation and clinical decision-making. Each speaker will provide an overview on how neuroimaging technologies are now being used by neurologists in real time to optimally treat specific manifestations in the ICU, small vessel disease and intracranial atherosclerosis, concluding with a guiding statement on the future of such precision stroke care. Five minutes of audience discussion are then utilized to engage participants and expand such innovative strategies.

### Learning Objectives

- To understand how serial neuroimaging of stroke may be used to guide individual treatment decisions in the ICU.
- To develop knowledge on how neuroimaging may be used to guide treatment of intracranial atherosclerosis.
- To learn about novel strategies to define risk and prevention of recurrent small vessel disease, including stroke and vascular cognitive impairment.

### Schedule

12:00-12:15	ICU – Wade Smith, MD
12:15-12:20	Discussion
12:20-12:35	ICAD – David Liebeskind, MD
12:35-12:40	Discussion
12:40-12:55	Small Vessel Disease: Jason Hinman, MD, PhD
12:55-1:00	Discussion

### Modalities

CT, MRI, Ultrasound, and Angiography

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## Concurrent Session

### MRI Workshop – DTI and Perfusion Processing

CME: 3.0

2:00 pm – 5:00 pm, Exploration

### Course Directors

Eduardo Gonzalez-Toledo, MD, PhD and Fabien Scalzo, PhD

### Workshop Description

This workshop allows the participants not only to understand diffusion tensor imaging but to calculate themselves in their own computers.

### Learning Objectives

- To understand the principles of DTI
- To learn how to use specific software
- To perform tracts reconstructions, measure FA, and diffusivity

### Modalities

MR

# Saturday, January 21

## Concurrent Session Neurosonology Hands-On Workshop

CME: 3.0  
2:00 – 5:00 pm, Ronald Reagan Building in Room 6238

### Course Directors

Andrei Alexandrov, MD, RVT and Zsolt Garami, MD

### Workshop Description

This workshop will provide structured hands-on and question and answer sessions in carotid/vertebral duplex and specific transcranial Doppler techniques complete testing, emboli detection, right-to-left shunt detection and assessment of vasomotor reactivity. Both the beginner and experienced users are encouraged to attend. The workshop will also provide an opportunity to try the

latest equipment, to meet experts, and to discuss various aspects of Neurosonology in small groups. The workshop is designed to meet the need for basic and advanced knowledge of insonation techniques, technological advances, and practical aspects of cerebrovascular testing.

### Learning Objectives

- Review complete scanning protocols for diagnostic carotid/vertebral duplex and TCD examinations, vasomotor reactivity, emboli detection, right-to-left shunt testing, and monitoring procedures (thrombolysis, headturning, peri-operative testing), and IMT measurements.
- Review equipment and expertise requirements in performing selected tasks with faculty using hands-on, instructional video, or real-time case recordings.

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## Interesting Cases

CME: 1.5  
5:00 pm – 6:30 pm, Centennial C&D

### Course Director

Dara Jamieson, MD

### Workshop Description

Interactive case presentations highlighting neuroimaging in diagnosis and treatment

### Learning Objectives

- To analyze the role of MRI in diagnosis of Neurological disease.
- To discuss unusual uses of neuroimaging in neurological diagnosis and treatment.
- To differentiate between the attributes of different imaging modalities.

### Modalities

MRI, CT, CTA, Ultrasound

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## Practicing Perfection in Precision Medicine: Minimum Standards vs. Advanced Techniques and Value-Based Care with Neuroimaging

CME: 1.0  
7:00 – 8:00 pm, Centennial C&D

### Course Directors

David Liebeskind, MD

### Course Description

The prospect of neuroimaging in precision medicine is explored in this concluding session, covering two key considerations for neurologists as the pioneers of theranostics in their specialty, tailoring optimal care to achieve the best outcomes of their patients. The balance between adhering to minimal standards versus use of advanced neuroimaging techniques is explored by a panel, followed by a second panel that considers the future of value-based care, where reimbursement is linked with real time decision-making that impacts long term patient outcomes. These two challenges and next steps are summarized at the conclusion, with a recap on the potential of neuroimaging in precision medicine gleaned from the 2017 ASN annual meeting.

