

QUICK PLANNER

AMERICAN ASSOCIATION OF NEUROLOGICAL SURGEONS
THE CULTURE OF NEUROSURGERY



AANS**2022** PHILADELPHIA

— APRIL 29-MAY 2 —

#AANS2022

Access the Meeting App
aans.org/app

Complimentary internet access is available throughout
the Pennsylvania Convention Center and The Headquarter Hotel,
The Philadelphia Marriott Downtown

Network: AANS **Password:** aansmtgs

M6-C™

Artificial Cervical Disc

Designed to mimic the structure and movement of a natural disc

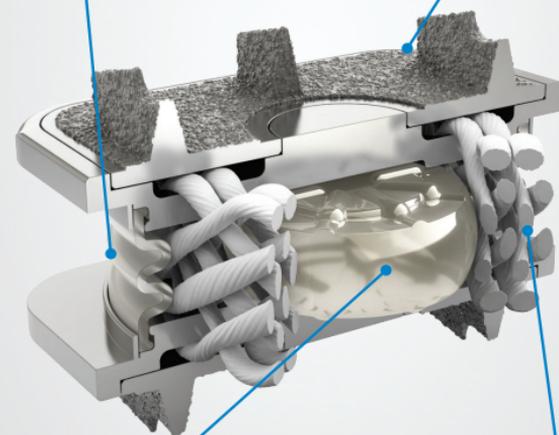
Sheath

Minimizes tissue in-growth and debris migration.



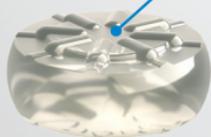
Titanium Endplates

Provides acute fixation and long-term stability.



Artificial Nucleus

Allows physiological axial compression.



Artificial Annulus

Permits controlled motion in all planes and axes of rotation.



Booth #1544

M6disc.com | Orthofix.com

OFS-2209 © Orthofix US LLC 02/2022

2 www.aans.org/Meetings

On the **MOVE.**

 **ORTHOFIX®**

TABLE OF CONTENTS

Thursday.....	5
Friday.....	15
Saturday.....	35
Sunday.....	63
Monday.....	85
Acknowledgements.....	146
Floor Plans for the.....	150
Pennsylvania Convention Center	
Floor Plans for the.....	152
Philadelphia Marriott Downtown	
Exhibit Hall Information.....	154

All room numbers refer to the Pennsylvania Convention Center unless otherwise noted.

The following are available for the duration of the meeting:

First Aid Station: Rear of Exhibit Hall A

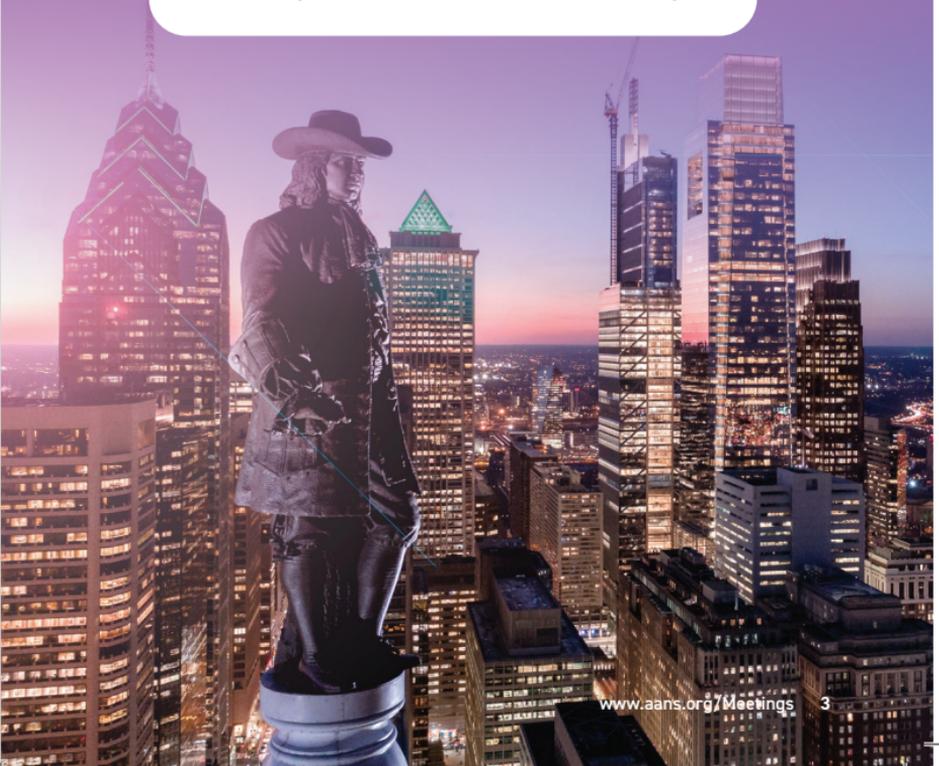
Mother's Pod: Exhibit Hall AB Foyer

Quiet/Prayer Room: Room 308

Luggage and Coat Check available near 107

Sunday, May 1 & Monday, May 2.

\$3 fee per each item checked, cash only



AANS2022 PHILADELPHIA

APRIL 29-MAY 2

WIFI

Complimentary internet throughout
the convention center



Network Name: AANS
Password: aansmtgs

AANS Meeting App

View scientific sessions, look up speakers,
build your schedule and more.
The AANS Meeting App is the easiest way to
organize your meeting experience.

Access the Meeting App at
aans.org/app

STAY CONNECTED WITH AANS



[facebook.com/
AANSneuro](https://facebook.com/AANSneuro)



[youtube.com/
AANSneurosurgery](https://youtube.com/AANSneurosurgery)



[@AANSneuro](https://twitter.com/AANSneuro)
AANS news and updates



[@AANSneurosurg](https://twitter.com/AANSneurosurg) Latest articles and news
from the neurosurgery community presented by
AANS Neurosurgeon



[@thejns](https://twitter.com/thejns) Official Twitter feed of the *Journal of
Neurosurgery (JNS)*



[@neurosurgery](https://twitter.com/neurosurgery) Legislative, advocacy and
policy-related news from the Washington Office

#AANS2022

THURSDAY, APRIL 28

Speakers listed are those who accepted the invitation to speak by March 24, 2022.

Please Note: All abstracts are published as submitted by authors.

7:45 am–6 pm

Speaker Ready Room

Location: 202 B

7 am–6 pm

AANS Registration

Location: Registration Bridge East

10 am–7:30 pm

AANS Badge Pick Up

Location: Room 309 Foyer, Philadelphia Marriott Downtown

**Badges
required for entry to
all sessions.**

There is a \$200 badge
reprint fee for all lost or
forgotten badges.



THURSDAY, APRIL 28

It is with great pleasure that the leaders of the AANS welcome the Continental African Association of Neurological Societies (CAANS) and the European Association of Neurological Societies (EANS).

8 am–5 pm

International Symposium

Location: 203 AB



9–9:17 am

International Symposium—Opening Session

Moderator: K. Arunautovic

9–9:01 am

Welcome: Chair, AANS International Program Committee, Coordinator of Committees, WFNS

K. Arunautovic



9:02–9:05 am

Welcome: WFNS President

N. Oyesiku



9:06–9:09 am

Welcome: EANS Secretary

A. Demetriades

9:10–9:13 am

Welcome: CAANS President

N. El-Ghandour

9:14–9:17 am

Welcome: WFNS President, Cape Town, South Africa (2023)

A. Fieggen

9:18 am–12 pm

International Symposium—Session I: Pediatric

Location: 203 AB

Moderators: P. Adelson, F. Boop, G. Grant

9:18–9:33 am

New Perspectives on Cerebellar Mutism

K. Aquilina

9:34–9:49 am

**Endoscopic Third Ventriculostomy Versus
Ventriculo-Peritoneal Shunt in the Treatment
of Obstructive Hydrocephalus Due to Posterior
Fossa Tumors in Children**

N. El-Ghandour

9:50–10:05 am

Current Concepts in Spina Bifida

A. Fieggen

10:06–10:20 am

Beverage Break

10:21–10:36 am

**Staged Multi Technique Approach for Complex
Hypothalamic Hamartomas**

J. Hinojosa

10:37–10:52 am

**Neurosurgical Training in Ghana, Past,
Present and Future**

T. Totimeh

10:53–11:08 am

**Evidence in Entrapment Nerve Syndromes in the
Pediatric Population—Indication for Surgery or Not?**

L. Rasulic

11:09–11:24 am

**Adjuncts in Pediatric Brain Tumor Surgery:
The Role of Intraoperative Ultrasound**

L. Padaychy

THURSDAY, APRIL 28

11:25–11:40 am

Upper Cervical Spinal Trauma in Pediatric Population

B. Meyer

11:41–12 am

Pediatric Panel/Case Discussions

12:01–1:01 pm

Lunch

Concessions are available for purchase at ecoGrounds located level 2 near registration

1:02–3:25 pm

International Symposium— Session II: Stereotactic and Functional

Location: 203 AB

Moderators: S. Sani, K. Slavin

1:02–1:17 pm

Hemispherotomy Complications

K. Fountas

1:18–1:33 pm

Placement of Gasserian Balloon Compression in Percutaneous Treatment of Essential Trigeminal Neuralgia Series of 1080 Cases

G. Lakhdar

1:34–1:49 pm

Combined Treatment in Spine Lesions: Surgery and Radiosurgery

K. Sallabanda Daiz

1:50–2:05 pm

Volume Target Delineation of Malignant Brain Tumors in Gamma Knife Radiosurgery: Time to Change the Paradigm?

F. Derkaoui Hassani

2:06–2:21 pm

Surgical Management of Spasticity in a LMIC

N. Enslin

2:22–2:37 pm

Repeated MR Guided Laser Induced Thermal Therapy (LITT) for Refractory Epilepsy in Tuberous Sclerosis Children (TSC): A Minimal Invasive Successful New Concept?

K. Rossler

2:38–2:53 pm

Functional Neurosurgery and Pediatric Neurological Disability in Egypt: 100 Years of NEUROSURGERY

W. Abdel Ghany

2:54–3:09 pm

Connectomics-based Personalized Targets in Functional Neurosurgery

J. Barcia

3:10–3:25 pm

Stereotactic and Functional Panel/Case Discussions

3:26–3:41 pm

Beverage Break

3:42–6 pm

International Symposium—Session III: Neurotrauma

Location: 203 AB

Moderators: A. Reisner, F. Servadei, S. Timmons

3:42–3:57 pm

The Need of International Collaboration for Developing Neurosurgical Care and Training in Ethiopia

A. Tirsit

3:58–4:13 pm

Surgery for Post Traumatic Epilepsy

G. Broggi

4:14–4:29 pm

The Role of Tranexamic Acid in the Management of TBI

A. Belli

THURSDAY, APRIL 28

4:30–4:45 pm

White Matter Abnormalities in Athletes with Persistent Post-concussion Symptoms

N. Marklund

4:46–5:01 pm

**Recent Developments in Neurotrauma Research—
An European Perspective**

A. Unterberg

5:02–5:17 pm

Middle Meningeal Artery Embolization for Management of Chronic Subdural Hematoma

C. Iaccarino

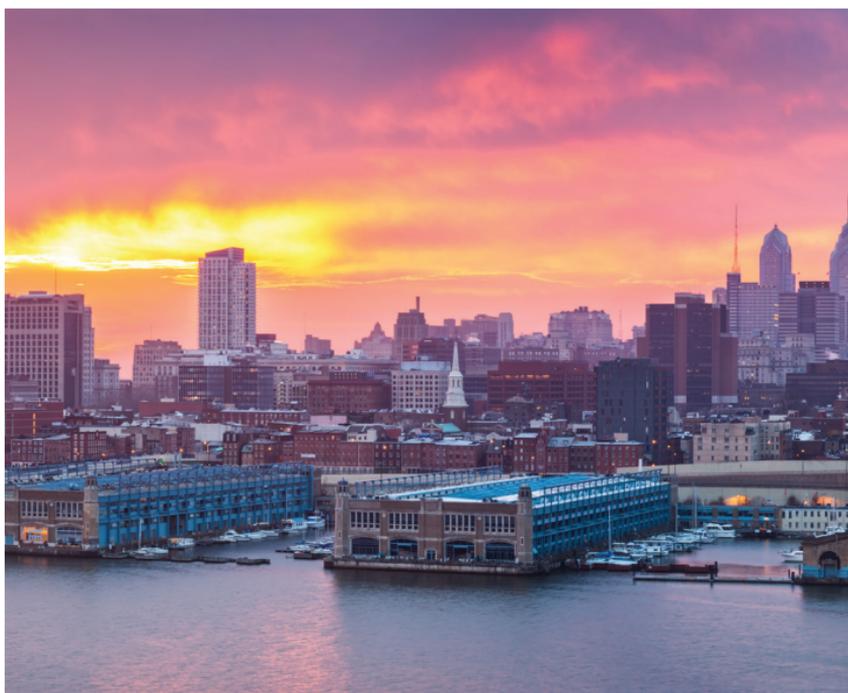
5:18–5:33 pm

Center-TBI's Surgical Considerations t-ASDH & t-ICH

W. Peul

5:34–6 pm

Neurotrauma Panel / Case Discussions



1–5 pm

Practical Clinics

101 Neurotrauma and Neurocritical Care for the Practicing Neurosurgeon

Location: 110 AB

P. Ball, P. Hutchinson, S. Hoffer, R. Kitagawa, D. Okonkwo, P. Raksin, A. Rubiano, P. Villanueva

102 My Worst Mistakes in My First Year of Practice

Location: 108 AB

N. Bentley, L. Chambless, B. Elder, C. Halpern, E. Nduom, W. Stetler, K. Than, K. Tomei, A. Wang, C. Washington;

103 Minimally Invasive Lesioning: LITT, HIFU and RF

Location: 111 AB

E. Air, E. Chang, K. Smith, J. Willie



AANS2022 PHILADELPHIA

APRIL 29-MAY 2

Visit the AANS Neuro Hub Booth 1127

AANS Supports Your Neurosurgical Career

Visit the AANS Neuro Hub for all of
your AANS Membership needs.

