About ASN

The American Society of Neuroimaging (ASN) is an international, professional organization educating & representing neurologists, APPS, neurosurgeons, neuroradiologists, residents, fellows, technologists, and other neuroscientists who are dedicated to the advancement of techniques used to evaluate the nervous system, since 1977.

Mission

To provide neuroimaging, and informatics education, certification, support, and guidance to neurologists and other neuroscience clinicians, technologists, sonographers, and researchers.

Vision

To ensure all individuals with neurological disorders have access to experts in neuroimaging and neurosonology.

The American Society of Neuroimaging (ASN) is an active member of the House of Delegates (HOD) of the American Medical Association (AMA). The HOD is the principal policy-making body of the AMA.

Goals

The American Society of Neuroimaging (ASN) is an international, professional organization of clinicians, technologists and research scientists who are dedicated to education, advocacy and research to promote neuroimaging as crucial to the treatment and investigation of disorders of the nervous system. The ASN supports the right of qualified physicians to utilize neuroimaging modalities for the evaluation and management of their patients, and the right of patients with neurological disorders to have access to appropriate neuroimaging modalities and to physicians qualified in their use and interpretation. The ASN supports clinical and basic science research by neuroimagers through educational programs, an annual meeting and a scientific journal.

The goal of the ASN is to promote the highest standards of neuroimaging in clinical practice, thereby improving the quality of medical care for patients with diseases of the nervous system. This goal is accomplished through:

- Presenting scientific and educational programs at an annual meeting and through the promotion of fellowships, preceptorships, tutorials and seminars related to neuroimaging
- Publishing a scientific journal
- Formulating and promoting high standards of practice and setting training guidelines
- Evaluation of physician competency through examinations
- Emphasis is placed on the correlation between clinical information and neuroimaging data to provide the cost effective and efficient use of imaging modalities for the diagnosis and evaluation of diseases of the nervous system

The ASN will continue to develop training and practice guidelines related to neuroimaging for 1) physicians in practice who currently use or wish to use neuroimaging; 2) physicians in residency or fellowship training; and 3) healthcare entities responsible for defining or allocating professional privileges and credentialing to individual physicians.

2023 ASN Board and Committee Leaders

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ASN Journals

Rohit Bakshi, MD
Editor-in-Chief, Journal of Neuroimaging
Peter Kalina, MD, MBA
Editor-in-Chief, Neuroimaging
Annual Meeting of the American Society of Neuroimaging

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Follow ASN on Social Media!
Bring the Neuroimaging community into the conversation by tagging ASN and JON in your posts and tweets!

@JNeuroimaging
@asneuroimaging
Welcome ASN 2023!

This special 2023 summer program, located 17 minutes away from the Neurocritical Care Society’s (NCS) meeting in beautiful Scottsdale on the three days preceding NCS (8/12-8/14, 2023), conveniently targets neuroimaging educational tracks for those planning to attend the Neurocritical Care Society Annual Meeting. Topics covered include neurovascular ultrasound, acute stroke imaging, imaging associated with endovascular neurosurgical procedures, neurotoxicity, and brain tumors applicable in all acute care settings. Additionally, we will be delivering in-depth coverage of ultrasonography including topics for certification preparation. Furthermore, the ASN will have low-cost basic and advanced TCD hands-on workshops for learners at all stages. In the first-ever collaboration between ASN and NCS, there will be co-sponsored POCUS and TCD workshops as well as a symposium entitled, “State of the Art in Imaging Science of Neurocritical Care”.

Earlier in the year, we participated in the NeuroNet Annual Meeting, which is a summit of private practices that work together with industry to solve topical issues in the private sector.

ASN provided neuroimaging education to neurology providers, co-hosted sessions with neurology residents exploring options in community practice, lead panel discussions on the role of imaging in precision medicine and neuroinformatics and consulted to the pharmaceutical industry.

The unique meeting structure in 2023 represents ASN’s commitment to bring neuroimaging skills to all stakeholders. In 2024 we will return to our normal January annual meeting cadence; we will continue to develop programs embedded in sub-specialty and regional society meetings.

We would also like to remind you that, in addition to clinical and basic science research by neuroimagers through our annual meetings, we are expanding our certification, fellowship and preceptorship programs to provide more in-depth and immersive training. Biweekly webinars provide continuous topical updates with CME credits and will soon be available in our online education center.

Finally, we are excited to announce we will soon have two scientific journals: our flagship internationally recognized Journal of Neuroimaging is conveniently available in print and online as part of membership; the new open access journal, Clinical Neuroimaging, will be entirely online and free. The new journal will feature new forms of digital tools such as dynamic imaging and infographics.

Please know that our membership welcomes students, trainees, APPs, sonographers, scientists, industry, and practicing physicians to join us to learn, appreciate and leverage the exciting field of neuroimaging.

As an active member of the House of Delegates of the American Medical Association, we encourage all our eligible members to also join AMA to help advocate for our mission.

Enjoy your time in Scottsdale. We look forward to seeing you here, and at our 2024 Annual Meeting in Myrtle Beach, January 12-14.

Sincerely,

Joseph Fritz, PhD, President

Ryan Hakimi, DO, MS, NVS, RPNI, CPB, FNCS, FCCM, Vice President & Program Chair
CE Information and Disclosure Statement

Acknowledgment of Financial Commercial Support
No financial commercial support was received for this educational activity.

Acknowledgment of In-Kind Commercial Support
No in-kind commercial support was received for this educational activity.

Satisfactory Completion
Learners must complete an evaluation form to receive a certificate of completion. Your chosen sessions must be attended in their entirety. Partial credit of individual sessions is not available. If you are seeking continuing education credit for a specialty not listed below, it is your responsibility to contact your licensing/certification board to determine course eligibility for your licensing/certification requirement.