### Learning Objectives

- To understand the challenges of balancing minimal use of neuroimaging to preserve cost, while efficiently using advanced imaging techniques to deliver the right care for the individual patient.
- To become familiar with value-based care for neurological disorders using neuroimaging at the time of therapeutic decision-making.
- To gain knowledge on the potential and implementation of precision medicine with the use of neuroimaging.

### Schedule

7:00-7:20	Min. vs. Max: Advanced Techniques Panel
7:20-7:25	Discussion
7:25-7:45	Value Based Care in Neuroimaging
7:45-7:50	Discussion
7:50-8:00	Conclusions and Next Steps on Neuroimaging in Precision Medicine

### Modalities

CT, MRI, Ultrasound, and Angiography

# Saturday, January 21

## ASN Mansion Reception

Starting at 8:30 pm, off site

A fun way to close the Annual Meeting with a night at a Bel Air mansion – come for food, drinks and most importantly comradery among colleagues.

## 2017 Faculty and Program Committee Disclosures

**Andrei Alexandrov, MD, RVT**  
Speaker Bureau: Genentech, Inc.

**John Bertelson, MD**  
None

**Sebina Bulic, MD**  
None

**Stefannia Ciscernos, RVS**  
None

**Jessica Erfan, MPA, PA-C**  
None

**Emma Fields, APRN-CNP**  
None

**Edward Feldmann, MD**  
None

**Joseph Fritz, PhD**  
None

**Zsolt Garami, MD, RPVI**  
Consultant: Rimed, Philips  
Contracted Research: Philips

**Eduardo Gonzalez-Toledo, MD, PhD**  
None

**Ryan Hakimi, DO, MS**  
Consultant: Arbor Pharmaceuticals

**Maxim Hammer, MD**  
None

**Diogo Haussen, MD**  
None

**Jason Hinman, MD, PhD**  
None

**Mike Hutchinson, MD**  
None

**Marge Hutchisson, RVT, RDCS**  
None

**Dara Jamieson, MD**  
None

**Gregory Kapinos, MD, MS, FASN**  
None

**Joshua Klein, MD, PhD**  
None

**Walter Koroshetz, MD**  
None

**Meng Law, MBBS, FRACR**  
Speaker Bureau: Toshiba, Siemens  
Medical  
Consultant: Guerbert, Bracco  
Stock: Gliblib

**David Liebeskind, MD, FAAN, FAHA, FANA**  
None

**Guillermo Linares, MD**  
None

**Paul Maertens, MD**  
None

**Marc Malkoff, MD**  
None

**Laszlo Mechtler, MD, FAAN, FASN**

Speaker Bureau: Allergan, Avanir, Teva, Philips  
Contracted Research: Avanir, Teva

**Nandor Pinter, MD**  
None

**Alexander Razumovsky, PhD, FAHA**  
Salary: Sentient NeuroCare  
Services

**Tanja Rundek, MD, PhD**  
None

**Soma Sahai-Srivastava, MD**  
None

**Nerses Sanossian, MD, FAHA**  
None

**Fabien Scalzo, PhD**  
None

**Wade Smith, MD, PhD**  
Consultant: Stryker

**Gabriella Szatmary, MD, PhD**  
None

**Charles Tegeler, MD**  
None

**John Volpi, MD**  
Speaker Bureau: Janssen  
Contracted Research: Bristol-Myers-Squibb, Boehringer-Ingelheim

**Lawrence Wechsler, MD**  
None

**Andy Woo, MD, PhD**  
None

## Journal of Neuroimaging

*The Journal of Neuroimaging* offers full coverage of all the relevant clinical neurological aspects of MRI, SPECT, Neurosonology, CT, PET, Transcranial Doppler, Carotid Ultrasound, and other neuroimaging modalities. This journal gives you the kind of practical information you can put to immediate use but cannot find elsewhere. Save valuable time by reading this one publication; you'll learn the developments, research, equipment and reports that have the most meaning for you. Expert authors advise readers on the best techniques for maximum results and minimal risk. Carefully reproduced images illustrate the articles with clarity and fidelity. The articles and illustrations emphasize selecting the appropriate modality and using neuroimaging techniques to improve patient care. The Journal of Neuroimaging addresses the full spectrum of human nervous system disease including stroke, neoplasia, degenerative and demyelinating disease, epilepsy, infectious disease, toxic-metabolic disease, psychoses, dementias, heredo-familial disease and trauma. Each issue offers original clinical articles, case reports, articles on advances in experimental research, technology updates, and neuroimaging CPCs.