- AANS Member Services will answer questions regarding membership, including dues inquiries.
- Meet key personnel from AANS-affiliated organizations: *Journal of Neurosurgery* (JNS) and the Neurosurgery Research & Education Foundation (NREF). These organizations play an important role in advancing the cause of organized neurosurgery.
- Shop for AANS-branded apparel, gifts and publications.
- Pick up a complimentary 2022 AANS Annual Scientific Meeting travel blanket. Limited quantities.
- Make time to stop at the CME self-reporting station to document all of your earned CME.
- Stop by NeuroPoint Alliance (NPA) to see the latest registry partners
- See what opportunities are available at the AANS Volunteer Corp kiosk

www.aans.org/Meetings

FRIDAY, APRIL 29

7:45 am–4 pm

Speaker Ready Room

Location: 202 B

7 am–7:30 pm

Registration

Location: Registration Bridge East

7 am–7 pm

AANS Badge Pick Up

Location: Room 309 Foyer, Philadelphia Marriott Downtown

9 am–4 pm

COVID-19 Testing

Location: 107 AB



7:30am–4:30 pm

International Symposium

Moderator: K. Arnautovic

7:30–10:18 am

International Symposium—Session IV: Tumor

Location: 201 C

Moderators: K. Arnautovic, E. Chiocca, O. Al-Mefty

7:30–7:34 am

Welcome

K. Arnautovic

7:35–7:50am

Brainstem Tumors: Challenges of the Surgical Treatment

M. Arraez

7:51–8:06 am

Pitfalls and Complications Avoidance in Endoscopic Surgery of Pituitary Adenomas

N. El-Abadi

8:07–8:22 am

Fourth Ventricular Tumors of Adult and Pediatric Age

F. Signorelli

FRIDAY, APRIL 29

8:23–8:38 am

**Quo Vadis Neurosurgical Oncology—
Molecular Oncology and Neurosurgery**

J. Tonn

8:39–8:54 am

Na-Fluorescein Guided Surgery in Gliomas

I. Solaroglu

8:55–9:10 am

Parangliomas of Skull Base—A Surgical Entity

L. Borba

9:11–9:26 am

**The Use of Skull Base Approaches to Minimize
Approach-related Complications in Complex
Neoplastic and Vascular Intraxial Lesions**

M. Iacoangelli

9:27–9:42 am

**Surgical Management of Lower Clivus and
Foramen Magnum Tumors**

S. Caglar

9:43–10:02 am

Tumor Panel/Case Discussions

10:03–10:18 am

Beverage Break

10:19 am–12:46 pm

International Symposium—Session V: Spine

Location: 201 C

Moderators: Z. Gokaslan, T. Urakov, J. Wilson

10:19–10:34 am

**Where to Stop in Long Deformity Fusions
(L5-S1 or Pelvis)**

A. Saoud

10:35–10:50 am

**When and How Far to Cross
Thoracolumbar Junction?**

J. Lafuente

10:51–11:06 am

Evolution of Treatment of Spine Metastasis

S. Sharif

11:07–11:22 am

**Degenerative Cervical Myelopathy: A Wide
Spectrum of Diseases**

E. Tessitore

11:23–11:38 am

**Discontinued and Unpublished RTCs in
Spinal Conditions: Costs and Ethics of Research
Resources Wastage**

A. Demetriades

11:39–11:54 am

**Spinal Dural AV Fistulas: Endovascular or
Surgical Treatment?**

M. Vukic

11:55 am–12:10 pm

**Management of Lumbar Spinal Stenosis:
WFNS Spine Committee Recommendations**

M. Zileli

FRIDAY, APRIL 29

12:11 pm–12:26 pm

Decision-making in Spinal Infection— The MSI-20 Score

C. Thome

12:27–12:46 pm

Spine Panel/Case Discussions

12:47–1:47 pm

Lunch

Concessions are available for purchase at ecoGrounds located level 2 near registration

1:48–4:30 pm

International Symposium—Session IV: Cerebrovascular

Location: 201 C

Moderators: A. Arthur, N. Khan, J. Morcos

1:48–2:03 pm

The Effectiveness of Surgery in S.M Grade 3 and 4 Brain AVMs

S. Florian

2:04–2:19 pm

Vascular Neurosurgery in Senegal: An Overview

M. Thioub

2:20–2:35 pm

Contemporary Management Options for Intracranial Aneurysms of Distal Arterial Branche

K. Rotim

2:36–2:51 pm

Role of Developing and Implementing Microsurgical Techniques of Clipping in the Mangement of Cerebral Aneurysms in Africa

A. El Ouahabi

2:52–3:07 pm

Advances in the Endovascular Management of Brain AVMs

R. Harrichandparsad

3:08–3:23 pm

**Timing of Carotid Endarterectomy After
I.V.Thrombolysis and Mechanical Thrombectomy**

M. Sames

3:24–3:39 pm

Beverage Break

3:40–3:55 pm

**Cottonoid-guided Intraoperative Ultrasonography in
Vascular Neurosurgery**

U. Ture

3:56–4:11 pm

**Hybrid Microsurgical and Endovascular Approach in
the Treatment of Multiple Cerebral Aneurysms**

T. Sajko

4:12–4:30 pm

Cerebrovascular Panel / Case Discussions

8 am–4:30 pm

Advanced Practitioners Plenary Session

Location: 204 C

Moderators: A. Edwards, R. Saiki

8–8:06 am

Welcome

A. Edwards, R. Saiki

8:07–8:35 am

**Burden of Proof: Emerging Trends of Stroke
Diagnostic Platforms Using AI and Treatment options**

TBD

8:36–9:04 am

**Anatomy: Correlative Neuroanatomy, Can You Name
the Pathology and Expected Presentation?**

S. Ojemann

FRIDAY, APRIL 29

9:05–9:33 am

Clinical: DBS: Emerging Trends and Applications

J. Gerrard

9:34–10:02 am

Quality is the Best Policy

A. Brill

10:03–10:35 am

Beverage Break

10:36–11:04 am

Clinical: Spinal Jeopardy: APP Edition with Prizes!

K. Crandall

11:05–11:33 am

Clinical: Decreasing EMR Burnout in Clinical Practice

A. Vigil

11:34 am–12:02 pm

**Clinical: Wheel of Misfortune:
You're on Call for the ER Tonight!**

A. Sethi

12:03–1:03 pm

Lunch

Concessions are available for purchase at ecoGrounds located level 2 near registration

1:04–1:32 pm

Surgical: Burning Questions: Brain Tumors (When Surgery vs RT vs GK is Appropriate)

S. Johnson

1:33– 2:01 pm

Quality: Prevention & Treatment of Surgical Site Infection/SSI: To Be or Not To Be: Best Practice

M. Johnson

2:02–2:30pm

Radiology: Trauma Bay #1 S/c MVC: Radiology Edition

J. Heymann, MD

2:31–2:59 pm

Surgical: Burning Questions: Spine Edition—When is More Than One Approach Necessary?

K. Crandall

3–3:32 pm

Beverage Break

3:33–4:01 pm

Pharm: Applications and Potential Pitfalls of Cannabis in Neurosurgery

N. Gofman

4:02–4:30 pm

**Pharm: Agitation in the Hospital—
to Treat or Not to Treat**

N. Gofman

8 am–4:30 pm

Practical Clinics

8 am–4:30 pm

**201 Introduction to Cerebrovascular
Neurosurgery for Residents**

Location: 113 BC

M. Binning, J. Davies, J. Fraser, D. Hoit, B. Jankowitz, J. Johnson,
P. Kan, C. Kellner, J. Mascitelli, C. Ogilvy, J. Osbun, A. Pandey,
R. Rahme, R. Replogle, D. Sigounas, R. Starke, R. Turner, S. Wolfe

8 am–4:30 pm

**202 Case-based Management of Traumatic
Brain Injury**

Location: 103 AB

R. Bell, A. DiGiorgio, Z. Hickman, J. Jagid, J. Jallo, R. Kitagawa,
D. Okonkwo, R. Rodgers, E. Sieg

FRIDAY, APRIL 29

8–11:30 am

204 How to Apply to Residency

Location: 201 A

O. Adogwa, N. Agarwal, F. Attenello, N. Barbaro, T. Chen, J. DiCesare, D. Dornbos, C. Graffeo, B. Howard, B. Kennedy, R. Komotar, J. Linzey, K. Madhavan, D. Mukherje, C. Quinsey, A. Richardson, L. Stone-McGuire, I. Yang, J. Yeung

8–11:30 am

205 Technological Adjuncts for Malignant Brain Tumor Surgery

Location: 110 AB

M. Aghi, K. Chaichana, F. DiMeco, C. Hadjupanayis, D. Orringer, A. Sloan, W. Stummer, M. Vogelbaum

8–11:30 am

206 Brain Mapping and Awake Mapping Techniques

Location: 111 AB

L. Bello, M. Berger, R. Byrne, H. Duffau, J. Gonzales-Martinez, G. Grant, G. McKhann, N. Sanai,

1–4:30 pm

207 You Are Never Too Old for Surgery: Spine Management in an Aging Population

Location: 201 A

N. Brooks, D. Dirisio, K. Jones, A. Krishnaney, V. Matheus, E. Momin, L. Prado, J. Shin, M. Steinmetz, A. Strayer, E. Tsai,

1–4:30 pm

208 CPT Coding Update with ICD-10 for Neurosurgeons

Location: 203 B

A. Desai, R. Johnson, J. Ratliff, S. Meyer, M. Oppenlander, K. Pollock, C. Schirmer, S. Simon, L. Tumialan, C. Upadhyaya, A. Veeravagu,

1–4:30 pm

209 Practical Clinic—Building a High Volume Patient-Centric Practice with Optimal Outcomes

Location: 114

R. Byrne, A. Dailey, D. Eichberg, J. Howington, R. Komotar, S. Prasad, L. Schlatter, R. Spetzler, A. Wilson

1–4:30 pm

**Problems and Solutions Using Cutting
Edge Technology**

Location: 108 AB

1–2:30 pm

Cerebrovascular Cases

A. Arthur, M. Bain, D. Hoit, S. Wolfe

2:30–4 pm

Spine Cases

J. Chen, J. Larson, J. Yoon, M. Wang

12–5 pm

NREF Cushing Circle of Giving VIP Lounge

Location: 203 A

Open to members of the NREF Cushing Circle of Giving, the Young Neurosurgeons Circle of Giving and invited guests, access to this lounge is by invitation only.

12–3:30 pm

Young Neurosurgeons Research Forum

Location: 204 A

Moderator(s): R. D'Amico, D. Mukherjee, J. Turner

12–12:02 pm

Welcome

J. Turner

12:03–12:05 pm

Introduction to the Osler Lecture

W. Sivakumar



12:06–12:33 pm

Osler Lecture

S. Giannotta

FRIDAY, APRIL 29

12:34–12:43 pm

**Medical Summer Research Foundation Award:
Abstract Presentation**

M. Bauman

12:44–12:51 pm

**Intra-Arterial Encephalography from
Acutely Implanted Aneurysm Embolization
(WEB) Device in Awake Humans**

A. Piscopo



12:52–12:59 pm

**Neuroprotective Effect of Steroid Receptor
Coactivator Stimulator (MCB-613) in a Murine
Ischemic Stroke Model**

T. Lazaro

1–1:07 pm

**Analysis of Spinal Canal Diameter in the Placement of
Thoracic Spinal Cord Stimulator (SCS) Paddle Leads**

T. Riedman

1:08–1:15 pm

**Case Series: Postoperative Radiculopathy after
Spinal Cord Stimulator Placement**

S. Parker

1:16–1:23 pm

**Whole Exome Sequencing and Integrative
Multi-omics Approach Identify Biological
Mechanisms and Critical Spatiotemporal Points
Related to Neurodevelopmental Symptoms of
Craniosynostosis**

E. Kiziltug

1:24–1:31 pm

**Is Cranial Ultrasound Prognostic Beyond the Papile
Grade? A Volumetric Analysis of Germinal Matrix
Hemorrhage-Intraventricular Hemorrhage**

P. Yang

1:32–1:48 pm

Beverage Break

1:49–1:56 pm

Resection of the Fusiform Gyrus Predicts Decline in Object Naming

K. Snyder

1:57–2:04 pm

Epidural Stimulation Restores Muscle Synergies by Modulating Neural Drives in Complete Spinal Cord Injured Patients

I. Pena Pino

2:05–2:12 pm

Quantifying the Need for Emergency Neurosurgical Intervention Around the World

A. Smith

2:13–2:20 pm

The Impact of a Problem-based Note Template on Neurosurgical Quality Metrics

R. Ali

2:21–2:28 pm

Does the Use of Preoperative Gabapentinoids or Benzodiazepines Decrease Postoperative Use of Narcotics in Neurosurgery Patients?

V. Letchuman

2:29–2:36 pm

Functional Outcomes after Surgery for Grade 1 Lumbar Spondylolisthesis: A 5-Year QOD Study

T. Yee



2:37–2:44 pm

Surgical Management of Spinal Nerve Schwannoma of the Sacrum: a Retrospective Study and Literature Review

W. Mualem

FRIDAY, APRIL 29

2:45–2:52 pm

The Impact of Nerve Reconstruction on Long-Term Shoulder and Elbow Function in Neonatal Brachial Plexus Palsy

W. Muhlestein

2:53–3 pm

Effects of Hours of Sleep on Immediate Post-Concussion Assessment & Cognitive Testing (ImPACT): Comparing Baseline to 1st Concussion Performance

E. Hrabarchuk

3:01–3:08 pm

Presentation, Treatment and Outcome of Traumatic Dural Venous Sinus Thrombosis

C. Young

3:09–3:16 pm

Enhanced Immunogenicity via Protein Phosphatase 2A (PP2A) Inhibition in SB28 Mouse Glioma Model

O. Das

3:17–3:24 pm

Convection-delivered Adenoviral Gene Therapy Reprograms the Immunosuppressive Glioblastoma Microenvironment

J. Young

3:25–3:30 pm

Presentation of Quest Award Winners

Reviewer/Judge: R. D'Amico, S. Giannotta, D. Mukherjee, W. Sivakumar, J. Turner

5–6:30 pm

AANS Opening Session

Location: Exhibit Hall C

Moderator(s): R. Haid

5–5:02 pm

Welcome to the Opening Session

R. Haid

5:03–5:05 pm

Introduction to the Rhoton Family Lecture

S. Wolfe



5:06–5:18 pm

Rhoton Family Lecture

L. Tumialán

5:19–5:21 pm

Introduction of the Distinguished Service Award

R. Haid



5:21–5:22 pm

Distinguished Service Award

J. Rutka

5:23–5:25 pm

Introduction of the Humanitarian Award

A. Asher



5:25–5:26 pm

Humanitarian Award

R. Hartl

FRIDAY, APRIL 29

5:27–5:29 pm

Introduction to the Chuck Noll Lecture

D. Okonkwo



5:30–5:48 pm

Chuck Noll Lecture

A. Sills

5:49–5:53 pm

Diversity Initiative

A. Abosch

5:54–5:56 pm

Introduction of Michael Bush

A. Abosch

5:56–5:58 pm

Introduction of Jerome Bettis

J. Maroon



5:59–6:30 pm

Panel Discussion

A. Abosch, J. Bettis,
M. Bush, R. Haid

6:30–8:30 pm

AANS Exhibit Hall

The AANS Exhibit Hall brings together over 150 companies, offering innovation products and services to the neurosurgical field. This is an opportunity to interact with exhibitors and experience unique advancements in the field of neurosurgery.

6:30–8:30 pm

AANS Opening Reception in the AANS Exhibit Hall

Celebrate The Culture of Neurosurgery with an enjoyable evening of music, cocktails and hors d'oeuvres with colleagues. Taking place in the AANS Exhibit Hall, this is a chance to reconnect in-person with colleagues, as well as an opportunity to see the latest technology up-close. Accompanied by live music from The Neurosurgery Jazz Quintet Plus One, make sure to be seen at this annual event.