Joint Accreditation Statement
In support of improving patient care, this activity has been planned and implemented by Amedco LLC and American Society of Neuroimaging. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Amedco Joint Accreditation Provider Number: 4008163

Physicians

ACCME Credit Designation Statement
Amedco LLC designates this live activity for a maximum of 19.50 AMA PRA Category 1 Credits™ for physicians. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Objectives - After Attending This Program You Should Be Able To
1. Recognize, identify, differentiate and interpret diseases of the nervous system based on interpretations of neuroimages.
2. Using clinical data identify the correlation of the data with information derived from the various methods used to image the nervous system and related structures to treat various disorders of the nervous system.
3. Review ultrasound techniques and discuss the recent advances and new technologies.

Disclosure of Conflict of Interest
The following table of disclosure information is provided to learners and contains the relevant financial relationships that each individual in a position to control the content disclosed to Amedco. All of these relationships were treated as a conflict of interest, and have been resolved. (C7 SCS 6.1-6.2, 6.5)

All individuals in a position to control the content of CE are listed in the program book. If their name is not listed to the right, they disclosed that they had no financial relationships with a commercial interest.

How to Get Your Certificate
1. Go to asncertificateonline.com
2. Click on the 2023 American Society of Neuroimaging Annual Meeting link.
3. Evaluate the meeting.
4. Print, download, or save your certificate for your records.
5. If you lose your certificate, or need help, go to helpcmecertificateonline.com

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Todd Abruzzo</td>
<td>Balt Medical: Consultant; Anuncia, Alcyone, Neuromed, Epi EP, Merlin MD, Arthromeda, Intralink Spine: Other</td>
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<tr>
<td>Anne Alexandrov</td>
<td>NA</td>
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<td>Aaron Anderson</td>
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<td>Brian Appavu</td>
<td>Natus: Speakers Bureau</td>
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<td>Marc Babi</td>
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<tr>
<td>Rohit Bakshi</td>
<td>Bristol Myers Squibb: Research Grant Site Principal Investigator, EMD Serono: Consultant</td>
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<td>John Bennett</td>
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<td>Julia Carlson</td>
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<td>Masoom Desai</td>
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<td>Abbigayle Doerr</td>
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<td>Zsolt Garami</td>
<td>Novasignal: Scientific/Medical Advisory Board Member; Siemens, Longeviti, Tienovix: Consultant</td>
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<td>Shivani Ghoshal</td>
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<td>Mai-Lan Ho</td>
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<td>Courtney Hrdlicka</td>
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<td>Marge Hutchisson, BS, RVT, RDCT, RPS</td>
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<td>Gyan Kumar</td>
<td>Oculus Imaging, AZMB: Consultant</td>
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<td>Michael Kuwabara</td>
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<td>Shradhha Mainali</td>
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<td>Tara Mangum</td>
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<td>Sishir Mannava</td>
<td>Occlutech: Other</td>
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<td>Peter Nakaji</td>
<td>GT Medical Technologies: Private Stock Shareholder; Acumed</td>
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<td>Methil Pradeep</td>
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<td>Adnan Qureshi</td>
<td>Chiesi USA: Research Grant Site Principal Investigator</td>
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<td>Mark Rubin</td>
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<td>Aarti Sarwal</td>
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<td>Erika Sigman</td>
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<td>Charles Truwit</td>
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<td>Jesse Weinberger</td>
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<td>Dawn Whyte</td>
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<td>Maggie Gruennert</td>
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<td>Ryan Dixon</td>
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2023 ASN | 3
Neurovascular Specialist (NVS) Credential

is now accepted as an appropriate Technical Director/technical staff credential for facilities applying for IAC Vascular Testing accreditation (Extracranial and/or Intracranial Cerebrovascular Testing).

Visit intersocietal.org/vascular to view the IAC Standards or asnweb.org for details about the NVS credential.
There is now a practical pathway for health care technologists to earn an appropriate credential for performing carotid duplex and TCD exams in comprehensive stroke centers, critical care units and operative suites. The NVS gives nurses, neuromonitoring and EEG techs, and other non-sonographer specialists a recognized credential of competency to perform carotid duplex and TCD exams. And for those who are already credentialed vascular technologists or certified POCUS practitioners, earning the NVS credential will demonstrate that they have taken their neurovascular ultrasound imaging skills and dedication to a higher level to improve patient care.

Richard Genova, BA, RVT, NVS, RPhS
Neurovascular Lab Technical Director at Weill Cornell Medicine
Member of the IAC Vascular Testing Board of Directors, representing the American Society of Neuroimaging

Kudos to the IAC for recognizing the NVS credential. The acceptance of the Neurovascular Specialist credential by the IAC Vascular Testing division means there is now no excuse for TCD to be performed in any clinical setting by a non-credentialed individual, nor for any facility performing TCD exams not to be accredited by the IAC.

John Bennett, PhD, RVT, NVS
Chair of the American Society of Neuroimaging Subcommittee for the NVS

The recent approval of the NVS credential for carotid and TCD exams by the IAC Vascular Testing Board is a huge step forward for the neurovascular community. As many technologists and vascular neurologists in stroke units and vascular neurology outpatient clinics perform only transcranial Doppler and carotid examinations, this credential creates a pathway for vascular technologists, neurologists and other related vascular professionals to be recognized in the field. In addition, these individuals’ possession of the NVS credential will significantly contribute to improved standards of care and health quality for our patients. I congratulate IAC Vascular Testing Board for taking this step forward.

Tatjana Rundek, MD, PhD, FANA
Director of the Clinical Translational Research Division Department of Neurology University of Miami, Miller School of Medicine
Member of IAC Vascular Testing Board of Directors and Immediate Past President, representing the American Society of Neuroimaging

Learn More or Get Started Today!