# Abstract Index

## ANGIOGRAPHY ABSTRACTS

### Poster 1: Flow diversion headaches and facial pain in patients with asymptomatic internal carotid artery stenosis

Nabeel Herial<sup>1</sup>, Muhammed Shah Miran<sup>2</sup>, Muhammed Saleem<sup>2</sup>, Ihtesham Qureshi<sup>2</sup>, Adnan Qureshi<sup>3</sup>

<sup>1</sup>Thomas Jefferson Univ., Philadelphia, USA, <sup>2</sup>Zeenat Qureshi Stroke Institute, St. Cloud, USA, <sup>3</sup>Univ. of Minnesota, Minneapolis, USA

### Poster 2: Contrast Induced Encephalopathy Mimicking Reperfusion Injury

Ekaterina Bakradze, David Pasquale, Kathryn Kirchoff-Torres  
Albert Einstein College of Medicine, Bronx, NY, USA

### Poster 3: Use of Intrathecal Nicardipine for Severe Vasospasm Following Subarachnoid Hemorrhage: a Case Series

Adrian Burgos, Roy Poblete, May Kim-Tenser, Benjamin Emanuel, Sebina Bulic  
Keck School of Medicine of USC, Los Angeles, CA, USA

### Poster 4: Medicine That Works: CT angiography resolution of carotid stenosis with interval medical therapy; case report and review of literature

Avani Shah, Hesham Masoud  
SUNY Upstate Medical Univ., Syracuse, NY, USA

### Poster 5: Intracranial Arterial Stent Utilization Trends in the United States

Sumul Modi, Kavitha Shah, Tarun Girotra, Horia Marin, Panayiotis Mitsias  
Henry Ford Hospital, Wayne State Univ., Detroit, Michigan, USA

### Poster 6: Estimation of Radiation risks for Occupational and Patient Exposure in neuroradiological interventional procedures

Khalid Alzimami<sup>1</sup>, Abdelmoneim Sulieman<sup>2</sup>  
<sup>1</sup>Radiology Science Dept., College of Applied Medical Sciences, King Saud Univ., Riyadh, Saudi Arabia, <sup>2</sup>Radiology and Medical Imaging Dept., College of Applied Medical Sciences, Prince Sattam bin Abdulaziz Univ., Alkharij, Saudi Arabia

## CT ABSTRACTS

### Poster 7: Association between acute post traumatic epilepsy and type of cerebral ischaemia in computerized tomography

Dewa Pakshage Chula Kanishka Ananda Lal  
Natl. Hospital of Sri Lanka, Colombo, Sri Lanka

### Poster 8: Survey of Intersocietal Accreditation Commission (IAC) Facilities to Assess the Effect of Accreditation on CT Radiation Dose Awareness and Reduction

Mary Beth Farrell<sup>2</sup>, Mary Lally<sup>2</sup>, John Y. Choi<sup>1</sup>  
Winchester Neurologic Consultants, Inc., Winchester, VA, USA<sup>1</sup>, Intersocietal Accreditation Commission, Ellicott City, MD, USA<sup>2</sup>

### Poster 9: Unusual Finding on CT Scan of the Head. A Case Report.

Mohammed Kananeh, Lalathaksha Kumbhar, MD  
Henry Ford Hospital, Detroit, MI, USA