The Neurological Jazz Quintet Plus One members:



Drums

Philip R. Weinstein, MD, FAANS(L)



Trumpet

James E. Rose, MD, FAANS



Vocal

Sue Ellen Barbaro



Piano

R. Michael Scott, MD, FAANS



Trombone

Donald Quest, MS, FAANS(L)



Bass:

Paul Camarata, MD, FAANS



Saxophone:

Casey Halpern, MD



AANS2022 PHILADELPHIA

Rules and Regulations

PLEASE NOTE that presenters, exhibitors and attendees are **not allowed** to record any presentations or sessions that are part of the AANS Annual Scientific Meeting. This includes any and all means of recording, including but not limited to video or audio recordings.

All sessions conducted during the AANS Annual Scientific Meeting, or as part of pre- or post-meeting content, are the sole and exclusive property of the AANS and are not eligible for recording, pre-purpose or re-broadcast except by the AANS.

Presenters or attendees found to be in violation of this policy will surrender their badges and be escorted from the meeting.

The AANS reserves the right to pursue and exercise any and all remedies available to it, whether in law or in equity, for violations of this policy.

AANS2022 PHILADELPHIA

APRIL 29-MAY 2

PRESENTATION THEATER

Located in the AANS Neuro Hub
Booth 1127

The Presentation Theater

features industry presentations, late-breaking abstracts, meet and greets with AANS leadership, as well as a sampling of AANS products and services. If you are looking for a little education and entertainment, stop in during exhibit hours and check the app for the latest schedule.

SATURDAY

10:20-10:45 am

Presented by Orthofix

3:45-4:10 pm

**Simplifying Surgery: Augmented Reality
in Complex Procedures**

Speaker: T. Williamson

Case Studies featuring Augmedics xvision

2022 AANS Annual Scientific Meeting **COMMUNITY SESSIONS**

WHAT ARE COMMUNITY SESSIONS?

Community Sessions are interactive debates and presentations featuring the most important literature, controversial topics and newest technologies in neurosurgery.

These high-level discussions present opportunities to connect, collaborate and generate new ideas. Each session provides a sharp focus on a specific area of neurosurgical practice, pathology or techniques.

WHEN ARE THE SESSIONS?

Participants can visit sessions on **May 2** to offer thoughts, and discover work by others with similar goals and ambitions toward advancing neurosurgery.

IS LUNCH PROVIDED AT THE SESSIONS?

Lunch will be provided at Philadelphia's historic Reading Terminal Market.

ARE THE SESSIONS TICKETED EVENTS?

You do not need a ticket to take advantage of Community Sessions.

SATURDAY, APRIL 30

7:45 am–4 pm

Speaker Ready Room

Location: 202 B

7 am–6:30 pm

AANS Registration

Location: Registration Bridge East

6:30 am–2 pm

AANS Badge Pick Up

Location: Room 309 Foyer, Philadelphia Marriott Downtown

9 am–4 pm

COVID-19 Testing



Location: 107 AB

7 am–4 pm

NREF Cushing Circle of Giving VIP Lounge

Location: 203 A

Open to members of the NREF Cushing Circle of Giving, the Young Neurosurgeons Circle of Giving and invited guests, access to this lounge is by invitation only.

7–8 am

AANS/CNS Section on Women in Neurosurgery (WINS) Breakfast

Non-CME Event

Location: Liberty Ballroom, Salon C,
Philadelphia Marriott Downtown



Louise Eisenhardt Lecturer

E. Duflo

Ticket Required

\$125 for physicians

\$65 for neurosurgical team members

8 am–4:30 pm

AANS Exhibit Hall

Location: Exhibit Hall AB

SATURDAY, APRIL 30

8–10 am and 11am–1 pm

Surgical Suite Presentations by DePuy Synthes

Location: Booth 1851

UNLEASH® Solutions Procedure Based Practical Lab

Please join DePuy Synthes at this hands-on practical lab focusing on MIS TLIF Solutions.

8–8:30 am

Beverage Break in the AANS Exhibit Hall

8:30 am–12:34 pm

Plenary Session I

Access to Plenary Session is through the AANS Exhibit Hall

Moderator(s): A. Arthur, M. Wang

8:30–8:36 am

Historical Film: Constitution: Consensus amid Polarization

8:36–8:39 am

Welcome

A. Arthur

8:40–8:42 am

Introduction to the AANS Presidential Address

C. Shaffrey



8:43–9:12 am

AANS Presidential Address

R. Haid

9:13–9:15 am

Introduction to the Louise Eisenhardt Lecture

E. Air



9:16–9:45 am

Louise Eisenhardt Lecture

E. Duflo

9:46–9:54 am

Leica Award

A multi-center Study of Intra-operative, in Vivo, Optics-based Detection of Brain Tumor Tissue Using Raman Spectroscopy and Machine Learning

C. Hadjipanayis

9:55–9:57 am

Abstract Discussant: A Multi-center Study of Intra-operative, in Vivo, Optics-based Detection of Brain Tumor Tissue Using Raman Spectroscopy and Machine Learning

D. Orringer

9:58–10:06 am

A Novel and Targetable Mechanism of Immuno-secretory Function at the Choroid Plexus-Cerebrospinal Fluid Interface

S. Robert

10:07–10:09 am

Abstract Discussant: A Novel and Targetable Mechanism of Immuno-secretory Function at the Choroid Plexus-cerebrospinal Fluid Interface

S. Robinson

10:10–10:13 am

NREF Update

M. Groff

10:14–10:44 am

Beverage Break in the AANS Exhibit Hall

Sponsored by: Elekta

SATURDAY, APRIL 30

10:45–10:47 am

Introduction of the International Lifetime Recognition Award

M. Wang



10:48–10:50 am

International Lifetime Recognition Award

A. Falavigna

10:51–10:53 am

Introduction to the Hunt-Wilson Lecture

R. Haid



10:54–11:33 am

Hunt-Wilson Lecture

P. Noonan

11:34–11:41am

Late Breaking Abstract: Long-Term Safety of an Endovascular Brain-Computer Interface for Severe Paralysis: Results of a First-in-Human Clinical Trial

J Mocco

11:42–11:44 am

Discussant: Long-Term Safety of an Endovascular Brain-Computer Interface for Severe Paralysis: Results of a First-in-Human Clinical Trial

S. Sheth

11:45–11:53 am

Stewart Dunsker Award for Best Clinical Spine Abstract

Comparing Posterior Cervical Foraminotomy with Anterior Cervical Discectomy and Fusion in Radiculopathic Patients: An Analysis from the QOD

M. Bydon



11:54–11:56 am

Discussant: Comparing Posterior Cervical Foraminotomy with Anterior Cervical Discectomy and Fusion in Radiculopathic Patients: An Analysis from the QOD

E. Benzel

11:57 am–12 pm

NPA Update

J. Knightly

12:01–12:02 pm

Introduction of the AANS Cushing Award for Technical Excellence and Innovation in Neurosurgery

R. Haid



12:03–12:06 pm

AANS Cushing Award for Technical Excellence and Innovation in Neurosurgery

C. Shaffrey

12:07–12:09 pm

Introduction of the NREF WINS Mummeni Resident Award

P. Mummaneni

12:09–12:17 pm

**Young Neurosurgeon Abstract Award
Single-Cell Transcriptome Analysis Reveals Dynamic Cell Populations and Differential Gene Expression Patterns in a Mouse Cerebral Aneurysm Model**

I. McCormack

12:18–12:20 pm

Abstract Discussant: Single-Cell Transcriptome Analysis Reveals Dynamic Cell Populations and Differential Gene Expression Patterns in a Mouse Cerebral Aneurysm Model

B. Hoh

SATURDAY, APRIL 30

12:21–12:22 pm

Introduction to the Richard Schneider Lecture

V. Traynelis



12:23–12:32 pm

Richard Schneider Lecture

R. Byrne

12:33–12:34 pm

Introduction to the Lunch and Learn Seminars

M. Wang

12:35–1:30 pm

Lunch in the AANS Exhibit Hall for Medical Attendees

Location: Exhibit Hall AB

12:40–1:25 pm

Lunch and Learn Seminars

Non-CME Events

Learn while you have lunch in the Exhibit Hall.

Stealth Tractography | The New Standard for Easier, More Advanced Tractography

Location: Booth 1611

Presented by Medtronic

PTP—Prone Transposas The Evolution of Lateral Surgery

Location: Booth 1835

Presented by ATEC Spine

Learn more about STaRT, including clinical data, case reviews, and the Piedmont Brain Tumor Center's early experience with their GammaTile Therapy program.

Location: Booth 1635

Presented by GT Medical Technologies, Inc.

ZEISS CONVIVO In Vivo Pathology Suite—User Experience With Real-time & Remote Collaboration Between the Neurosurgeon and the Pathologist.

Location: Booth 1811

Presented by ZEISS

Comprehensive 2-in-1 Robotic Navigation Platform: Spine and Cranial Applications

Location: Booth 1849

Presented by Globus Medical

1–2:30 pm

Advanced Practitioners Luncheon



Location: 104 B

Moderator(s): A. Edwards, R. Saiki

Ticket Required

\$65

2:30–6 pm

APP Advancements in Neurotrauma Care

Location: 204 C

C. Baker, V. Ban, A. Carlson, A. Edwards, H. Hoffman, T. Jensen, J. Maroon, P. Patel, S. Perera, R. Saiki

2–3:30 pm

**3D Session—Operative Nuances I:
Difficult Cases: What Have We Learned?**

Location: 114

M. Baskaya, A. Cohen-Gadol, J. Fernandez-Miranda, P. Gardner

2–5:30 pm

Scientific Session I: Tumor

Location: 201 C

Moderator(s): R. D'Amico, N. Moss



2–2:03 pm

Welcome

Moderators: R. D'Amico, N. Moss

2:04–2:06 pm

Introduction to the Bittner Lecturer

J. Sheehan

SATURDAY, APRIL 30



2:07–2:25 pm

Bittner Lecture: Artificial Intelligence and Augmented Reality in Neuro-oncology

W. Couldwell

2:26–2:31 pm

Introduction of The NeuroPoint Alliance Tumor Registry

J. Elder

2:32–2:37 pm

Introduction of the AANS SRS Registry

J. Sheehan

2:38–2:48 pm

Augmented reality In Neuro-Oncology

W. Jean

2:49–2:59 pm

Brain Mapping/Connectome

M. Sughrue

3–3:10 pm

Intraop Radiation

C. Cifarelli

3:11–3:21 pm

Drug Delivery

M. Vogelbaum

3:22–4:32 pm

Updates on Fluorescence Guided Neuro-oncology

C. Hadjipanayis

3:33–4:03 pm

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

4:04–4:10 pm

**American Brain Tumor Association
Young Investigator Award**

**Microenvironmental Correlates of Immune
Checkpoint Inhibitor Response in Human Melanoma
Brain Metastases Revealed by T Cell Receptor and
Single-cell RNA Sequencing**

C. Alvarez-Breckenridge



4:11–4:17 pm

KLS Martin Award

**Prospective Validation of Machine Learning
Technique for Automated Intraoperative Frozen
Diagnosis of Brain Tumors**

S. Khalsa

4:18–4:24 pm

Stryker CNS Tumor Award

**Evaluating Efficacy of a Novel Hydrogel-CXCL9-
mRNA Vaccine in Combination with Temozolomide
in a Murine Glioma Model**

Y. Mehkri

4:25–4:31 pm

**Ronald L. Bittner Award on Brain Tumor Research
CNS Drug Screening Identifies Metixene as a Novel
Autophagy Modulator in Brain Metastases**

J. Fares

4:32–5:30 pm

**Skull Base Panel Discussion: Controversies in
Craniopharyngioma Management**

Moderator: G. Zenonos

4:32–4:37 pm

Presentation of Cases

G. Zenonos

4:38–4:48 pm

**Surgery Remains the Standard of Care for
Craniopharyngioma**

G. Bakhoudarian

SATURDAY, APRIL 30

4:49–4:59 pm

Melting Craniopharyngiomas Away

F. Barker

5–5:30 pm

Case Discussion Panel

P. Gardner, D. Prevedello, P. Recinos

2–5:30 pm

Scientific Session II: Spine

Location: 201A

Moderator(s): S. Meyer, C. Sansur, L. Tumialan



2–2:03 pm

Welcome

S. Meyer, C. Sansur, L. Tumialan

2:04–2:29 pm

Success and Failure in Cervical Motion Preservation—Lessons Learned Over Time, and Predictions for the Future.

V. Traynelis

2:30–2:50 pm

Follow the Patient: Central Cord Syndrome

P. Mummaneni

2:51–3:11 pm

Follow the Patient: Geriatric Odontoid Fracture

B. Aarabi

3:12–3:31 pm

Clinical Quandaries: Cervical Stenosis with Myelopathy—When is Laminoplasty Reasonable

Z. Ghogawala

3:32–4:01 pm

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

4:02–4:25 pm

Top Abstracts

4:02–4:07 pm

Improvement in Resident Performance for Minimally Invasive Lumbar Decompression Using a State-of-the-Art Simulator

I. Hussain

4:08–4:13 pm

Outpatient versus Inpatient Lumbar Discectomy: A Matched Study Investigating Patient-Reported and Surgical Outcomes

J. Mooney



4:14–4:19 pm

Sarcopenia as A Predictor of Survival in Oncological Spine Surgery: Validation of CT Morphometric Measurement of Psoas Size

R. De la Garza Ramos

4:20–4:25 pm

Abstract Discussion (Q&A)

4:26–4:46 pm

Patient Perspective: Spinal Cord Injury Patient That Got Better—Interview with Former NFL Player Ryan Shazier

Moderator: R. Haid

Interview Speaker: D. Okonkwo, R. Shazier, L. Tumialan

4:47–5:08 pm

Published Essentials

4:47–4:57 pm

Paper #1

M. Wang

4:48–5:08 pm

Paper Title #2

C. Upadhyaya

SATURDAY, APRIL 30

5:09-5:30 pm

Technique Sessions

5:09-5:19 pm

C1-C2 Fusion

M. Groff

5:20-5:30 pm

Odontoid Screw

E. Bisson

2-5:30 pm

Scientific Session III: AANS/CNS Section on Pain

Location: 110 AB

Moderator(s): P. Patil, C. Wu



2-2:02 pm

Welcome

2:03-2:05 pm

Introduction

P. Patil



2:06-2:36 pm

John Loeser Lecture

J. Campbell

2:36-2:47 pm

Discussion (Q&A)

2:48-3:43 pm

Top Abstracts

2:48-2:56 pm

William H. Sweet Young Investigators Award Internal Neurolysis Versus Intraoperative Glycerin Rhizotomy for Trigeminal Neuralgia

R. Xu

2:57–3:05 pm

Twelve-month Outcomes from RCT: 10kHz Spinal Cord Stimulation for Treating Non-surgical Refractory Back Pain

N. Patel

3:06–3:14 pm

Durability of 10-kHz Spinal Cord Stimulation for Painful Diabetic Neuropathy: 18-Month Multicenter Randomized Controlled Trial Results

E. Petersen

3:15–3:23 pm

Can Paddle Spinal Cord Stimulators be Safely Replaced?