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American Society of Neuroimaging and Neurocritical Care Society Collaboration

For the first time, ASN has partnered with the Neurocritical Care Society to co-sponsor a TCD Workshop on Tuesday, August 15 at the NCS Annual Meeting in Phoenix. If you have not registered and wish to attend please visit the registration desk at the ASN Annual Meeting.
Program at a Glance

Saturday, August 12 | 7:00 AM - 8:00 PM

7:00 am–7:45 am  Breakfast | Orangedale Ballroom

8:00 am–10:30 am  General Sessions | Heritage Ballroom 1

8:00 AM–8:30 AM
Ultrasound Physics: Overview of What you Really Need to Know
Mark Rubin, MD, RPNI, NVS
Edward Hines, Jr. VA Medical Center, Loyola University Medical Center Stritch School of Medicine

8:30 AM–9:00 AM
High Yield Test Items: Resolution Types and Artifacts
Mark Rubin, MD, RPNI, NVS
Edward Hines, Jr. VA Medical Center, Loyola University Medical Center Stritch School of Medicine

9:00 AM–9:30 AM
Carotid Duplex Primer and Technical Considerations
John Bennett, PhD, RVT, NVS, FICA
Wake Forest University School of Medicine

9:30 AM–10:00 AM
Teach Me How to Interpret a Carotid Duplex
Aaron Anderson, MD, RPNI
Emory University, Marcus Stroke & Neuroscience Center Grady

10:00 am–10:30 am  Coffee Break with Exhibitors | Orangedale Ballroom

10:30 am–12:00 pm  General Sessions | Heritage Ballroom 1

10:30 AM–11:00 AM
Carotid Duplex Artifacts
Courtney Hrdlicka, MD, RPNI
Mayo Clinic Scottsdale

11:00 AM–11:30 AM
Carotid Duplex Tips and Tricks From the Expert
Jesse Weinberger, MD
Icahn School of Medicine at Mount Sinai; Mount Sinai Medical Center

11:30 AM–12:00 PM
Clinical Applications of Optic Nerve Sheath Diameter Measurements
Mohammad Hirsallah, MD, MMSc
Departments of Neurology, Neurosurgery, and Center for Space Medicine; Section of Neurocritical care and Vascular Neurology; Baylor College of Medicine

12:00 pm–1:00 pm  Lunch | Orangedale Ballroom

1:00 pm–2:00 pm  Breakout Sessions

1:00 PM–2:00 PM
Transcranial Doppler: Interpretation Skills–Team of Expert Physicians and Sonographers | Heritage Ballroom 1
Mark Rubin, MD, RPNI, NVS
Aaron Anderson, MD
Dawn Whyte, RVT, NVS
Gyanendra Kumar, MD, MBBS, FASN
John Bennett, PhD, RVT, NVS, FICA

1:00 PM–1:30 PM
Outside of the Brain: Head and Neck Imaging Above the Skull Base | Heritage Ballroom 2
Peter Kalina, MD, MBA, Mayo Clinic Rochester

1:30 PM–2:00 PM
Outside of the Brain: Head and Neck Imaging Below the Skull Base | Heritage Ballroom 2
Peter Kalina, MD, MBA, Mayo Clinic Rochester
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<td>2:00 pm–2:45 pm</td>
<td>Coffee Break with Exhibitors</td>
<td>Orangedale Ballroom</td>
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<tr>
<td>2:45 pm–4:30 pm</td>
<td><strong>General Sessions</strong></td>
<td>Heritage Ballroom 1</td>
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<tr>
<td>2:45 PM - 3:30 PM</td>
<td>The Business of Thrombectomy: Understanding How Conversion of Medical DRG to a Surgical DRG Changes Your Program’s Profit Margin</td>
<td>Camilo Gomez, MD MU Healthcare</td>
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<td>3:30 PM – 4:00 PM</td>
<td>NVS, RPNI, RVT: Alphabet Soup of TCD Credentials and Why it Matters</td>
<td>Marge Hutchisson, BS, RVT, RDCS, RPhS Intersocietal Accreditation Commission</td>
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<td>4:00 PM - 4:30 PM</td>
<td>TCD Lab Accreditation: It's About Patient Care</td>
<td>Marge Hutchisson, BS, RVT, RDCS, RPhS Intersocietal Accreditation Commission</td>
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<tr>
<td>4:30 pm–6:00 pm</td>
<td>Welcome Reception with Exhibitors and Poster Session</td>
<td>Orangedale Ballroom</td>
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*See pages 17-18 for Abstract Index |
| 6:00 pm–8:00 pm | **TCD Hands – on Basic Workshop – Knobology and Seeing Each Manufacturers Bells and Whistles** | Heritage Ballroom 3-5   |
*Must be pre-registered for workshop |
Mark Rubin, MD, MD, RPNI, NVS Methil Pradeep, MD, FRCP, FASN Aaron Anderson, MD
Gyanendra Kumar, MD John Bennett, PhD, RVT, NVS, FICA Mohammad Hirzallah, MD

**Sunday, August 13 | 8:00 AM - 5:30 PM**

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<tr>
<td>8:00 am–10:00 am</td>
<td><strong>TCD Hands – on Advanced Workshop – Cool Tips &amp; Tricks</strong></td>
<td>Heritage Ballroom 3-5</td>
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*Must be pre-registered for workshop |
Mark Rubin, MD, MD, RPNI, NVS Methil Pradeep, MD, FRCP, FASN Aaron Anderson, MD
Gyanendra Kumar, MD John Bennett, PhD, RVT, NVS, FICA Mohammad Hirzallah, MD
| 10:00 am–10:30 am | **Neurosarcoidosis: A Neuroimaging Review** | Heritage Ballroom 2     |
Spencer Hutto, MD Emory University School of Medicine |
| 10:30 am–11:00 am | **Coffee Break with Exhibitors** | Orangedale Ballroom     |
| 11:00 am–12:00 pm | **General Session & Aya Healthcare Focus Group** | Heritage Ballroom 2     |
Acute Demyelinating Disorders in Adults: A Neuroimaging Review | Rob Bakshi, MD, PhD Brigham and Women’s Hospital, Harvard Medical School |
Aya Health Focus Group | Sunset Room (invitation only) |
| 12:00 pm–1:00 pm | **Lunch Symposium Sponsored by Horzion Therapeutics** | Heritage Ballroom 1     |
| 1:00 pm–2:00 pm | **Break with Exhibitors** | Orangedale Ballroom     |
**Monday, August 14 | 7:15 AM - 5:00 PM**