### Poster 10: Hypertensive Subdural Hygroma after Spontaneous Subarachnoid Hemorrhage

Antonio de Matos<sup>1</sup>, Luiz Dalfior Junior<sup>1</sup>, Michel Machado<sup>1</sup>, Cesar Seculin<sup>1</sup>, Paulo Napoli<sup>1</sup>, Maria Sheila G. Rocha<sup>1</sup>  
<sup>1</sup>Hospital Santa Marcelina, Sao Paulo, Sao Paulo, Brazil, <sup>2</sup>Hospital Israelita Albert Einstein, Sao Paulo, Sao Paulo, Brazil

## MRI ABSTRACTS

### Poster 11: Clinical Correlations of Vectors of Neoplastic Spread in Patients with Pituitary Adenomas

Natasha Topoluk<sup>1</sup>, Justin Collins<sup>3</sup>, Christine Schammel<sup>2</sup>, David Schammel<sup>2</sup>, Lee Madeline<sup>2</sup>, Michael Lynn<sup>2</sup>, Ryan Hakimi<sup>2</sup>  
<sup>1</sup>Univ. of South Carolina School of Medicine - Greenville, Greenville, SC, USA, <sup>2</sup>Greenville Health System, Greenville, SC, USA, <sup>3</sup>Medical Univ. of South Carolina, Charleston, SC, USA

### Poster 12: A Case of Cerebral Rheumatoid Artery (RA) Vasculitis

Julian Duda, Sonal Mehta  
Univ. of South Carolina-Palmetto Health, Columbia, SC, USA

### Poster 13: Anterior Myelitis: The Modern Day Relative of Polio

Nikil Swamy, Harley Morgan, James Parrott, Anna Mrelashvili  
Palmetto Health, Columbia, SC, USA

### Poster 14: Infantile Lhemitte Duclos Disease: Evaluation of Rapamycin Therapy with Neuroimaging.

Paul Maertens, Deena Wafadari, Megan Zak  
Univ. of South Alabama, Mobile, Alabama, USA

### Poster 15: Bihemispheric stroke and cervical myelopathy after breast MRI in a patient with a patent foramen ovale

Hsuan Lu, Kara Melmed, Patrick Lyden, Asma Moheet  
Cedars Sinai Medical Center, Los Angeles, CA, USA

### Poster 18: A Case of Ramsay Hunt Syndrome with Involvement of the Spinal Trigeminal Nucleus and Tract with a Systematic Review of the Literature Regarding Various Imaging Findings in the Setting of Ramsay Hunt Syndrome

Pirouz Piran<sup>1</sup>, Subin Mathew<sup>1</sup>, Alex Linn<sup>1</sup>, Mei Lu<sup>2</sup>  
<sup>1</sup>Cleveland Clinic, Weston, Florida, USA, <sup>2</sup>Cleveland Clinic, Cerebrovascular Center, Cleveland, Ohio, USA

### Poster 19: Artery of Percheron Infarction

Soniya Pinto, Brian Midkiff  
St. Vincent's Hospital, Worcester, MA, USA

### Poster 22: Diagnosing the Heidenhain Variant of Creutzfeldt Jakob Disease masquerading as Wernicke's encephalopathy

Miten Patel, Jessica Kiarashi, Kunal Desai, Michael Swerdlow  
Saul R. Korey Dept. of Neurology, Montefiore Medical Center, Bronx, NY, USA

### Poster 23: An Acute Onset of Vitamin B12 Deficiency Due to Recreational Nitrous Oxide Use

Manzure Mawla, John Bertelson, Anupama Alareddy, Myriam Abdennadher  
The Univ. of Texas at Austin Dell Medical School, Austin, TX, USA

### Poster 25: CNS Vasculitis in SLE

Mirjon Bishja, Muhammad Affan, Sumul Modi, Panayiotis Mitsias  
Henry Ford Hospital, Detroit, MI, USA

**Poster 26: An Unusual Complication of Spinal Subdural Hygroma From Occult CSF Leak after A Fluoroscopy Guided Lumbar Puncture**

Niraja Suresh, Martin Myers  
*Univ. of South Florida, Tampa, FL, USA*

**Poster 27: Idiopathic Encephalocele: An Unusual Etiology of Status Epilepticus**

Vishal Mandge, Kunal Desai, Steven Sparr  
*Monetefiore Medical Center, Bronx, NY, USA*