T. Harland

3:24–3:39 pm

Abstract Discussion (Q&A)

3:40–4:03 pm

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

4:04–4:25 pm

Ancillary Updates

4:04–4:19 pm

Using Imaging for Prognosis in Microvascular Decompression

P. Patil

4:20–4:25 pm

Discussion (Q&A)

SATURDAY, APRIL 30

4:26–4:59 pm

Technique Session

4:26–4:36 pm

Nucleus Caudalis Dorsal Root Entry Zone Ablation (DREZ)

A. El-Naggar

4:37–4:42 pm

Discussion (Q&A)

4:43–4:53 pm

Nervus Intermedius Sectioning

A. Raslan

4:54–4:59 pm

Discussion (Q&A)

5–5:30 pm

Open Panel Discussion: Spinal Cord Stimulation Versus Revision Open Spine Surgery for Pain

2–5:30 pm

Scientific Session IV: AANS/CNS Section on Pediatric Neurological Surgery

Location: 111 AB

Moderator(s): D. Hertzler, R. Naftel



2–2:04 pm

Welcome

Moderators: D. Hertzler, R. Naftel

2:05– 2:08 pm

Introduction to the Donald D. Matson Lecture

M. Krieger



2:09–2:39 pm

Donald D. Matson Lecture: Modernization of the Pediatric Neurosurgeon: Lessons Learned Over 30 Years

J. Rutka

2:40–2:50 pm

Discussion (Q&A)

2:51–3:56 pm

Top Abstracts

2:51–2:59 pm

Surgical Revascularization Decreases Stroke and TIA Risk in Children with Sickle Cell Disease and Moyamoya Syndrome: Results of the Stroke in Sickle Cell Revascularization Study (SiSCRs)

P. Aldana



3–3:08 pm

Modeling the Effect of Repetitive Mild Traumatic Brain Injury on Long-Term Seizure Risk in Children

M. Jin

3:09–3:17 pm

Predicting Changes in Cranial Index Following Spring Mediated Cranial Vault Expansion in Non-Syndromic Sagittal Craniosynostosis: Stepwise and Machine Learning Algorithm Approach

D. Villavisanis

3:18–3:26 pm

Effects of Socioeconomic Status on Glial Tumor Survival in Pediatric Populations: A Population-Based Study

G. Johnson

3:27–3:35 pm

Impact of Syndromic Conditions on Outcomes after Decompression in Children with Type I Chiari Malformation and Syringomyelia: an Analysis of the Park-Reeves Syringomyelia Research Consortium Registry

S. Savchuk

SATURDAY, APRIL 30

3:36–3:44 pm

Novel 3D Modeling of Brain and Ventricular Compliance in Children with Hydrocephalus Using Deformation-based Morphometry

M. Zhang

3:45–3:56 pm

Abstract Discussion (Q&A)

3:57–4:26 pm

Beverage Break in the AANS Exhibit Hall

4:27–4:57pm

Clinical Quandaries: Craniopharyngioma

P. Storm

4:58–5:27 pm

Published Essentials

4:58–5:07 pm

Dural Augmentation Approaches and Complication Rates After Posterior Fossa Decompression for Chiari I Malformation and Syringomyelia: a Park-Reeves Syringomyelia Research Consortium Study

A. Yahanda

5:08–5:17 pm

Management Strategies for Recurrent Pediatric Craniopharyngioma: New Recommendations

M. Fouda

5:18–5:27 pm

Discussion (Q&A)

5:28–5:30 pm

Award Acknowledgment

D. Hertzler

2–5:30 pm

**Scientific Session V: AANS/CNS
Cerebrovascular Section**

Location: 204 A

Moderator(s): D. Sasaki-Adams, R. Starke



2–2:02 pm

Welcome

D. Sasaki-Adams, R. Starke

2:03–2:06 pm

Introduction to the M. Gazi Yasargil Lecture

C. Schirmer



2:07–2:37 pm

M. Gazi Yasargil Lecture

B. Hoh

2:38–2:41 pm

Discussion (Q&A)

2:42–3:02 pm

**Follow the Patient—Diagnostic Challenge: Pro and
Con Perfusion Imaging vs. Non-contrast CT**

F. Albuquerque, E. Levy

3:03–3:23 pm

Discussion (Q&A)

3:24–3:26 pm

Introduction to the Raymond M. Donaghy Lecture

S. Tjoumakaris



3:27–3:57 pm

Raymond M. Donaghy Lecture

C. David

SATURDAY, APRIL 30

3:58–4:01 pm
Discussion (Q&A)

4:02–4:32 pm
Beverage Break in the AANS Exhibit Hall

4:33–5:08 pm
Top Abstracts

4:33–4:40pm
Cerebrovascular Section Best Basic Scientific Paper
Fetal Radiation Exposure Risks in the Pregnant
Neurointerventionalist

S. Cheng

4:40–4:47 pm
Louise Eisenhardt Travel Scholarship
NREF WINS Mummaneni Resident Award
Non-invasive Vagus Nerve Stimulation to Mitigate
Subarachnoid Hemorrhage Induced Inflammation:
A Pilot Randomized Controlled Trial

A. Huguenard



4:48–4:55 pm
International Travel Scholarship
Middle Meningeal Artery Embolization for Chronic
Subdural Hematomas: Predictors of Treatment Failure
from Multicenter Experience of 368 Embolizations

M. Salem

4:56–5:03 pm
Intra-arterial Transplantation of Mitochondria After
Ischemic Stroke Reduces Cerebral Infarction

M. Kalani

5:03–5:08 pm
Abstract Discussion (Q&A)

5:09–5:30 pm
Open Panel Discussion on AVM Multimodal
Management

Moderator: A Siddiqui

M. Lawton, D. Kondziolka, V. Mendes Pereira, S. Wolfe

2–5:30 pm

**Scientific Session VI:
AANS/CSNS Socioeconomic**

Location: 112 AB

Moderator(s): B Guthikonda, J. Phelps



2–2:03 pm

Welcome

B. Guthikonda

2:04–2:44 pm

Top Abstracts

2:04–2:10 pm

Robert Florin, MD Resident Award

Socioeconomic Factors Associated with Pediatric Moyamoya Disease Hospitalizations: A Nationwide Cross-sectional Study

K. Raygor

2:11–2:17 pm

Byron Cone Pevehouse Young Neurosurgeon Resident Award

BRAINterns 2.0: Durability of Webinar-Based Education and Social Media Beyond the COVID-19 Pandemic

R. D'Amico

2:18–2:24 pm

Substance Use Disorders are Independently Associated with Hospital Readmission Among Brain Tumor Patients

A. Jimenez

2:25–2:31 pm

Efficiency of Neurosurgical Operating Room According to Nursing Characteristics: A Cost-benefit Analysis.

A. Bartoli

2:32–2:38 pm

The Political Polarization of Surgeons in the United States—An Analysis of Campaign Contributions throughout the 2020 Election Cycle

A. Barpujari

SATURDAY, APRIL 30

2:39–2:44 pm

Abstract Discussion (Q&A)

2:45–2:48 pm

Introduction of Keynote Speaker

J. Phelps

2:49–3:14 pm

Keynote Speaker

A. Stroink

3:15–3:35 pm

2022 CSNS Update

J. Cheng

3:36–4:06 pm

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

4:07–4:27 pm

**Published Essentials: What's New in Socioeconomic
Neurosurgery—2021**

C. Schirmer

4:28–5:11 pm

Rapid Fire Abstracts

4:28–4:31 pm

**Disparities in Screening for Alcohol and Drugs of
Abuse After Traumatic Brain Injury: A TRACK-TBI
investigation.**

A. DiGiorgio

4:32–4:35 pm

**The Contrast Between Medical Student Interest In
Neurosurgery and the Needs of the Neurosurgical
Field of the Future: An Opportunity to Reevaluate
Residency Selection Metrics**

M. Williams

4:36–4:39 pm

Gender of the Patient Does Not Correlate with Early Outcomes of Elective Lumbar Fusions

S. Alomari

4:40–4:43 pm

Do Neurosurgeons Receive More Patient Complaints Than Other Physicians? Describing Who is Most at Risk and How We Can Improve

R. Dambrino

4:44–4:49 pm

Abstract Discussion (Q&A)

4:50–4:53 pm

Factors Associated with On-Time First-Start Elective Neurosurgical Cases

P. Booney

4:54–4:57 pm

Trends in Online Patient Perspectives of Neurosurgeons: A Sentiment Analysis

A. Quinones

4:58–5:01 pm

A Lack of Cost Awareness Amongst Neurosurgeon Faculty and Residents: A Need for Health Care Sustainability Education to Improve Surgical Stewardship of Operating Room Costs

J. Young

5:02–5:05 pm

Reporting Policies in Neurosurgical Journals: A Meta-Science Study of the Current State and Case for Standardization

N. Shlobin

5:06–5:11 pm

Abstract Discussion (Q&A)

SATURDAY, APRIL 30

5:12-5:30

Late Breaking Abstracts

5:12-5:16 pm

Analysis of Hospital Price Transparency Tools for Cervical Spinal Fusion Among 332 High-performing Spine Surgery Centers

J. Yoon

5:17-5:21pm

Impact of Socio-economic Factors on Radiation Treatment after Resection of Metastatic Brain Tumors: Trends from Optum Database

G. Haider

5:22-5:30 pm

Abstract Discussion (Q&A)

2-5:30 pm

Scientific Session VII: AANS Section on the History and Culture of Neurosurgery

Location: 109 AB

Moderator(s): T. Dagi, J. Sherman



2-2:05 pm

Welcome

T. Dagi

2:06-2:09 pm

Introduction to the Victor Horsley History Lectureship

C. Prestigiacomo



2:10-2:50 pm

Victor Horsley History Lectureship: How a Scoville Aneurysm Clip Fought in the Cold War and Helped to Found Neurosurgery in Iceland

S. Greenblatt

2:51–3:28 pm

Top Abstracts

2:51–3:09 pm

Vesalius and his Manikin: An Enduring Impact on Modern Anatomical Teaching

J. Jubran

3:10–3:28 pm

The Brain and a Biological Basis for Violence: A Historical Retrospective

T. Dagi

3:29–3:58 pm

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

3:59–4:33 pm

Round Table Discussion on the Culture of Neurosurgery

3:59–4:02 pm

Introduction to Studies in Culture of Neurosurgery

T. Dagi

4:03–4:33 pm

Reflections on Acculturating to Neurosurgery from the Outside

T. Hodges, N. Oyesiku, J. Morcos, A. Quinones-Hinojosa

4:34–4:54 pm

Special Lecture on the History and Culture of Neurosurgery: Suzanne Corkin, Patricia Goldman-Rakic, and Elizabeth Gould: Three Extraordinary Neuroscientists in Pursuit of the “Glue of Consciousness” and the Mechanisms of Memory

K. Gassie

SATURDAY, APRIL 30

4:55–5:30 pm
Top Abstracts

4:55–5:12 pm

William Beecher Scoville: A James Bond in Scrubs

A. Wang

5:13–5:30 pm

Pre-incisional Radiographic Localization: An Overlooked Contribution by Ralph Bingham Cloward

M. Johnson

5:30–6 pm

The Joint Annual Business Meeting of The American Association of Neurological Surgeons and the American Association of Neurosurgeons

Location: 114

6:30–7:30 pm

Industry Session

Location: Philadelphia Marriott Downtown, Franklin Hall 2

Recent Developments for Adult Patients With Certain VHL-Associated Tumors

Speaker: A. Sumrall

Presented by Merck

Non-CME Presentation



6-7:30 pm

Ticketed Sessions



303 Serving Knowledge Series

Neurotrauma: Hot Topics in Neurotrauma

Location: Independence Ballroom II

Philadelphia Marriott Downtown

S. Browd, R. Diaz-Arrastia, J. Jallo, P. LeRoux,

L. Ngwenya, S. Zuckerman

304 Serving Knowledge Series

**“In Vino Veritas”: My Way of Dealing with
Neurovascular Diseases**

Location: Liberty Ballroom, Salon B

Philadelphia Marriott Downtown

D. Hasan, P. Jabbour, D. Kung, E. Levy, A. Polifka,

A. Thomas, S. Tjoumakaris

305 Serving Knowledge Series

**Wine and Spine: Challenging Spine Surgical Cases:
What Wrong and What I learned.**

Location: Independence Ballroom III,

Philadelphia Marriott Downtown

D. Hoh, A. Kanter, D. Resnick, C. Shaffrey, L. Tumialan

6-7:30 pm

NREF Donor Reception

Location: Liberty Ballroom, Salon A

Philadelphia Marriott Downtown

The NREF Board of Directors hosts its annual reception honoring donors, industry partners and collaborating organizations. By invitation only.

SATURDAY, APRIL 30

7–8:30 pm

International Reception



This is a ticketed event.

\$65 US or Canadian Attendees | Complimentary for international attendees.

Experience an evening at the National Constitution Center. Join international neurosurgical leaders, AANS leadership and special dignitaries for this special event. Relax and enjoy the company of your colleagues from around the world. This is a ticketed event and everyone is welcome to attend.

Shuttle Service: Pick up at the 12th Street entrance of the Philadelphia Marriott Downtown beginning at 6:30 pm.



Thank You

With honor, respect
and gratitude,
thank you to all military
attendees for your
courageous service to the
United States of America.



Please stop by
the registration area
to receive a ribbon
that commemorates
your service.



American
Association of
Neurological
Surgeons

SUNDAY, MAY 1

7:45 am–4 pm

Speaker Ready Room

Location: 202 B

7:30 am–5 pm

AANS Registration

Location: Registration Bridge East

8 am–4:30 pm

AANS Exhibit Hall

Location: Exhibit Hall AB

9 am–4 pm

COVID-19 Testing



Location: 107 AB

7 am–4 pm

NREF Cushing Circle of Giving VIP Lounge

Location: 203 A

Open to members of the NREF Cushing Circle of Giving, the Young Neurosurgeons Circle of Giving and invited guests, access to this lounge is by invitation only.



SUNDAY, MAY 1

8:30 am–12:36 pm

Plenary Session II

Access the Plenary Session through the AANS Exhibit Hall

Moderator(s): E. Chiocca, J. Morcos

8:30–8:36 am

Historical Film: History of Philadelphia Neurosurgery

8:37–8:39 am

Introduction to the Kurze Lecture

R. Haid



8:40–9:10 am

Kurze Lecture

L. Wainwright

9:11–9:14 am

Washington Committee Update

J. Ratliff

9:15–9:23 am

Lake-breaking Abstract

Disc Progenitor Cell Therapy Produces Clinically Meaningful Improvements in Pain, Disability, and Quality of Life for Patients with Lumbar Disc Degeneration with Durability of Results at 78 weeks.