**7:15 am-8:00 am**  
**Breakfast | Orangedale Ballroom**

**8:00 am-10:00 am**  
**Breakout Sessions**

- **8:00 AM-8:30 AM**  
  TCD as a Multi-Modality Tool in Critically-ill Brain-injured Patients | Heritage Ballroom 3-5  
  Shradah Mainali, MD  
  Virginia Commonwealth University

- **8:30 AM-9:00 AM**  
  Non-Invasive Monitoring of ICP | Heritage Ballroom 3-5  
  Venkatakrishna Rajajee, MD  
  Departments of Neurosurgery & Neurology, University of Michigan, Ann Arbor

- **9:00 AM-9:30 AM**  
  Multi-modal Imaging of Acute Ischemic Stroke | Heritage Ballroom 3-5  
  Abbigayle Doerr, APRN  
  Central DuPage Hospital

- **9:30 AM-10:00 AM**  
  Neuroimaging on Mobile Stroke Units | Heritage Ballroom 3-5  
  Anne Alexandrov, PhD, CCRN, AGACNP-BC, FAAN  
  Professor of Nursing & Neurology, UTHSC at Memphis

**2:00 PM-2:30 PM**  
Using Neuroimaging to Guide Brain Tumor Management | Heritage Ballroom 2  
Jerome Graber, MD  
University of Washington; Alvord Brain Tumor Center

**2:30 PM-3:00 PM**  
Neuroimaging of Paraneoplastic Syndromes | Heritage Ballroom 2  
Jerome Graber, MD  
University of Washington; Alvord Brain Tumor Center

**3:00 PM-3:30 PM**  
Neuroimaging of Cancer-related Treatment Associated Neurotoxicity | Heritage Ballroom 2  
Joshua Klein, MD, PhD, FANA,FASN, FAAN  
Brigham and Women’s Hospital

**4:00 pm-5:30 pm**  
**Awards Presentation, ASN Business Meeting & Reception with Exhibitors | Orangedale Ballroom**
10:00 am–11:00 am  
**Wake Up Strokes: How to Organize Neuroimaging Services in the ED to Obtain Timely MRIs | Heritage Ballroom 3-5**

Ryan Hakimi, DO - Co-Moderator
Peter Kalina, MD - Co-Moderator
Todd Abruzzo, MD
Joshua Kleih, MD, PhD, FANA, FASN, FAAN

11:00 am–11:30 am  
**Break with Exhibitors | Orangedale Ballroom**

11:30 am–12:30 pm  
**Lunch Symposium Sponsored by SpinTech MRI | Heritage Ballroom 3-5**

12:30 pm–1:00 pm  
**Break with Exhibitors | Orangedale Ballroom**

1:00 pm–4:00 pm  
**Breakout Sessions**

1:00 PM–2:30 PM  
The Legacy of Vasospasm in Aneurysmal Subarachnoid Hemorrhage | **Heritage Ballroom 3-5**

Dr. Shraddha Mainali, Moderator

- Is TCD the Right Tool for Vasospasm screening?
  Gyanendra Kumar, MD

- Imaging Diagnosis of Vasospasm- CTA/CTP/DSA
  Sishir Mannava, MD

- Management of Vasospasm- What’s Old, What’s New?
  Erika Sigman, MD

- Management Strategies on the Horizon: Research and Innovation in Vasospasm
  Jacqueline Kraft, MD

2:30 PM–4:00 PM  
Cerebral Circulatory Arrest Symposium | **Heritage Ballroom 3-5**

- The Perennial Pertinence & Perspicacity of Neurosonology in Brain Death Ancillary Testing
  Gregory Kapinos, MD

- Time Dependence of TCD Findings Supporting Circulatory Arrest; Protocols, Technicalities and Special Circumstances
  Aarti Sarwal, MD

- Case Based Discussion on TCD Based Scenarios for Brain death Determination—Need for a Delphi Consensus
  Jimmy Suh, MD   Aaron Anderson, MD
  Greg Kapinos, MD   Ryan Hakimi, DO

1:00 PM–1:30 PM  
**Neuroimaging Review of Anoxic Brain Injury | Citrus Room**

Julia Marion Carlson, MD
University of North Carolina School of Medicine

1:30 PM–2:00 PM  
**Neuroimaging Review of ICH Patient: Updates from the 2022 Guidelines | Citrus Room**

Mark Babi, MD
Cleveland Clinic Florida

2:00 PM–3:00 PM  
**MRI Findings in Patients Following Status Epilepticus: When to be Concerned | Citrus Room**

Masoom Desai, MD, FACNS
UNM Health Sciences Center

3:00 PM–3:30 PM  
**Cerebral Venous Sinus Thrombosis: When Is Thrombectomy Indicated | Citrus Room**

Adnan Qureshi, MD
MU Healthcare

3:30 PM–4:00 PM  
**Extracranial Internal Carotid Artery Stenting: Appropriate Care for Patient with Bilateral Stenosis | Citrus Room**

Camilo Gomez, MD
MU Healthcare

4:00 pm–5:00 pm  
**Reception with Exhibitors | Orangedale Ballroom**
Thank you to our Sponsors & Exhibitors!