**Poster 28: Lack of response to thiamine and corticosteroids in a case of Marchiafava-Bignami disease: a case report and presentation of serial MRI findings**

Elizabeth Joe  
*LAC+USC MC/USC, Los Angeles, USA*

**NEUROSONOLOGY ABSTRACTS**

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Rajan Gadhia, John Volpi, Saeed Sadameli, Rasadul Kabir, Jonathan Wiese  
*Houston Methodist Hospital, Houston, TX, USA*

**Poster 30: Assessment of Brain Embolic Potential by Contrast Transcranial Doppler is Safe and Helps Differentiate Pathogenic from Incidental Right-to-Left Cardiac Shunt**

Thomas H. Alexander, BS, RVT, Lisa Hutchinson, RN, Megan Augustus, RN, Kendall Nixon, BS, RVT, Lester B. Collins, III, MD, Allison Hennigan, MD, George Plotkin, PhD, MD  
*East Texas Medical Center Neurological Institute*

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Yunus Afandiyev, Elshad Sadikhov, Ali Ismaylov  
*Azerbaijan State Postgraduate Institution, Baku, Azerbaijan*

**Poster 32: Carotid Plaque Volume Changes of Stroke and TIA patients in Six Month Follow-up Period: Observational Study, updated**

Hayrapet Kalashyan<sup>1</sup>, Harald Becher<sup>1</sup>, Maher Saqqur<sup>1</sup>, Waseem Akhtar<sup>2</sup>, Helen Romanchuk<sup>1</sup>, Thomas Jeerakathil<sup>1</sup>, Khurshid Khan<sup>1</sup>, Ashfaq Shuaib<sup>1</sup>  
<sup>1</sup>*Univ. of Alberta Hospital, Edmonton, Alberta, Canada*, <sup>2</sup>*Royal Alexandra Hospital, Edmonton, Alberta, Canada*

**Poster 33: Imaging of Vasa Nervorum using Contrast Enhanced Ultrasound**

Adnan Qureshi<sup>1</sup>, Muhammad Saleem<sup>1</sup>, Asad Ahrar<sup>1</sup>, Faisal Raja<sup>2</sup>  
<sup>1</sup>*Zeenat Qureshi Stroke Institute, St. Cloud, Minnesota, USA*, <sup>2</sup>*Rockford Memorial Hospital, Rockford, Illinois, USA*

**Poster 34: Nationwide Utilization of Transcranial Doppler in Traumatic Subarachnoid Hemorrhage**

Mirza Bulic<sup>2</sup>, Ling Zheng<sup>1</sup>, Sebina Bulic<sup>1</sup>, Joseph Kim<sup>1</sup>, Jared Noroozi<sup>1</sup>, May Kim-Tenser<sup>1</sup>  
<sup>1</sup>*Univ. of Southern California, Los Angeles, Ca, USA*, <sup>2</sup>*Pasadena City College, Pasadena, Ca, USA*

**Poster 35: The Effect of Vasospasm Surveillance on Disposition in Aneurysmal Subarachnoid Hemorrhage**

Joseph Kim<sup>1</sup>, Ling Zheng<sup>1</sup>, Sebina Bulic<sup>1</sup>, Jared Noroozi<sup>1</sup>, Mirza Bulic<sup>2</sup>, May Kim-Tenser<sup>1</sup>  
<sup>1</sup>*Univ. of Southern California, Los Angeles, CA, USA*, <sup>2</sup>*Pasadena City College, Pasadena, CA, USA*

**Poster 36: Bedside Ultrasonography of the Inferior Vena Cava Aids in Volume Status Assessment and Management Following Aneurysmal Subarachnoid Hemorrhage**

Roy Poblete, Sebina Bulic, May Kim-Tenser, Benjamin Emanuel  
*Keck School of Medicine of USC, Los Angeles, California, USA*

**Poster 37: Trends in Transcranial Doppler Utilization in Subarachnoid Hemorrhage**

Jared Noroozi, Sebina Bulic, Ling Zheng, Joseph Kim, Mirza Bulic, May Kim-Tenser  
*USC, Los Angeles, CA, USA*