K. Foley

9:24–9:26 am

Discussant: Disc Progenitor Cell Therapy Produces Clinically Meaningful Improvements in Pain, Disability, and Quality of Life for Patients with Lumbar Disc Degeneration with Durability of Results at 78 weeks

A. Veeravagu

9:27–9:35 am

Blood Ethanol Level Confounds Glasgow Coma Scale Interpretation and Increases Health Care Utilization Following Traumatic Brain Injury: A TRACK-TBI Study

J. Young

9:36–9:38 am

Abstract Discussant: Blood Ethanol Level Confounds Glasgow Coma Scale Interpretation and Increases Health Care Utilization Following Traumatic Brain Injury: A TRACK-TBI Study

M. Stippler

9:39–9:47 am

**Sanford Larson Award for Best Research
Full-endoscopic Transforaminal Discectomy is Non-inferior and Cost-effective Compared to Microdiscectomy for Sciatica: Two-year Results of a Randomized Controlled Trial**

P. Gadjradj

9:48–9:50 am

Abstract Discussant: Full-endoscopic Transforaminal Discectomy is Non-inferior and Cost-effective compared to Microdiscectomy for Sciatica: Two-year results of a randomized controlled trial

R. Fessler

9:51–9:54 am

CNS Update

N. Bambakidis

9:55–10:25 am

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

10:26–10:34 am

Vagus Nerve Stimulation Paired with Rehabilitation for Upper Limb Motor Function After Ischemic Stroke

C. Liu

SUNDAY, MAY 1

10:35–10:37 am

Abstract Discussant: Vagus Nerve Stimulation Paired with Rehabilitation for Upper Limb Motor Function After Ischemic Stroke

A. Machado

10:38–10:40 am

Introduction of the AANS Incoming President

J. Ratliff



10:41–10:51 am

AANS Incoming President

A. Stroink

10:52–10:54 am

Introduction to the Van Wagenen Lecture

N. Barbaro



10:55–11:15 am

Van Wagenen Lecture

G. Harsh

11:16–11:24 am

Future Grant Funding and Academic Achievement Following Neurosurgery Research and Education Foundation (NREF) Awards

A. Huguenard

11:25–11:27 am

Abstract Discussant: Future Grant Funding and Academic Achievement Following Neurosurgery Research and Education Foundation (NREF) Awards

E. Eskandar

11:28–11:36 am

**Cerebrovascular Section Best Clinical
Scientific Paper**

**Multi-national Genome-wide Association Study
and Functional Genomics Analysis Implicates
Decreased SIRT3 Expression Underlying
Intracranial Aneurysm Risk**

A. Hale

11:37–11:39 am

**Abstract Discussant: Multi-national Genome-
wide Association Study and Functional Genomics
Analysis Implicates Decreased SIRT3 Expression
Underlying Intracranial Aneurysm Risk**

R. Starke

11:40–11:45 am

**Late Breaking Abstract
Deep Brain Stimulation (DBS) for
Opioid Use Disorder**

A. Rezai

11:46–11:48 am

Introduction of the Cushing Medalist

R. Haid



11:49–11:51 am

Cushing Medalist

W. Couldwell

11:52–11:54 am

Introduction/Moderator of Cushing Orator

R. Haid



11:55–12:34 am

Cushing Orator

Y. Ma

SUNDAY, MAY 1

12:35–12:36 pm

Announcement of the Lunch and Learn Seminars

J. Morcos

12:35–1:30 pm

Lunch in the AANS Exhibit Hall for Medical Attendees

Location: Exhibit Hall AB

12:40–1:25 pm

Lunch and Learn Seminars

Non-CME Events

Learn while you have lunch in the Exhibit Hall.

The Evolving Role of AI and Enabling Technologies in Spine Surgery

Location: Booth 1611

Presented by Medtronic

The Future of Posterior MIS Spine Surgery

Location: Booth 1811

Presented by DePuy Synthes

Robotic Navigation: Striving to Make Robotics the Standard Form of Care and Helping to Ensure a Successful New Generation of Adopters, Featuring ExcelsiusGPS

Location: Booth 1849

Speaker: V. Matheus

Presented by Globus Medical

Pulse: One Platform for Better Spine Surgery

Location: Booth 1835

Presented by NuVasive

Restorative Neurostimulation's Permanent Role in the Future of Neurosurgery

Location: Booth 1635

Presented by Mainstay Medical



12:45–4:45 pm

Young Neurosurgeons Luncheon

Speaker: C. Shaffrey

Location: 108 AB

Advance Ticket Purchase Required
\$25



2–3:30 pm

3D Session—Operative Nuances II: Challenging Operative Moments During Microsurgery

Location: 114

A. Cohen-Gadol, W. Couldwell, M. Lawton, C. Maher

2–5:30 pm

AANS/CNS Section on Disorders of the Spine and Peripheral Nerves—Peripheral Nerves Section Session

Location: 203 B

Moderator(s): L. Jacques, M. Mahan



2–2:02 pm

Welcome

L. Jacques, M. Mahan

2:03–2:22 pm

Technique Session: Endoscopy in Peripheral Nerve Surgery

K. Krishnan, M. Mahan

“HARV” Talks: When is Early Nerve Surgery?

2:23–2:26 pm

R. Spinner

2:27–2:30 pm

R. Midha

2:31–2:34 pm

A. Levi

2:35–2:40 pm

Team Discussions

2:41–2:52 pm

Interactive Panel Discussion

2:53–3:07 pm

Ancillary Updates

MEK Inhibitors and the Future of Medical Management for NF1

D. Viskochil

SUNDAY, MAY 1

3:08–3:27 pm

Clinical Quandaries: Reconstruction Options for Terrible Nerve Injuries

J. Brown

3:28–3:48 pm

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

3:49–3:51 pm

Introduction to the 2022 David G. Kline Lectureship

M. Mahan



3:52–4:12 pm

Integra Foundation 2022 David G. Kline Lectureship: Neurotomies in the Armamentarium for Spasticity and Focal Dystonia

M. Sindou

4:13–4:18 pm

Report from 2019 Kline Research Awardees: Focused Ultrasound and Microbubble Utilization for Reversible Opening and Disruption of the Blood-Nerve-Barrier

R. Midha, D. Umansky

4:19–4:42 pm

Top Abstracts

Moderator: J. Brown

4:19–4:24 pm

Meralgia Paresthetica: A Large International Study on Prevalence and Treatment Pathways

J. Lee

4:25–4:30 pm

A Retrospective Propensity-Matched Patient Comorbidity Analysis Comparing Simultaneous Versus Staged Bilateral Cubital Tunnel Release Surgeries

L. Daggubati

4:31–4:36 pm

Cortical Representation of Median and Ulnar Nerve Suggests Functional Reorganization Induced by Motor-eloquent Gliomas

S. Ille

4:37–4:42 pm

Abstract Discussion (Q&A)

4:43–4:58 pm

Published Essentials

Peripheral Nerve in JNS 2021—What We Have Learned

T. Wilson

4:59–5:14 pm

**Follow the Patient—Diagnostic Challenge:
Plexiform Lesions**

A. Belzberg

5:15–5:30 pm

Patient Perspective

A. Ali, E. Zager

2–5:30 pm

**AANS/CNS Section on Neurotrauma
and Critical Care Section Session**

Location: 201 C

Moderator(s): S. Woodrow, J. Wright



2–2:04 pm

Welcome

2:05–2:08 pm

Introduction to the Marmorou Lecture

J. Wright



2:09–2:39 pm

Marmorou Lecture

D. Smith

SUNDAY, MAY 1

2:40–3:20 pm

Panel Discussion: To Operate or Not in TBI?

Moderator: M. Stippler

Panelist: A. DiGiorgio, G. Manley, E. Sieg

3:21–3:51 pm

Beverage Break in the AANS Exhibit Hall

3:52–4:28 pm

Top Abstracts

3:52–3:57 pm

Natus Resident/ Fellow Award for Traumatic Brain Injury

Cost comparison for Open Surgery versus Middle Meningeal Artery Embolization in Patients with Chronic Subdural Hematomas: A Propensity Score Matched Analysis

M. Salih

3:58–4:03 pm

Natus Resident/Fellow Award for Neurocritical Care Predicting Intracranial Hypertension in Severe Traumatic Brain Injury Using Physiologic Data

S. Miranda

4:04–4:09 pm

Natus Resident/ Fellow Award for Neurocritical Care (2021 Award Winner)

Oscillations In Cerebral Blood Flow Protect the Pericontusional Penumbra in Traumatic Brain Injury

T. White

4:10–4:15 pm

Charles Tator Spinal Cord Injury Resident Research Award

Comparison of Intraoperative Ultrasound with Postoperative MRI in the Assessment of Spinal Cord Decompression from a Posterior Approach

T. Chryssikos

4:16–4:21 pm

Charles Tator Spinal Cord Injury Resident Research Award (2021 Award Winner)

The Effects of Connexin Inhibitors on the Behavioral, Cellular and Molecular Outcomes in a Porcine Spinal Cord Injury Model

K. Alok

4:22–4:28 pm

Abstract Discussion (Q&A)

4:29–5:06 pm

Panel Discussion: Three Dos, Three Don'ts, and Three New Things in TBI

Moderator: P. Arnold, P. Das

4:29–4:37 pm

Panelist 1 Presentation

J. Wright

4:38–4:46 pm

Panelist 2 Presentation

L. Ngwenya

4:49–4:55 pm

Panelist 3 Presentation

D. Okonkwo

4:56–5:06 pm

Panel Discussion

L. Ngwenya, D. Okonkwo, J. Wright

5:07–5:30 pm

Technique Session

5:07–5:24 pm

How I Do It: MMA Embolization for Chronic SDH—Technique and Outcomes

A. Thomas

5:25–5:30 pm

Discussion (Q&A)

SUNDAY, MAY 1

2–5:30 pm

AANS/CNS Section on Stereotactic & Functional Neurosurgery Section Session

Location: 204 C

Moderator(s): J. Sweet, A. Viswanathan



2–2:04 pm

Welcome

J. Sweet, A. Viswanathan

2:04–2:24 pm

Ancillary Updates: FUS Applications Across Tumor and Stereotactic and Functional

J. Chang

2:25–2:45 pm

Patient Perspective: DBS for depression

R. Gross

2:46–3:01 pm

Published Essentials: Articles from Stereotactic and Functional

N. Bentley

3:02–3:17 pm

Technique Session: Technical Nuances of sEEG Implantation

G. McKhann

3:18–3:33 pm

Clinical Quandaries: DBS for Tremor: Beyond the Vim

E. Petersen

3:34–4:04 pm

Beverage Break in AANS the Exhibit Hall

4:05–4:49 pm

Top Abstracts

Moderator: E. Air

4:05–4:13 pm

Philip L. Gildenberg Resident Award

Preclinical Evidence for Deep Brain Stimulation of the Ventral Tegmental Area as a Potential Treatment for Addiction and Hyperdopaminergic Diseases

J. Yuen

4:14–4:22 pm

Decoding Neural Correlates of Speech Production from Intracranial Depth Electrodes

T. Thomas

4:23–4:31 pm

Seizure Source Propagation Patterns Mirror Interictal Spike Networks and White Matter Tracts

J. Diamond

4:32–4:40 pm

Single-neuron Firing Properties in the Human OFC, Amygdala and Hippocampus Encode Subjective Decisions and Cue Information on the Delay Discounting Task

M. Omidbeigi

4:41–4:49 pm

Abstract Discussion (Q&A)

4:50–5:10 pm

Clinical Quandaries: Resection and Neuromodulation Approaches to Challenging Cases in Epilepsy

S. Sheth

5:10–5:30 pm

DBS for Emerging Indications

A. Machado

SUNDAY, MAY 1

2–5:30 pm

AANS/CNS Section on Tumors Section Session

Location: 201 A

Moderator(s): I. Germano, G. Li



2–2:02 pm

Welcome

I. Germano, G. Li

2:02–2:23 pm

Clinical Quandaries: Spine Oncology:

Moderator: Z. Gokaslan

2:03–2:08 pm

A Multifaceted Approach in the Treatment of Spinal Metastatic Disease: What has Changed?

L. Rhines

2:09–2:14 pm

Updates in the Management of Intra-dural Spinal Tumors.

J. Chi

2:15–2:23 pm

Question and Answer Session

2:24–2:34 pm

Glioblastoma: How Aggressive Should a Surgeon Be? An Analysis of the Current Data, Limitations and Future Directions.

R. Komotar

2:35–2:45 pm

Surgical Treatment of Thalamic High Grade Gliomas: Indications and Limitations

M. Baskaya

2:46–2:56 pm

Multimodal Treatment and Salvage of Brain Metastases

N. Moss

2:57–3:07 pm

The Immune Landscape of Metastatic Disease to the Brain

M. Lim

3:08–3:15 pm

Pituitary Adenomas: Surgical Advancements in the Treatment of Pituitary Adenomas: Pushing the Boundaries of Resectability

J. Fernandez-Miranda

3:16–3:23 pm

Pituitary Adenomas: Update on the Genetics of Pituitary Adenomas and a Glimpse of the Future

M. Aghi

3:24–3:34 pm

Featured Speaker: Genomics of Meningiomas

J. Moliterno

3:35–4:03 pm

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

4:04–4:31 pm

Top Abstracts

Moderator: R. D'Amico, G. Zenonos

4:04–4:10 pm

StacheStrong Award

EGFRvIII Mutation Detection in Plasma Derived Extracellular Vesicle RNA

S. Batool

4:11–4:17 pm

Lunsford & Leksell Radiosurgery Award

Matched Comparison of Hearing Outcomes after Stereotactic Radiosurgery or Observation Alone in Vestibular Schwannoma Patients

Z. Schnurman

SUNDAY, MAY 1

4:18–4:24 pm

Integra Foundation Award

Single-cell Transcriptomic Analysis of Sporadic Cushing's Adenomas and Adjacent Gland Reveals Novel Tumorigenic Pathways

D. Asuzu

4:25–4:31 pm

Synaptive Preuss Research Award

Systemic Adoptive-Cell-Transfer Immunotherapy for High-Grade Meningiomas Targeting NY-ESO-1 Using TCR-transduced T-Cells

M. Sun

4:32–4:39 pm

Meningioma: Advances in Understanding the Disease Process

I. Yang

4:40–5:30 pm

Meningiomas: The Clash on Suprasellar Meningioma Treatment and Case Panel Discussion

Moderator: G. Zenonos

4:40–4:47 pm

Endoscopic approaches are Associated with Superior Visual Outcomes: The Simpson Grade is Irrelevant

T. Schwartz

4:48–4:55 pm

The Data Supporting the Open Treatment of Suprasellar Meningiomas: The Simpson Grade is Alive and Well

J. Morcos

4:56–5:03 pm

radiosurgery is Tricky, but Works...Indications, Limitations and Long-term Outcomes

C. Chen

5:04–5:30 pm

Meningiomas: Panel Discussion

M. McDermott, S. Raza, J. Van Gompel

2–5:30 pm

ANS/CNS Section on Disorders of the Spine and Peripheral Nerves—Spine Section Session

Location: 204 A

Moderator(s): D. Coric, Z. Ghogawala



2–2:03 pm

Welcome

D. Coric, Z. Ghogawala



2:04–2:29 pm

Sonntag Lecture: A Survivors Guide for Personal and Professional “Lifequakes”!

J. Maroon

2:30–3:11 pm

Follow the Patient—Diagnostic Challenge: Plexiform Lesions

2:30–2:50 pm

Cauda Equina Syndrome—Pearls and Pitfalls

Z. Gokaslan

2:51–3:11 pm

Acute foraminal lumbar Disc Herniaion in ER with Severe Pain but Moderate Weakness: What’s the Best Strategy?

J. Knightly

3:12–3:32 pm

Ancillary Updates: Advances in Scoliosis Surgery: What have we Learned from the Past and How can This Guide our Future?