Lunch Symposium Sponsors

![Horizon](image1.png)  ![SpinTechMRI](image2.png)

Focus Group Sponsorship

![Aya Healthcare](image3.png)  ![Image Monitoring USA](image4.png)

Silver Sponsor

Exhibitors

![Compumedics DWL](image5.png)  ![IAC Intersocietal Accreditation Commission](image6.png)

![NeuroLogica](image7.png)  ![RIMED](image8.png)
Sponsored Lunch Presentations

Lunch Symposium
Sponsored by Horizon Therapeutics
Sunday, August 13, 2023 | 12:00pm-1:00pm | Heritage Ballroom 1

Treatment Decisions in NMOSD – Real-World NMOSD
Patient Cases
Presented by: Aram Zabeti, MD
Waddell Center for Multiple Sclerosis, Cincinnati, OH

Dr Aram Zabeti is an associate professor of neurology and endowed chair at the Waddell Center for Multiple Sclerosis at the University of Cincinnati. He also serves as the demyelinating disease/ neuroimmunology fellowship director.

Background
Dr Zabeti has been designated as a Multiple Sclerosis (MS) Partner in Care by the National MS Society. He has been the principal investigator or subinvestigator on multiple clinical trials and has published numerous peer-reviewed journal articles.

Training and NMOSD Publications
Dr Zabeti earned his medical degree at Azad University School of Medicine. He completed a neurology residency at West Virginia University School of Medicine and an MS fellowship at Oregon Health and Science University.


INDICATION AND IMPORTANT SAFETY INFORMATION

INDICATION
UPLIZNA (inebilizumab-cdon) is indicated for the treatment of neuromyelitis optica spectrum disorder (NMOSD) in adult patients who are anti-aquaporin-4 (AQP4) antibody positive.

IMPORTANT SAFETY INFORMATION
UPLIZNA is contraindicated in patients with:
- A history of life-threatening infusion reaction to UPLIZNA
- Active hepatitis B infection
- Active or untreated latent tuberculosis

WARNINGS AND PRECAUTIONS
Infusion Reactions: UPLIZNA can cause infusion reactions, which can include headache, nausea, somnolence, dyspnea, fever, myalgia, rash, or other symptoms. Infusion reactions were most common with the first infusion but were also observed during subsequent infusions. Administer pre-medication with a corticosteroid, an antihistamine, and an anti-pyretic.

Infections: The most common infections reported by UPLIZNA-treated patients in the randomized and open-label periods included urinary tract infection (20%), nasopharyngitis (13%), upper respiratory tract infection (8%), and influenza (7%). Delay UPLIZNA administration in patients with an active infection until the infection is resolved.

Increased immunosuppressive effects are possible if combining UPLIZNA with another immunosuppressive therapy.

The risk of Hepatitis B Virus (HBV) reactivation has been observed with other B-cell-depleting antibodies. Perform HBV screening in all patients before initiation of treatment with UPLIZNA. Do not administer to patients with active hepatitis.

Although no confirmed cases of Progressive Multifocal Leukoencephalopathy (PML) were identified in UPLIZNA clinical trials, JC virus infection resulting in PML has been observed in patients treated with other B-cell-depleting antibodies and other therapies that affect immune competence. At the first sign or symptom suggestive of PML, withhold UPLIZNA and perform an appropriate diagnostic evaluation.

Patients should be evaluated for tuberculosis risk factors and tested for latent infection prior to initiating UPLIZNA. Vaccination with live-attenuated or live vaccines is not recommended during treatment and after discontinuation, until B-cell repletion.

Reduction in Immunoglobulins: There may be a progressive and prolonged hypogammaglobulinemia or decline in the levels of total and individual immunoglobulins such as immunoglobulins G and M (IgG and IgM) with continued UPLIZNA treatment. Monitor the level of immunoglobulins at the beginning, during, and after discontinuation of treatment with UPLIZNA until B-cell repletion especially in patients with opportunistic or recurrent infections.

Fetal Risk: May cause fetal harm based on animal data. Advise females of reproductive potential of the potential risk to a fetus and to use an effective method of contraception during treatment and for 6 months after stopping UPLIZNA.

Adverse Reactions: The most common adverse reactions (at least 10% of patients treated with UPLIZNA and greater than placebo) were urinary tract infection and arthralgia.

Please see Full Prescribing Information at UPLIZNAhcp.com
Lunch Symposium  
*Sponsored by SpinTech MRI*

Monday, August 14, 2023 | 11:30am-12:30pm | Heritage Ballroom 3-5

**Bringing Quantitative Imaging to Daily Clinical Practice with STAGE**

*Presented by: James Backstrom, MD  
Practicing Neuroradiologist (Adult and Pediatric)/Chief Medical Officer, Armstrong County Memorial Hospital*

*Moderated by: Karen Holzberger, Chief Executive Officer, SpinTech MRI  
Kelly Leydon, Senior Product Leader, SpinTech MRI*

Quantitative imaging techniques, such as QSM and T1 Mapping, have long been confined to the realm of research because health systems do not have the time to run extended patient scans. Despite the breakthrough applications in improving diagnosis and treatment of neurodegenerative diseases and movement disorders such as Dementia and MS, clinical adoption of these technologies has been constrained by long scan times, complex processing, and laborious workflows. But no longer. STAGE, from SpinTech MRI, provides radiologists and neurologists practical access to quantitative data and improved image clarity with every scan, all while reducing MRI brain protocol times by 30%. Come learn from Dr. James Backstrom, Chief Medical Officer and practicing Neuroradiologist, as he discusses how STAGE helps him gain access to novel biomarkers, all while improving clinical efficiency.
## Annual Meeting Objectives