**Poster 38: The Unique Vascular Pattern of Alobar Holoprosencephaly: a Prospective Power Doppler Study**

Paul Maertens, Deena Wafadari  
*Univ. of South Alabama, Mobile, AL, USA*

**OTHER ABSTRACTS**

**Poster 39: Neuroimaging Challenges of Primary CNS Lymphoma**

Amar Anand, Harley Morgan, Anna MreLashvili  
*Univ. of South Carolina / Palmetto Health, Columbia, SC, USA*

**Poster 40: Consecutive bilateral pontine lacunar-like infarcts secondary to Giant Cell Arteritis**

Dimitrios Giannakidis, Aboubakar Sharaf  
*Stroke Unite, Dept. of Neurology, St Mary's Medical Center Essentia Health, Duluth, MN, USA*

**PET ABSTRACTS**

**Poster 41: Fingerprinting Heterogeneity with a Generative Method of Glioma using PET-MR Information**

Fatemeh Nejatbakhsheshfahani  
*Ludwig Maximilian Universität, Munich, Germany, Technical Univ. of Munich, Munich, Germany*

## Award Winners

Awards will be presented Friday, January 20, during the Award Ceremony.

---

**Qureshi Award.** The Qureshi Award is for the best abstract based on research in diagnostic angiography or endovascular procedures.

2017 Qureshi Award Recipient  
Nabeel Herial, MD, MPH  
*Flow diversion headaches and facial pain in patients with asymptomatic internal carotid artery stenosis*

---

**Oldendorf Award.** The Oldendorf Award is for the best abstract based on research in CT, MRI, SPECT or PET.

2017 Oldendorf Award Recipient  
Natasha Topoluk, PhD  
*Clinical Correlations of Vectors of Neoplastic Spread in Patients with Pituitary Adenomas*

---

**McKinney Award.** The McKinney Award is for the best abstract based on research in neurosonology.

2017 McKinney Award Recipient  
Rasadul Kabir, MD  
*Transcranial Sonographic Measurement of Optic Nerve Sheath Diameter in Collegiate Soccer Players: A Prospective Analysis Over Three Months*

---

**Resident Travel Awards.** The Resident Travel awards are presented to the two top-ranked abstracts submitted by a resident/fellow for poster presentations.

2017 Resident Travel Award Recipients

Hayrapet Kalashyan, MD, MRCP  
*Carotid Plaque Volume Changes of Stroke and TIA patients in Six Month Follow-up Period: Observational Study, updated*

Nikil Swamy, MS  
*Anterior Myelitis: The Modern Day Relative of Polio*

## Poster Session, Exhibits, and Welcome Reception.

January 19 in the Centennial Ballroom at 5:30 pm – 7:00 pm.  
Please see page 15-16 for Abstract index.

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## Saturday Evening ASN 40th Anniversary Celebration

SUR Restaurant and Lounge

International cuisine with an exotic flair

606 N. Robertson Road West Hollywood California

8:30 pm - 11:30 pm

*Dress:* Upscale or Business Casual

Transportation Provided

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## ASN Mansion Reception

January 21, Starting at 8:30 pm, off site

A fun way to close the Annual Meeting with a night at a Bel Air mansion – come for food, drinks and most importantly comradery among colleagues.

## Fellowship of the American Society of Neuroimaging (FASN)

Fellowship in the American Society of Neuroimaging (FASN) is meant to recognize individuals who have made significant contributions to the field of neuroimaging and have impacted the growth and practice of neuroimaging at a regional and national level.

*Current Fellows*

Patrick Capone, MD, PhD, FASN  
Gregory Kapinos, MD, MS, FASN  
Joshua Klein, MD, PhD, FANA, FASN  
Tomasz Kosierkiewicz, MD, FASN  
Laszlo Mechtler, MD, FAAN, FASN  
Mohammed Zafar, MD, FASN

View eligibility criteria and apply for FASN status at [www.asnweb.org](http://www.asnweb.org).



# ASN 41<sup>ST</sup> ANNUAL MEETING

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