A. Veeravagu

SUNDAY, MAY 1

3:33–4:03

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall AB

4:04–4:24 pm

Clinical Quandaries: PJK—When is Less Correction more Effective

C. Shaffrey

4:25–5:04 pm

Technique Sessions: L4/5 Spondy: How I Treat It, and Why

4:25–4:34 pm

A. Kanter

4:35–4:44 pm

J. Uribe

4:45–4:54 pm

J. Shin

4:55–5:04 pm

D. Chou

5:05–5:30 pm

HARV Talk: Pressure to Cut costs and Simultaneously Improve Care: How Do We Achieve a Balance?

J. Cheng

5:30–7 pm

AANS Section on the History and Culture of Neurosurgery Annual Reception

Location: Salon A, Liberty Ballroom,
Philadelphia Marriott Downtown

Moderator: T. Dagi



**Setti S. Rengachary Lecture:
Taking the First Picture of a
Black Hole**

P. Galison

Ticket Required

\$100 History Section Members

\$200 History Section Non-Members



6:30–8:30 pm

Ticketed Sessions



402 Serving Knowledge Series:

**Complex Cranial Surgery—Advanced Approaches and
Complication Avoidance/Management**

Location: Independence Ballroom II,
Philadelphia Marriott Downtown

M. Baskaya, B. Bendok, C. David, A. Dehdashti

403 Serving Knowledge Series:

Spine Trauma: State of the Art, From Bone to Cord

Location: Independence Ballroom III,
Philadelphia Marriott Downtown

P. Arnold, D. Chou, S. Eden, J. Jallo, A. Parr

Neurosurgical Education Anywhere, Anytime

AANS NEURO

Conveniently
meet CME
requirements
online.

Courses
are free or
discounted
for AANS
members.



www.aans.org/NeuroU



American
Association of
Neurological
Surgeons

SAVE THE DATE

**NEUROSURGEONS
AS ADVOCATES**



AANS 2023
LOS ANGELES

APRIL 21-24

aans.org/meetings

MONDAY, MAY 2

6:30 am–4:30 pm

Speaker Ready Room

Location: 202 B

6:45 am–4 pm

AANS Registration

Location: Bridge East

9 am–4 pm

COVID-19 Testing

Location: 107 AB



Abstract Session

Location: 203 B

7–7:01 am

Welcome: Introduction to the Abstract Session

P. Das, J. Morrison

7:02–8:04 am

Neurotrauma Abstract Session

M Babu, P. Das, J. Morrison, J. Wright

7:02–7:10 am

Development of Cerebral Vasospasm Following Traumatic Intracranial Hemorrhage: Incidence, Risk Factors, and Clinical

A. Dicipinigaitis

7:11–7:19 am

Leveraging Machine Learning to Identify an Intraoperative Mean Arterial Pressure Threshold for Neurological Improvement in Patients Undergoing Decompressive Surgery for Acute Spinal Cord Injury

A. Aabedi

7:20–7:28 am

PbtO₂ Modification Using Designed Cardiac-Gated ICP Modulation Generated by an Intracranial Pulsating Balloon: A Swine Model Study

O. Doron

MONDAY, MAY 2

7:29–7:37 am

Prospective Evaluation of Complications in the Elderly Following Traumatic Spinal Cord Injury: A 40 Patient Multi-Institutional Registry

N. Agarwal

7:38–7:46 am

Prophylactic Levetiracetam and the Incidence of Early Post-traumatic Seizures Among Pediatric Patients with Traumatic Brain Injury

B. Sciscent

7:47–7:55 am

Factors Associated with Hemorrhagic Progression of Cerebral Contusion After Traumatic Brain Injury: A Multicenter Study

L. Lima

7:56–8:04 am

A Long-term Follow-up Study of Racial Disparities in Employment Status Following Traumatic Brain Injuries

M. Bah

8:05–9:07 am

Pediatrics Abstract Session

P. Aldana D. Hertzler, R. Naftel, R. Scott

8:05–8:13 am

Impact of Age on Post-Operative Outcomes in Children with Type I Chiari Malformations Receiving Posterior Fossa Decompression: An Analysis of the Park-Reeves Syringomyelia Research Consortium

M. Jin

8:14–8:22 am

Redefining Pediatric Cervical Spine Ossification Patterns

J. Baisden

8:23–8:31 am

Machine Learning Automated 3D Segmentation of Transependymal Cerebrospinal Fluid in Pediatric Patients

P. Yang

8:32–8:40 am

Comparison of the Safety and Efficacy of Hemispherotomy Techniques for Drug-Resistant Epilepsy: A Systematic Review and Individual Patient Data Meta-Analysis

J. Chen

8:41–8:49 am

Artificial Intelligence and Machine Learning Predicts the Need for Intervention in Premature Neonates with Intraventricular Hemorrhage

B. Abraham

8:50–8:58 am

Obstetric Management and Maternal Outcomes Among Patients with Myelomeningocele

K. Holste

8:59–9:07 am

The Impact of Social Risk Factors and Cerebral Spinal Shunting Procedures in Children

S. Khalid

9:08–10:10 am

Stereotactic and Functional Abstract Session

Moderator: S. Bick

9:08–9:16 am

How the Brain Anticipates: From Neurons to Networks

A. Ramayya

9:17–9:25 am

Discrimination of Normal Brain Tissue from Dysplastic Tissue in Focal Cortical Dysplasia Using Raman Spectroscopy

T. Tran

MONDAY, MAY 2

9:26–9:34 am

Normative Intracranial EEG Maps Epileptogenic Tissues in Focal Epilepsy

J. Bernabei

9:26–9:34 am

CM/Pf DBS Alleviates Tics in a Rat Model of Tourette's Syndrome via Striatal Microcircuits

A. Rusheen

9:44–9:52 am

A Randomized Trial of MR-Guided Focused Ultrasound Bilateral Medial Thalamotomies for Chronic Trigeminal Neuropathic Pain

M. Ishaque

9:53–10:01 am

Treating Hydrocephalus by Shunting to the Venous Intracranial Sinus—SinuShunt Project 849502 Supported by the European Union's Horizon 2020 Programme

M. Schou Andersen

10:02–10:10 am

Thalamus Gates Progression of Mesial Temporal Seizures by Modulating Thalamocortical Synchrony

A. Ilyas

10:11–11:13 am

Spine Abstract Session

Moderator: S. Dhall, A. Kanter, P. Mummaneni

10:11–10:19 am

Outcomes of Patients Undergoing Single-level Arthroplasty Versus Anterior Lumbar Interbody fusion

S. Khalid

10:20–10:28 am

Comparison of Proximal Junctional Kyphosis Rates After L4 Versus L3 Pedicle Subtraction Osteotomies

S. Shabani

10:29–10:37 am

Malpractice Litigation in Elective Lumbar Spinal Fusion Surgery: A Review of the Past 50 Years

J. Zhang

10:38–10:46 am

Using Smartphone-Based Accelerometry to Classify Peri-Operative Course and Outcomes in Spine Surgery

H. Ahmad

10:47–10:55 am

Evaluation of a Preoperative Adverse Event Risk Index for Patients Undergoing Spinal Tumor Surgery

S. Alomari

10:56–11:04 am

Is it Better to Stop at C2 or C3/C4 in Elective Posterior Cervical Decompression and Fusion?

H. Chanbour

11:05–11:13 am

An Investigation of the Genetic Landscape of Invasive Spinal Schwannomas: Molecular Evidence of Upregulation of Proteoglycans which Induce Bone Resorption

S. Suppiah

11:14–11:31 am

Cerebrovascular Abstract Session

Moderators: TBD

11:14–11:22 am

**Best international Abstract Award
Development and Testing of a Photosensitive Liquid Polymer Embolization System for Neurovascular Diseases: Preliminary Animal Results**

J. Ku

MONDAY, MAY 2

11:23–11:31 am

Interleukin 6: An Emerging Mechanistic Target for Cerebral Vasospasm following Subarachnoid Hemorrhage

B. Lucke-Wold

11:32 am–1:06 pm

Lunch

Concessions are available for purchase at ecoGrounds located level 2 near registration

1:07–1:15 pm

Prospective Study on Embolization of Intracranial Aneurysms with the Pipeline Device (PREMIER study): 3-Year Outcomes and Evaluation Using a Specific Flow Diverter Occlusion Classification

G. Cortez

1:16–1:24 pm

Association of External Ventricular Drain Removal and Prophylactic Anticoagulation in Aneurysmal Subarachnoid Hemorrhage: A Propensity Adjusted Analysis

J. Catapano

1:25–1:33 pm

Diagnosis and Treatment of CSF-Venous Fistulas: A Single Institution Surgical Outcome Study and Proposed Management Algorithm

A. Alexander

1:34–1:42 pm

Continuous Blood Flow Visualization with Laser Speckle Contrast Imaging during Cerebrovascular Surgery

R. Ashour

1:43–2:45 pm

Pain Abstract Session

A. Grande, A. Raslan, J. Schwalb

1:43–1:51 pm

The Utility of Invasive Blood Pressure Monitoring in Microvascular Decompression

R. Xu

1:52–2 pm

Bilateral Nervus Intermedius Sectioning for Genuate Neuralgia: Case Report and Operative Video

K. Piper

2:01–2:09 pm

Surgical Technique: The “Paddle-Under-Bridge” Technique for Safe Thoracic Spinal Cord Simulator (SCS) Paddle Lead Placement in Patients with Thoracic Stenosis

T. Riedman

2:10–2:18 pm

A Quantitative Analysis of Quality of Life Improvement of Neurolesioning Procedures for Refractory Cancer Pain

P. Cook

2:19–2:27 pm

Evaluation of a Multimodal Pain Protocol after Craniotomy

S. Das

2:28–2:36 pm

Comparison of Low Dose Intrathecal Morphine Delivery in the Treatment of Chronic Pain Syndrome and Post-Laminectomy Syndrome

M. Jalal

MONDAY, MAY 2

2:37–2:45 pm

Comparison of Traditional Surgical Sealing Methods to Innovative IQ Dome Repair Technique in the Management of Superior Semicircular Canal Dehiscence

A. Pradhan

2:46–3:57 pm

Socioeconomic Abstract Session

B. Guthikonda

2:46–2:54 pm

Socioeconomic Status Predicts Disproportionate Healthcare Utilization Following Elective Spine Surgery

M. Hagan

2:55–3:03 pm

Current Trends in Subspecialty Fellowship Training for 1687 Academic Neurological Surgeons

A. Gupta

3:04–3:12 pm

Mapping Migratory Workforce Trends in the United States: An Analysis of 4,075 Neurosurgeons

S. Pugazenthi

3:13–3:21 pm

Venous Sinus Stenting: Single Institution Safety and Healthcare Cost Review

D. Mazur-Hart

3:22–3:30 pm

Resident Education in Ethiopia: Opportunities for Global Neurosurgery Collaborations

I. Germano

3:31–3:39 pm

Geographic Variations in Continuous Insurance Duration in the United States

K. Richter

3:40–3:48 pm

Neurosurgical Responses to Evaluation of the Virtual Recruitment Cycle

A. Iyer

3:49–3:57 pm

The Legacy of ambroise Paré: Advancements in Neurosurgery and Traumatic Brain Injuries from the 16th Century Battlefield

M. Park

3:58–5 pm

Tumor Abstract Session

3:58–4:06 pm

Mizuho Minimally Invasive Brain Tumor Surgery Award

Endoscopic Endonasal Resection of Rathke's Cleft Cysts: A Single Institution Analysis of 113 Consecutive Patients

H. Algattas

4:07–4:15 pm

Journal of Neuro-Oncology Award

ERK1/2 Phosphorylation Predicts Survival Following Anti-PD-1 Immunotherapy in Recurrent Glioblastoma

V. Arrieta González

4:16–4:24 pm

Brainlab Neurosurgery Award

GammaTile Brachytherapy in the Treatment of Recurrent Glioblastomas

C. Chen

4:25–4:33 pm

Elekta Tumor Section Award

Dissociating Broca's Aphasia From Broca's Area

J. Andrews

MONDAY, MAY 2

4:34–4:42 pm

**Southeastern Brain Tumor Foundation
(SBTF) Award**

**Evaluation of Immunologic Parameters in
Canine Glioma Patients Treated with an Oncolytic
Herpes Virus**

D. Estevez-Ordonez

4:43–4:51 pm

**AANS/CNS Joint Section on Tumors
Neuro-Oncology Trainee Award**

**Plasma Circulating Tumor DNA Enables Detection of
Temozolomide Resistance in Glioma**

J. Jones

4:52–5 pm

Rosenblum-Mahaley Clinical Research Award

**Survival Outcomes of Molecular Glioblastoma:
A Multicenter Study**

A. Ramos-Fresnedo

Community Sessions

7–3 pm

501 Thoracolumbar Spinal Deformity

Location: 109 AB

This course is a collaboration between AANS and SRS.



7–7:02 am

Welcome

S. Glassman, C. Shaffrey

7:03–9:14 am

**Session I: Restoring Alignment in
Degenerative Deformity**

7:03–7:22 am

Patient Specific Implants

D. Sciubba

7:23–7:42 am
TLIF, LLIF, ALIF

L. Snyder

7:43–8:02 am
Osteotomy

K. Jones

8:03–9:14 am
Session II: Small Group Case Discussions

S. Glassman, J. Gum, P. Hsieh, M. Pham

9:15–9:29 am
Beverage Break

9:30–10:11 am
Session III: Debate/Discussion

9:30–9:40 am
Potential of AI/Predictive Analytics (Pro)

A. Asher

9:41–9:59 am
Limitations of AI/Predictive Analytics (Con)

S. Glassman

10–10:11 am
Discussion with Audience

10:12–10:38 am
**The Future of Orthopedic-neurosurgical
Relationship**

R. Heary

10:39–11:29 am
Leadership Lecture

10:39–10:43 am
Introduction of Chris Shaffrey

A. Dailey

MONDAY, MAY 2

10:44–11:29 am

At What Point Will New Technologies Actual Impact Outcome

C. Shaffrey

11:30 am–12:59 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

1–1:59 pm

Session VI: Incremental Cost of New Technology— Is it Worth it?