<table>
<thead>
<tr>
<th>Recognize, identify, differentiate and interpret diseases of the nervous system based on interpretations of neuroimages.</th>
<th>Value added benefits of continuous quality improvement activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using clinical data identify the correlation of the data with information derived from the various methods used to image the nervous system and related structures to treat various disorders of the nervous system.</td>
<td>Imaging differentiation of tumor progression from treatment-related toxicity.</td>
</tr>
<tr>
<td>Review ultrasound techniques and discuss the recent advances and new technologies.</td>
<td>Neurology and neuroimaging of CAR-T related toxicity.</td>
</tr>
<tr>
<td>Understand the components of interpreting a carotid duplex.</td>
<td>Understand what TBI looks like in the acute, subacute, and chronic phase.</td>
</tr>
<tr>
<td>Recognize abnormal findings on a carotid duplex.</td>
<td>Understand the utility of advanced imaging techniques beyond a CT.</td>
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<tr>
<td>Describe the most common clinicoradiographic phenotypes of neurosarcoïdosis.</td>
<td>Describe the evidence for the diagnostic accuracy of optic nerve ultrasound for the assessment of intracranial pressure in the neuroICU.</td>
</tr>
<tr>
<td>Recognize the utility of specific MRI abnormalities in suggesting neurosarcoïdosis as a cause of a patient’s neuroinflammation.</td>
<td>Describe the evidence for the diagnostic accuracy of transcranial doppler for the assessment of intracranial pressure in the neuroICU.</td>
</tr>
<tr>
<td>Discuss conditions manifesting with cerebrovascular vasospasms in children.</td>
<td>Describe the role of noninvasive ICP assessment in the critically-ill patient with concern for elevated ICP.</td>
</tr>
<tr>
<td>Discuss limitations as well as helpful ways to apply transcranial Doppler ultrasound in the diagnosis of cerebrovascular vasospasms in children.</td>
<td>Describe the component modalities that make up a carotid duplex exam.</td>
</tr>
<tr>
<td>Appraise the updated AHA/ASA guidelines for the neuro imaging diagnosis and management of ICH.</td>
<td>Describe the vessel segments and information that comprise a complete carotid duplex exam.</td>
</tr>
<tr>
<td>Understand how to diagnose and monitor MS by MRI.</td>
<td>Identify normal and abnormal findings associated with common applications of TCD.</td>
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<tr>
<td>Understand the role of spinal cord MRI in the differential diagnosis of demyelinating diseases.</td>
<td>Identify the vulnerable plaque.</td>
</tr>
<tr>
<td>Recognize key imaging features for brain tumor diagnosis.</td>
<td>Improve management of patients with asymptomatic carotid artery stenosis.</td>
</tr>
<tr>
<td>Describe risk factors for pseudoprogression and imaging modalities to address.</td>
<td>Discuss differential presentations of Bowhunter Syndrome according to age and imaging diagnosis.</td>
</tr>
<tr>
<td>Identify pseudoresponse to vascular agents and describe more reliable imaging features.</td>
<td>Discuss anatomical subtypes of Bowhunter syndrome and imaging diagnosis.</td>
</tr>
<tr>
<td>List various neuroimaging sequelae of prior radiation and oncology treatments.</td>
<td>Discuss the diagnosis and management of Bowhunter syndrome.</td>
</tr>
<tr>
<td>Understand how to perform and interpret ONSD measurements.</td>
<td>Familiar with the results of the recent clinical trials relevant to management of patients with cerebral venous thrombosis.</td>
</tr>
<tr>
<td>Recognize how to avoid Evaluate causes of ONSD measurement variation.</td>
<td>Identify patients with cerebral venous thrombosis who can benefit from thrombectomy.</td>
</tr>
<tr>
<td>Appreciate the benefits to the facility to employ modality specific credentialed technologists.</td>
<td>Review/discuss the commonly used imaging modalities for ischemic stroke.</td>
</tr>
<tr>
<td>Understand the value of standardization in testing and interpretation of cases.</td>
<td>Review/discuss the pros/cons of the commonly used imaging modalities for ischemic stroke.</td>
</tr>
</tbody>
</table>
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ASN 2023 Annual Meeting Faculty

A

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University of Missouri Columbia
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University of Washington; Alvord Brain Tumor Center
Seattle, Washington

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Icahn School of Medicine at Mount Sinai; Mount Sinai Medical Center
New York, New York

Dawn Whyte, NVS
Sunnybrook Health Science Centre
Waterdown, Ontario, Canada
Abstract Index

Poster Session
Saturday, August 12, 2023
4:30pm-6:00pm
*Posters will be on display for the duration of the Annual Meeting

P1: Viz LVO versus Rapid LVO: Detection of Large Vessel Occlusion on CTA for Acute Stroke
*2023 Resident Travel Award Recipient
Ali Kerro1, Adam Delora1,2, Christopher Hadjialiakbari12, Eryn Percenti12, Jordan Torres12, Yazen Alderazi, Rime Ezzeldin1, Ameer Hassan1, Mohamad Ezzeldin1
1HCA Houston Healthcare, Houston, USA. 2University of Houston, Houston, USA. 3Valley Baptist Medical Center, Harlingen, USA

P2: Diffusion Tensor Imaging (DTI) of the Corpus Callosum: Role in Dementia
Meghana Rajashekar Swamy1, Sujith Rajashekar Swamy2
1Brown University, Pawtucket, USA. 2Bangalore Medical College, Bangalore, India

P3: The Prevalence of Right-to-Left Cardiac Shunts in Mechanical Embolectomy Cases
Amanda Holcomb1, Thomas Alexander1, Kaitlyn Alexander1, Elisabeth Golden1, Paul Kowalski1, Kyna Schreiber1, Allison Hennigan1
1Southwestern Cerebral Circulatory Dynamics, Tyler, USA. 2Southwestern Cerebral Circulatory, Tyler, USA. 3SW Cerebral Circ, Dyn thai, Tyler, USA. 4UT-Health East Texas, Tyler, USA

P4: A Cause of False Positive Transcranial Doppler Studies
Amanda Holcomb1, Thomas Alexander1, Kaitlyn Alexander1, Elisabeth Golden1, Paul Kowalski1, Kyna Schreiber1, George Plotkin1
1Southwestern Cerebral Circulatory Dynamics, Tyler, USA. 2Southwestern Cerebral Circulatory Dynamics, Tyler, USA. 3SW Cerebral Circ Dyn, Tyler, USA. 4SW Cerebral Circ Dyn, Tyler, USA. 5UT-Health East Texas, Tyler, USA

P5: Lumbar Foraminal Stenosis: a Clinical Neurosurgery/Neuroimaging Perspective
John Gilbert, Brydon Christensen, Sherri Matheny, Norita Word, Skyelar Williams
Spine and Brain Neurosurgical Center, Lexington, USA

P6: Congenital Continuous Retrograde Basilar Flow Suggests a Type B Interrupted Aortic Arch in a Neonate
Paul Maertens1, Shrestha Diksha, Kalsang Dolma
University of South Alabama, Mobile, USA

P7: Time Interval of the Screening for the Stroke Risk in Children with Sickle Cell Disease
Paul Maertens1, Asri Yuliati, Jennifer Williams
University of South Alabama, Mobile, USA

P8: Embolic Hippocampal Infarct from Ipsilateral Tandem Carotid Stenosis: a Lesson on the Vascular Supply
Monica Nitu1, Curtis Lunt2, Jacob Sobczak3, Oana Dumitrascu4
1Xavier College Preparatory, Phoenix, USA. 2Arizona College of Osteopathic Medicine – Midwestern University, Glendale, USA. 3Barrett, The Honors College at Arizona State University, Tempe, USA. 4Department of Neurology, Division of Stroke and Cerebrovascular Disorders, Mayo Clinic Arizona, Scottsdale, USA

P9: Risk of New Ischemia in Patients with Symptomatic Internal Carotid Artery Stenosis While Awaiting Revascularization
*2023 Qureshi Award Recipient
Navpreet Bains1, Ravi Nunnal, Rami Fakh1, Attiya Jaura, Brandi French, Farhan Siddiq3, Camilo Gomez2, Adnan Qureshi2
1University of Missouri, Columbia, USA. 23. Zeeen Qureshi Stroke Institute, St. Cloud, USA

P10: Vertebral Metastasis Secondary to Pulmonary Sarcoidosis
Bhupinder Singh1, Karanbir Singh2
1Government Medical College, Amritsar, India. 2Apex Hospital, Jalandhar, India

P11: Differentiating Cerebral Amyloid Angiopathy-Related Inflammation (CAA-RI) from Cerebral Amyloid Angiopathy (CAA) on Neuroimaging
Sean Lee, Benjamin Renshaw, Samuel Rogers, Anna Kafka
University of Arizona, Tucson, USA

P12: Brain Functional Network hierarchy and Neurochemical Correlates in Deficit and Non-Deficit Schizophrenia
*2023 Oldendorf Award Recipient
Chengmin Yang
West China Hospital of Sichuan University, Chengdu, China

P13: Adding a Chapter to Literature: A Rare Encounter of Moyamoya Disease and Persistent Trigeminal Artery
Ramit Singla, Yaimara Hernandez Silva, Linda Sherine Alfred, Ali Abualhayjaa, Marilhia Cornejo Leon, Savdeep Singh, Balaji Krishnaiah
UTHSC, Memphis, USA
P14: Pseudotumor Cerebri With a Panoply of Clinicoradiological Findings Including Cerebellar Tonsillar Herniation Mimicking Chiari Malformation

Atif Ghaffar1, Shawn Marcell1, Cyprian Afunugo1, Hiba Elaasar1, Kristen Butner1, Merritt Brown1,2, Edward Mader1

1LSU Health Sciences Center, Department of Neurology, New Orleans, USA. 2LSU Health Sciences Center, Department of Neurosurgery, New Orleans, USA.

P15: Transcranial Doppler Ultrasound to Evaluate the Risk of Hyperperfusion After Endovascular Thrombectomy for Stroke

*2023 McKinney Award Recipient

Abhilekh Srivastava1, Luciana Catanese1,2, Demetrios J. Sahlas1, Kanjana Perera1,2, Kelvin K. H. Ng1,2, Raed Joudi1,2, Brian Van Adell1, Ramiro Larrazabal1, Kanchana Ratnayake1, Georgios Tsivgoulis1,2,5, Oscar Benavente5, Robert Hart1, Mukul Sharma1,2, Ashkan Shoamanesh1,2, Aristeidis Katsanos1,2

1McMaster University, Hamilton, Canada. 2Population Health and Research Institute, Hamilton, Canada. 3Hamilton Health Sciences, Hamilton, Canada. 4National & Kapodistrian University of Athens, Athens, Greece. 5University of Tennessee Health Science Center, Memphis, USA. 6University of British Columbia, Vancouver, Canada.

P16: Delayed Lower Extremity Monoplegia After ACDF; A Rare Instance of Cervical Spinal Ischemic Reperfusion Injury

Rose Zach1, Mohamed Abdulhamid2, Navid Valizadeh1, Victor Zach1

1Arizona State University, Tempe, USA. 2Royal Spine Surgery, Scottsdale, USA. 3Neurocritical Care and Stroke of Arizona, Phoenix, USA. 4Midwestern University, Glendale, USA.