1–1:19 pm

Navigation

I. Kalfas

1:20–1:39 pm

Robotics

J. Gum

1:40–1:59 pm

MIS Deformity

P. Park

2–2:29 pm

Existential Crisis: Deformity Surgery is too Expensive to Survive the Next Healthcare Reform

A. Vaccaro

2:30–3 pm

Session V: Debate/Discussion: Procedure Selection—Why Exactly Do I Use:

2:30–2:34 pm

Anterior/Lateral Surgery

A. Kanter

2:35–2:39 pm

Pelvic Fixation

P. Passias

2:40–2:44 pm

SI Fusion

C. Sansur

2:45–3 pm

Debate/Discussion

A. Kanter, P. Passias, C. Sansur

7 am–5 pm

502 Cervical Spinal Deformity

Location: 103 BC

Moderator: T. Koski, J. Shin

7–7:07 am

Welcome: Introduction

J. Shin

7:08–7:14 am

Welcome: Housekeeping

T. Koski

7:15–8:29 am

Session I: From the Headlines: Value and Risk in Treating Cervical Deformity

7:15–7:34 am

Complications in Cervical Deformity—What you Should Know About Frailty

P. Passias

7:35–7:54 am

ERAS for Cervical Deformity: Practical Tips for Practice

C. Zygourakis

7:55–8:14 am

Value Based Care: Does Treating Deformity have Value or is it Too Expensive? Why You Should be Thinking About This

R. Sethi

MONDAY, MAY 2

8:15–8:29 am

Panel Discussion with Speakers

8:30–8:59 am

**Innovation Lecture: Molecular Targeting
(Personalized Medicine)**

J. Johnson

9–9:29 am

**Leadership Lecture: Lessons Learned in Cervical
Deformity from Doing To Much or Too Little: How
my Practice has Changed**

D. Riew

9:30–9:44 am

Beverage Break

9:45–11:59 am

**Session II: Degenerative Cases are Deformity Cases:
There is No Such Thing as Simple**

9:45–10:04 am

**Reconstruction for Deformity at the Cranio-cervical
Junction**

N. Dahdaleh

10:05–10:24 am

**Lowest Instrumented Vertebrae (LIV) Selection for
Stenosis Without Deformity—C7, T1, T2?**

J. Turner

10:25–10:44 am

**Laminoplasty or Posterior Fusion for Stenosis?
Combined Approaches?**

L. Holly

10:45–11:04 am

C5 Palsy: How to Prevent and Treat

L. Snyder

11:05–11:24 am

Case: Disastrous Distal Junctional Kyphosis

A. Ganju, MD

11:25–11:59 am

Panel Discussion with Speakers

12–12:59 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

1–2:14 pm

Debate: Cervical Alignment Does Not Always Matter

Moderator: T. Koski

1–1:14 pm

Cervical SVA > 4 Is Always a Deformity and Must Be Corrected

TBD

1:15–1:29 pm

Treat the Symptom (Radiculopathy/Myelopathy), Not the Deformity!

E. Klineberg

1:30–1:49 pm

Rebuttal

1:50–1:59 pm

Moderator Wrap-up

T. Koski

2–2:14 pm

Question and Answer Session with Audience Polling

MONDAY, MAY 2

2:15–3:49 pm

Session III: Practical Questions and Solutions in Cervical Deformity

2:15–2:34 pm

Considerations in OPLL—Is There Ever a Case for Anterior?

R. Sasso

2:35–2:54 pm

LIV Selection and DJK Prevention After 3 Column-osteotomy

T. Koski

2:55–3:14 pm

PSO and VCR Correction and Closure Techniques

D. Okonkwo

3:15–3:34 pm

Indications for Combined Anterior and Posterior Approaches for Deformity

J. Shin

3:35–3:49 pm

Discussion with Speakers

3:50–3:59 pm

Beverage Break

4–4:19 pm

Vertebral Artery Injury: Stop or Go? What Do You Do?

J. Harrop

4:20–4:39 pm

Loss of Motor Evoked Potentials During Surgery: Abort or Continue?

TBD

4:40–5 pm

Discussion and Wrap Up

7 am–5 pm

503 Arthroplasty and Motion Preservation

Location: 112 AB

Moderator: D. Coric, V. Traynelis

7–7:03 am

Introduction

D. Coric, V. Traynelis

7:04–7:59 am

Session I: Current State-of-the-art in Cervical Arthroplasty

7:04–7:19 am

Cervical Arthroplasty Outcomes Update

R. Haid

7:20–7:39 am

Cervical Arthroplasty—What’s New

D. Coric

7:40–7:59 am

Cervical Arthroplasty Multilevel Strategies

O. Alves

8–8:19 am

Current State-of-the-art in Cervical Arthroplasty: Questions and Panel Discussion

8:20–9:16 am

Session II: Degenerative Cases are Deformity Cases: There is no Such Thing as Simple

8:20–8:38

Update on Payor Coverage

L. Tumialan

8:39–8:57 am

Why Is Europe so Far Ahead on Motion Preservation?

E. Tessitore

MONDAY, MAY 2

8:58–9:16 am

Is There a Moratorium on New Technologies in This Area?

J. Cheng

9:17–9:39 am

Beverage Break

9:40–11:39 am

Session III: Pearls in Surgical Technique

9:40–9:59 am

Arthroplasty Adjacent to Fusion

P. Nunley

10–10:19 am

Cervical Laminoplasty: Review of Techniques

J. Heller

10:20–10:39 am

Is Laminoplasty Motion Preserving?

T. Albert

10:40–10:59 am

Motion Preservation for Atlas and Axis Fractures

V. Traynelis

11–11:19 am

Cervical Arthroplasty: Complication Avoidance and Management

M. Bydon

11:20–11:39 am

Questions and Panel Discussion

11:40–12:59 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

1-1:59 pm

Debate: Cervical TDR vs Posterior Cervical Laminoforaminotomy

1-1:19 pm

Cervical TDR

R. Sasso

1:20-1:39 pm

Posterior Cervical Laminoforaminotomy

M. Smith

1:40-1:59 pm

Discussion

2-5 pm

Debate: L5-S1 ALIF vs. L-TDR

2-2:19 pm

L5-S1 ALIF

R. Nasser

2:20-2:39 pm

L5-S1 L-TDR

T. Lanman

2:40-2:59 pm

Panel Discussion with Speakers

3-3:29 pm

Lumbar TDR Evidence Basis and update

J. Harrop

3:30-3:59 pm

Lumbar Facet Replacement

S. Meyer

4-4:29 pm

Does Preserving Motion Alter the Rate of Adjacent Level Disease

E. Braxton

4:30-5 pm

Panel Discussion with Speakers

MONDAY, MAY 2

7 am–3:30 pm

504 Minimally Invasive Spine

Location: 204 AB

Moderator: P. Mummaneni, J. Uribe

7–7:02 am

Introduction

Moderators: P. Mummaneni, J. Uribe

7:03–8:02 am

Session I: The Most Disruptive MIS Technologies

7:03–7:22 am

Endoscopy

C. Hoffstetter

7:23–7:42 am

Robotics and Expanded Applications

J. Ebinu

7:43–8:02 am

Enabling Technologies

J. Godzik

8:03–8:44 am

Session II: Leadership Lectures. What is MIS?

8:03–8:21 am

R. Fessler

8:22–8:44 am

K. Foley

8:45–9:14 am

Beverage Break

9:15–10:30 am

Session III: MIS Techniques in Action

9:15–9:33 am

Deformity

K. Fu

9:34–9:52 am

Trauma

C. Molina

9:53–10:11 am

Tumor

D. Chou

10:12–10:30 am

Degenerative

C. Upadhyaya

10:30–11:59 am

Panel Discussion: Community Cases with Surgical Nuances for Degen, Trauma, Tumor, and Defromity

Moderator: J. Harrop

D. Chou, R. Fessler, K. Foley, R. Hartl

12–12:59 am

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

1–1:59 pm

MIS Case Debates Part 1—Too Much Hype and Not Enough Evidence?

1–1:05 pm

Case Topic: L4-L5 Spondylolisthesis

E. Potts

MONDAY, MAY 2

1:06–1:29 pm

Debate: TLIF vs. LLIF–TLIF

L. Tumialan, J. Uribe

1:30–1:35 pm

Case Topic: Burst Fractures, Percutaneous vs Open Approaches

S. Woodrow

1:36–1:59 pm

Debate: Percutaneous vs. Open Approaches

R. Berkman, C. Molina

2–3:30 pm

MIS Case Debates Part 2

2–2:05 pm

Case Topic: L5-S1 TLIF vs ALIF

TBD

2:06–2:29 pm

Debate: TLIF vs. ALIF

D. Coric, M. Virk

2:30–2:35 pm

Case Topic: Prespsaos vs Transpsaos at L3-4

J. Turner

2:36–2:59 pm

Debate: Prespsaos vs. Transpsaos

M. Virk, D. Chou

3–3:05 pm

**Case Topic: Third Time Reherniated Disc:
TLIF Awake vs TLIF with GETA and Endoscope**

E. Potts

3:06–3:30 pm

**Debate: Awake vs. General Anesthesia
with Endoscope**

C. Hofstetter, B. Pennicooke

7 am–4:30 pm

**505 Emerging Technologies in
Peripheral Nerve Surgery**

Location: 108 AB

Moderator: M. Mahan; R. Midha

7–7:02 am

Introduction

M. Mahan, R. Midha

7:03–8:44 am

The Most Ground-breaking New Technology

7:03–7:23 am

Peripheral Nerve Imaging

R. Dortch

7:24–7:44 am

PEG Technology

G. Bittner

7:45–8:05 am

Powered Prosthesis

T. Lenzi

8:06–8:26 am

Absorbable Electrodes for Nerve Simulation

M. MacEwan

8:27–8:44 am

Question and Answer Session

8:45–9:14 am

Beverage Break

9:15–10:29 am

What's on The Horizon

9:15–9:39 am

Axon Implants for Nerve Regeneration

D. Cullen

MONDAY, MAY 2

9:40–10:04 am

Contralateral C7 for Stroke and Cerebral Palsy

T. Wilson

10:05–10:29 am

New Therapies for ALS

N. Boulis

10:30–11:59 am

Panel Discussions: Nerve Controversies

Moderator: H. Gilmer

10:30–10:59 am

Parsonage Turner Syndrome: Surgical Neuropathy or Not?

R. Spinner, A. Belzberg

11–11:29 am

Decompression vs Resection Versus Stimulation for Painful Neuropathy

A. Hanna, J. Schwalb, C. Winfree

11:30–11:59 AM

AIN Transfer For Proximal Ulnar Lesions

R. Midha, E. Zager

12–12:59 pm

Lunch

1–1:59 pm

Existential Crises in Your Community

1–1:29 pm

How to Avoid the PN Land Grab—Developing a Working relationship with Orthopedics and Plastics.

A. Belzberg, J. Brown, R. Spinner

1:30–1:59 pm

Resident Engagement in PN Training

H. Gilmer, L. Jacques

2-3:29 pm

Debate Between Experts

Moderator: Z. Ali, R. Puffer

2-2:53 pm

Proximal Repair vs Distal Transfers

J. Huang, L. Rasulic

2:54-3:29 pm

GSW—Management Strategies and Timing

M. Mahan, E. Zager

3:30-4:30 pm

Industry Hands-on Session

7 am-4:30 pm

506 Endovascular Approaches to Neurological Problem

Location: 113 A

Moderator: A. Arthur, S. Tjoumakaris

7-7:02 am

Introduction

A. Arthur, S. Tjoumakaris

7:02-7:59 am

Session I: Ground-breaking New Technology

7:02-7:19 am

The Future of Functional Endovascular Surgery

J Mocco

7:20-7:39 am

Robotics in Neuroendovascular

P. Jabbour

7:40-7:59 am

Ultrasonic Histotripsy for ICH

A Pandey

8-8:44 am

The Future of Endovascular Neurosurgery

R. Rosenwasser

MONDAY, MAY 2

8:45–9:14 am

Beverage Break

9:15–10:29 am

What's on the Horizon

9:15–9:39 am

IA Chemotherapy for GBM

J. Knopman

9:40–10:04 am

Travenous Therapy for Paralysis

T. Oxley

10:05–10:29 am

Endovascular CSF Shunt for Communicating HCP

A. Malek

10:30–11:59 am

Transvenous AVM Treatment, CSF-venous Fistulae, MMA Embo for CSDH, ICH, Venous Stenting for IIH, DVST

R. Hanel, H. Riina, A. Siddiqui, P. Taussky

12–1 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

1:01–1:59 pm

Existential Crises in Your Community

1:01–1:30 pm

Will Neuroendovascular Become a Part of Neurosurgery, Remain Multi-specialty, or Become its Own Specialty?

J. Bukhardt, D. Dornbos, S. Monteith

1:31–1:43 pm

Rebuttal

J. Bukhardt, D. Dornbos, S. Monteith

1:44–1:59 pm

Question and Answer with Audience

J. Bukhardt, D. Dornbos, S. Monteith

2–3:30 pm

In the Next Ten Years, the Next Big Disease State in Endovascular Neurosurgery is:

- 1) Expansion in Patients Eligible for Mechanical Thrombectomy**
- 2) Minimally Invasive Treatment of ICH,**
- 3) Functional Endovascular Neurosurgery**

M. Bain, C. Kellner, M. Levitt, P. Kan, R. Starke

3:31–4:30 pm

Industry Hands-on Session

6:50 am–5:15 pm

507 Cerebral Aneurysms

Location: 114

Moderator: W. Mack, J. Morcos

6:50–7 am

Introduction

W. Mack, J. Morcos

7:01–8 am

Session I: State of the Art: Predicting Aneurysm Rupture

Moderator: R. Du, S. Lavine

7:01–7:15 am

Wall Imaging to Determine/ Guide Aneurysm Treatment

M. Niemela

7:16–7:30 am

Computational Fluid Dynamics to Determine/ Guide Treatment

M. Levitt

MONDAY, MAY 2

7:31–7:45 am

Blood Based Biomarkers for Aneurysms

A. Siddiqui

7:46–8 am

Surveillance of Aneurysms: Quantifying Risks

D. Hasan

8:01–8:45 am

Session II—Point-CounterPoint: Treatment of Blister Aneurysms

P. Kan, G. Steinberg

8:01–8:05 am

Audience Vote (pre-debate)

P. Kan, G. Steinberg

8:06–8:15 am

Blister Aneurysms Should be Treated with Microsurgery

M. Baskaya

8:16–8:25am

Blister Aneurysms Should Be Treated with Flow Diverters

H. Woo

8:26–8:30 am

Rebuttal 1

M. Baskaya

8:31–8:35 am

Rebuttal 2

H. Woo

8:36–8:40 am

Audience Vote (post-debate)

P. Kan, G. Steinberg

8:41–8:45 am

Discussion

8:46–9:30 am

Session III: Treatment of Giant and Fusiform Aneurysms—Panel Discussion

Moderator: F. Albuquerque, J. Mura

Panelists: M. Baskaya, F. Charbel, K. Cockroft,

E. Levy, L. Sekhar

9:31–10:30 am

Session IV: Real Life Complications

9:31–9:39 am

E. Connolly

9:40–9:48 am

C. Schirmer

9:49–9:56 am

C. David

9:57–10:04 am

M. Aziz-Sultan

10:05–10:12 am

A. Wang

10:13–10:20 am

B. Bendok

10:21–10:30 am

Discussion

10:31–11 am

Beverage Break

MONDAY, MAY 2

11:01–11:30 am

Session V: State of the Industry

Moderator: A. Abla, B. Jahromi

11:01–11:05 am

Intraoperative Blood Flow Measurements

S. Amin-Hanjani

11:06–11:10 am

Fluorescence Vascular Techniques

J. Russin

11:11–11:15 am

Augmented/Virtual Reality in Cerebrovascular Surgery

A. Cohen-Gadol

11:16–11:20 am

Robotics in Neuroendovascular Surgery

P. Jabbour

11:21–11:25 am

Topic: TBD

A. Malek

11:26–11:30 am

Topic: TBD

B. Hoh

11:31–12 pm

Session VI: Keynote Lecture: The Refined Craft of Aneurysm Clipping: Subtleties, Blunders and Lessons Learned