P17: Osmotic Demyelination Syndrome in Normonatremia

Rose Zach1, Jeffrey Barletta2, Victor Zach1

1Arizona State University, Tempe, USA. 2College of Pharmacy Practice, Midwestern University, Glendale, USA. 3Midwestern University, Glendale, USA.

P18: Role of Neurosonology and Extracorporeal CO2 Removal Therapy in Acute Brain Injury-Related ARDS: Case Report

Jorge Hernández, Juan Toro, Jorge Carrizosa

Fundación Santa Fe de Bogotá, Bogotá, Colombia

P19: Advanced Imaging of Proton Radiation Pseudoprogression in Gliomas

Kiki Zavala-Galvin, Reed Ritterbusch, Jerome Graber

University of Washington, Seattle, USA

P20: Diagnostic Utility of Transcranial Doppler in Carotid Cavernous Fistula

Anusha Battineni1, Sanjeev Sivakumar2,3, Ryan Hakimi1

1Prisma Health Upstate Greer Neurology Program, Greer, USA. 2Prisma Health Neurology, Greenville, USA. 3University of South Carolina Greenville School of Medicine, Greenville, USA.

P21: Zinc Intake and Associated Subacute Combined Degeneration

Kenneth Bhatti1, Alejandro Antezana2, Ariel Antezana2

1Edward Via College of Osteopathic Medicine, Monroe, USA. 2Neuromedical Clinic of CENLA, Alexandria, USA.

P22: Transcranial Doppler in Autonomic Disorders: Review of Published Methodologies to Develop an Optimal Implementation Protocol

Curtis Lunt1,2, Monica Nitu2, Jacob Sobczak2

1Midwestern University - AZCOM, Glendale, USA. 2Mayo Clinic, Scottsdale, USA.

P23: To Ultrasound and Not to Ozone: Neurosonography’s Utility in a Patient with Ozone Therapy-Related Stroke

Daniel Marín1, Jorge Carrizosa2, Jimmy Anzueta3

1Universidad Nacional de Colombia, Bogotá, Colombia. 2Fundación Santa Fe de Bogotá, Bogotá, Colombia. 3Universidad del Bosque, Bogotá, Colombia.

P24: Auditory Agnosia Following Ischemic Strokes in Bilateral Temporal Neocortex

Chaitanya Ganne, Yosefa Modiano, James Grotta, Sishir Mannava

The University of Texas Health Science Center at Houston, Houston, USA

P25: Low NIHSS and Tandem Occlusion: A Double Treatment Dilemma

Jacob Sambursky1, Dileep Yavagal2,3, Tyler Simons1

1University of Texas-Houston McGovern Medical School, Houston, USA. 2University of Miami Miller School of Medicine, Miami, USA. 3Jackson Memorial Hospital, Miami, USA.
Awards Winners

Oldendorf Award
The Oldendorf Award is for the best abstract submitted by a student, resident or fellow that is based in basic or clinical research in CT, MRI, SPECT or PET.

Brain functional network hierarchy and neurochemical correlates in deficit and non-deficit schizophrenia
Chengmin Yang
West China Hospital of Sichuan University, Chengdu, China

McKinney Award
The McKinney Award is for the best abstract submitted by a student, resident or fellow that is based in basic or clinical research in Neurosonology.

Transcranial doppler ultrasound to evaluate the risk of hyperperfusion after endovascular thrombectomy for stroke
Abhilekh Srivastava, Luciana Catanese, Demetrios J. Sahlas, Kanjana Perera, Kelvin K. H. Ng, Raed Joundi, Brian Van Adel, Ramiro Larrazabal, Kanchana Ratnayake, Georgios Tsivgoulis, Oscar Benavente, Robert Hart, Mukul Sharma, Ashkan Shoamanesh, Aristeidis Katsanos

1McMaster University, Hamilton, Canada. 2Population Health and Research Institute, Hamilton, Canada. 3Hamilton Health Sciences, Hamilton, Canada. 4National & Kapodistrian University of Athens, Athens, Greece. 5University of Tennessee Health Science Center, Memphis, USA. 6University of British Columbia, Vancouver, Canada

Qureshi Award
The Qureshi Award is for excellence in diagnostic angiography.

Risk of New Ischemia in Patients with Symptomatic Internal Carotid Artery Stenosis While Awaiting Revascularization
Navpreet Bains, Ravi Nunna, Rami Fakih, Attiya Jaura, Brandi French, Farhan Siddiq, Camilo Gomez, Adnan Qureshi

1University of Missouri, Columbia, USA. 2Zeenat Qureshi Stroke, Institute, St. Cloud, USA

Resident Award
The Resident Award is for excellence of abstract presented by a resident in a neurology program.

Viz LVO versus Rapid LVO: Detection of Large Vessel Occlusion on CTA for Acute Stroke
Ali Kerro, Adam Delora, Christopher Hadjialiakbari, Eryn Percenti, Jordan Torres, Yazan Alderazi, Rime Ezzeldin, Ameer Hassan, Mohamad Ezzeldin

1HCA Houston Healthcare, Houston, USA. 2University of Houston, Houston, USA. 3Valley Baptist Medical Center, Harlingen, USA
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**Professional Development.** We have opportunities for you to get involved on committees, which allow you to sharpen your volunteer skills.

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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**

Angelo Alves, MD, PhD, FASN  
Patrick Capone, MD, PhD, FASN  
John Choi, MD, FASN  
Gregory Kapinos, MD, MS, FASN  
William Kinkel, MD, FASN  
Joshua Klein, MD, PhD, FANA, FASN, FAAN  
Tomasz Kosierkiewicz, MD, FASN  
Laszlo Mechtler, MD, FAAN, FASN, FEAN, FAHS  
Methil Pradeep, MD, FASN  
Gabriella Szatmáry, MD, PhD, FASN  
Mohammed Zafar, MD, FASN

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