D. Barrow

12:01–1 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

1:01–1:45 pm

Session VII—Panel II: Treatment of Middle Cerebral and Basilar Tip Aneurysms

Moderator(s): B. Jankowitz, S. Wolfe

A. Day, J. Mocco, A. Krisht, H. Riina, B. Welch

1:01–1:45 pm

Treatment of Middle Cerebral and Basilar Tip Aneurysms

1:46–2:45 pm

Session VIII: Breakout Hands-on Groups

2:46–3:15 pm

Beverage Break

3:16–3:45 pm

Session IX: The Pivot/Lipton Interview with the Experts

Moderator(s): J. Morcos

D. Barrow, D. Langer, C. Ogilvy, R. Rosenwasser

3:46–4:30 pm

Session X: Panel III—Pre-Submitted Audience Cases

Moderator(s) N. Khan, G. Thompson

A. Dehdasht, S. Giannotta, A. Khalessi, G. Lanzino, G. Zipfel

4:31–5:15 pm

Session XI—Pushing the Envelope and Imagining the Future

Moderator(s) G. Britz, J. Bukhardt

4:31–4:45 pm

Endovascular Devices of the Future

E. Levy

4:46–5 pm

Bypasses of the Future

M. Lawton

MONDAY, MAY 2

5:01-5:15 pm

The Future of Cerebrovascular Disease in Children

M. Levy

7 am-4 pm

508 Movement Disorders and Epilepsy

Location: 201 BC

Moderator(s): A. Abosch, P. Starr

7-7:05 am

Introduction

A. Abosch, P. Starr

7:06-9:15 am

Ground Breaking Technology: DBS

7:06-7:31 am

Next Generation DBS Hardware

T. Denison

7:32-7:57 am

The New Era of Big Data From the Brain

R. Abbasi-Asl

7:58-8:23 am

DBS in Psychiatry

S. Sheth

8:24-8:49 am

**Neural Decoding of Chronic Pain and Its Implication
for Neuromodulation**

P. Shirvalkar

8:50-9:15 am

**Leadership Lecture/Pre-eminent Thought Leader:
Thalamic Neurostimulation for Cognitive Rehab**

J. Henderson

9:16-9:46 am

Beverage Break

9:47–11:20 am

Existential Crises and Critical Issues

9:47–10:07 am

Adopting New Surgical Technologies

TBD

10:08–10:28 am

Challenges of Launching a Practice in Functional Neurosurgery as a New Attending—Academic

B. Lee

10:29–10:49 am

Challenges of Launching a Private Practice in Functional Neurosurgery

P. Gigante

10:50–11:20 am

Panel Discussion

Moderator(s): A. Abosch, B. Lee, A. Machado,
N. Puratian, P. Starr

11:21–12:51 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

12:52–1:54 pm

Ground Breaking Technology: Epilepsy

Moderator(s): N. Barbaro, E. Chang

12:52–1:12 pm

Role of Thalamus in Epilepsy Surgery: Implications for SEEG/DBS/SEEG

K. Riley

1:13–1:33 pm

Targeting Consciousness in Epilepsy Surgery

A. Machado

MONDAY, MAY 2

1:34–1:54 pm

DBS vs. RNS vs. VNS: Algorithmic Approaches

J. Rolston

1:55–2:25 pm

Beverage Break

2:26–4 pm

Existential Crises and Critical Issues

**Panel Discussion: Minimally Invasive:
Risks vs. Benefits**

Moderator(s): N. Barbaro, E. Chang

Panelists: R. Gross, J. Willie, K. Zaghloul

7 am–5 pm

509 Pediatric Brain Tumor and Hydrocephalus

Moderator(s): G. Grant, B. Iskandar

7–7:04 am

Introduction

G. Grant, B. Iskandar

7:03–9:41 am

Session I: Pediatric Brain Tumors

7:05–7:35 am

The Past and Present

F. Boop

7:36–8:16 am

The Future: Big Data and CNS Tumors

P. Dirks

8:17–8:57 am

CNS Tumors and Genomic Landscape (low grade)

A. Resnick

8:58–9:41 am

Debate Between Experts

F. Boop, P. Dirks, J. Rutka, V. Tabar

9:42–10:12 am

Beverage Break

10:13–11:39 am

Session II: Technology

10:13–10:33 am

Molecular Targeting (Personalized Medicine)

V. Tabar

10:33–10:54 am

The Non-surgical Future of Primary CNS Tumors?

A. Resnick

10:55–11:39 am

Panel: Debate Between Experts and Q & A

11:40–12:40 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

12:41–1:57 pm

Session III: Hydrocephalus

Moderators: J. Drake

12:41–1:11 pm

The Past and Present

M. Walker

1:12–1:57 pm

The Future

S. Schiff

1:58–2:28 pm

Beverage Break

MONDAY, MAY 2

2:29–5 pm

Session III: Technology

2:29–2:48 pm

Using Big Data Science for Hydrocephalus Treatment and Prevention

K. Kahle

2:49–3:08 pm

Future Endoscopic Technology

M. Souweidane

3:09–3:28 pm

The Future of Global Hydrocephalus Care

B. Warf

3:29–4:14 pm

Future Shunt Design Panel

Panelists: S. Browd, J. Ray-Cambrin, M. Walker

4:15–5 pm

Debate Between Experts and Q & A

Moderators: J. Drake, B. Iskandar

Panelists: J. Riva-Cambrin, J. McAllister, J. Madsen

7 am–4:30 pm

511 Glioblastoma

Location: 113 BC

Moderator(s): F. Barker, L. Liao

7–7:02 am

Introduction

F. Barker, L. Liao

7:03–8:32 am

Session I: Ground-breaking New Technology

7:03–7:17 am

Intra-operative Histology & AI Image Analysis

D. Orringer

7:18–7:32 am

**Progression vs. Pseudo-progression:
How to Differentiate & When to Operate**

TBD

7:33–7:47 am

**Laser Interstitial Thermal Therapy (LITT)
for Gliomas**

W. Kim

7:48–8:02 am

**Epigenetic Modulation for Brain Tumor
Immunotherapy**

R. Everson

8:03–8:17 am

Autophagy Inhibition in Treatment of Glioblastoma

N. Amankulor

8:18–8:32 am

Knowing When to Stop Removing Tumor

C. Hadjipanayis

8:33–9:17 am

Leadership Lecture

M. Berger

9:18–9:44 am

Beverage Break

9:45–10:29 am

**Leadership Lecture: Overcoming the Challenges in
Glioma Therapy**

R. Stupp

10:30–11:59 am

Session II: What's on the Horizon

10:30–10:50 am

**New Science & Clinical Trials That Will Change
Glioblastoma Management in the Next Five Years**

E. Choicca

MONDAY, MAY 2

11–11:59 am

Panel Discussion/Q&A: Interesting Cases

Moderator(s): F. Barker, L. Liau

N. Amankulor, M. Berger, E. Chiocca, R. Everson, C. Hadjipanayis,
W. Kim, D. Orringer, R. Stupp

12–1 pm

Lunch

Participants in the Neurological Communities will receive a
\$15 voucher to be used at Reading Terminal

1–1:59 pm

Session III: Existential Crises in Your Community

1–1:29 pm

Negative Clinical Trials Over and Over Again

P. Wen

1:30–1:59 pm

Why Our Clinical Trials Fail

F. Barker

2–2:50pm

Session VI: Debate Between Experts

2–2:29pm

Supratotal Resection for Gliomas: It is Indicated or Not?

H. Duffau, S. Hervey-Jumper

2:30–2:59 pm

Tumor Treating Fields for Glioblastoma

J. Sampson, R. Stupp

3–4:30 pm

Industry Hands on Session

7 am–4:30 pm

512 Pituitary and Endoscopic Skull Base

Location: 204 BC

Moderator(s): W. Couldwell, N. Oyesiku

7–7:02 am

Introduction

Moderators: W. Couldwell, N. Oyesiku

7:03–8:02am

Session I: Ground-breaking New Technology

7:03–7:17 am

Extended Transsphenoidal Surgery

D. Prevedello

7:18–7:32 am

Advanced Imaging for Pituitary Surgery

G. Barkhoudarian

7:33–7:47 am

Advanced Endoscopy and Pituitary Surgery

T. Schwartz

7:48–8:02 am

Intraoperative MRI

E. Knosp

8:03–8:47 am

Pituitary Surgery: Past, Present, and Future

E. Laws

8:48–9:14 am

Beverage Break

9:15–11:59 am

Session II: What's On The Horizon

9:15–9:27 am

Intraop MRI

TBD

MONDAY, MAY 2

9:28–9:40 am

Genomic Alterations in Pituitary Adenomas

W. Bi

9:41–9:53 am

Pituitary Apoplexy Management

M. Aghi

9:54–10:06 am

Giant Adenoma Management

J. Fernandez-Miranda

10:07–10:19 am

Management of Functioning Adenoma Recurrence

G. Zada

10:20–10:32 am

Reaching Into the Cavernous Sinus

P. Gardner

10:33–11:59 am

Panel Discussion with Questions from Audience

Moderator: J. Sheehan

M. Aghi, W. Bi, J. Fernandez-Miranda, P. Gardner, G. Zada

12–1 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

1–3:30 pm

Session III: Existential Crises in Your Community

1–1:14 pm

Medical Therapy is the Future of Pituitary Adenoma treatment

M. Fleseriu

1:15–1:29 pm

Surgery is the Future of Pituitary Adenoma Treatment

W. Couldwell

1:30–1:44 pm

**Radiation is the Future of Pituitary
Adenoma Treatment**

D. Kondziola

1:45–1:59 pm

**Guidelines, Consensus Statements, and Evidence
Based Practice**

K. Post

2–3:30 pm

Cases for Panel Review with Audience Polling

Moderator(s): J. Jane, D. Kelly

M. Bergesneider, M. Fleseriu, E. Laws, A. Lochimescu, J. Sheehan

3:31–4:30 pm

Industry Hands-on Session

7–2:15 pm

513 Focused Energy Treatments of the Nervous System

Location: 110 AB

Moderator(s): R. Gross, A. Rezai

7–7:29 am

Introduction and the Need for New Technology

7–7:14 am

Focused Energy Treatments and Ultrasound

A. Rezai

7:15–7:29 am

**MRI Guided vs. Thermistor Controlled
Thermocoagulative Ablation**

R. Gross

7:30–8:59 am

Session I: State of the Art Ablation

7:30–7:44 am

Movement Disorders

R. Cosgrove

MONDAY, MAY 2

7:45–7:54 am

Tumors

G. Barnett

7:55–8:06 am

Obsessive Compulsive Disorder and Depression

J. Chang

8:07–8:16 am

Epilepsy

TBD

8:17–8:26 am

Epilepsy and Movement Disorders

TBD

8:27–8:38 am

Chronic pain

V. Krishna

8:39–8:59 am

Panel Question/Answers and Discussion

9–9:29 am

Beverage Break

9:30–10:29 am

Session II: Leadership Lectures

9:30–9:49 am

Gamma Knife Lesioning in Neurosurgery

D. Kondziolka

9:50–10:09 am

Focused Ultrasound Technology: A Paradigm Shift in Neurosurgery

K. Hynynen

10:10–10:29 am

Bringing Lasers into the Light

TBD

10:30–11:44 am

**Session III: Blood Brain Barrier Opening
and Neuromodulation**

10:30–10:42 am

Alzheimer's Disease

TBD

10:43–10:55 am

Brain Tumors

TBD

10:56–11:06 am

Gene and Stem Cell Delivery

TBD

11:07–11:14 am

Neuromodulation for Addiction

A. Rezaei

11:15–11:22 am

Neuromodulation for Neurological Conditions

J. Adler

11:23–11:44 am

Panel Question/Answers and Discussion

11:45–12:45 pm

Lunch

Participants in the Neurological Communities will receive a \$15 voucher to be used at Reading Terminal

12:46–1:07 pm

Session IV: New Technology Around the Bend

12:46–12:56 pm

Is There a Practical Option for Optogenetics

TBD

12:57–1:07 pm

Photomodulation and Optical Energy

TBD

MONDAY, MAY 2

1:08–2:15 pm

**Session V: Existential Crises in Your Community:
Point-Counter Point—Is the Tail Wagging the Dog?
Technology vs. Clinical Need as the Driver of Change**

1:08–1:18 pm

**Focused Ultrasound is a Better Therapy and Will
Replace Gamma Knife for Movement Disorders (Pro)**

R. Cosgrove

1:19–1:29 pm

**Focused Ultrasound is a Better Therapy and Will
Replace Gamma Knife for Movement Disorders (Con)**

D. Kondziolka

1:30–1:40 pm

**Laser and RF Ablation is a Better Therapy and Will
Replace Open Resection (Pro)**

R. Gross

1:41–1:51 pm

**Laser and RF Ablation is a Better Therapy and Will
Replace Open Resection (Con)**

TBD

1:52–2:15 pm

Panel Question/Answers and Discussion

7 am–4:25 pm

Rapid Fire Research Forum

Location: 111 AB

7–8:09 am

Rapid Fire Abstracts: Cerebrovascular

7:05–7:09 am

**Risk Factors for Chronic Depression Following
Aneurysmal Subarachnoid Hemorrhage:
A 17-year Experience**

J. Catapano

7:10–7:14 am

Shorter Reproductive Lifespan and Early Age at Menopause are Associated with Aneurysmal Subarachnoid Hemorrhage in Women

P. Lai

7:15–7:19 am

Non-invasive Low Pulsed Electric Fields Induce Transient BBB Disruption, Depicted by the TRAMs, Enabling Efficient Delivery of Biologics Into the Brain

Y. Mardor

7:20–7:24 am

Sympathetic Nervous System Hyperactivity Results in Potent Cerebral Hypoperfusion in a Swine Model of Cerebral Vasospasm

W. Kim

7:25–7:29 am

Inflammasomes in Large Vessel Occlusion Thrombi

S. Chen



7:30–7:34 am

Rescue Stenting for Acute Ischemic Stroke with Refractory Emergent Large Vessel Occlusion in the Modern Thrombectomy Era

K. El Naamani

7:35–7:39 am

Laparoscopic Omental-cerebral Transposition for Repeat Revascularization of Refractory Moyamoya Disease

B. Yim

7:40–7:44 am

Factors Associated with Intracranial Aneurysm Rupture: A HEAT Trial Secondary Study

B. Jones

MONDAY, MAY 2

7:45–7:49 am

Vessel Wall Imaging and Quantitative Flow Assessment in Arteriovenous Malformations: A Feasibility Study

L. Stone McGuire

7:50–7:54 am

Angiographic Study of Cranial Venous Outflow Patterns at the Skull Base in Patients With and Without Idiopathic Intracranial Hypertension

M. Sattur

7:55–7:59 am

Between Scylla and Charybdis: A Neuroanatomic & Clinical Assessment of Safe Navigation Routes Through the Middle Cerebellar Peduncle for Brainstem Cavernous Malformation Resection

C. Graffeo

8–8:04 am

Pre-operative Brain Mapping Supports Clinical Decision and Guides Surgical Management in Eloquent Arteriovenous Malformation. A Clinical Prospective Study.

S. Karadimas

8:05–8:09 am

Pilot Study of a Randomized, Blinded, Placebo-Controlled Trial of Shunt Surgery in Idiopathic Normal Pressure Hydrocephalus

M. Luciano

8:10–8:59 am

Rapid Fire Abstracts: Pain; History

8:10–8:14 am

A Role for Steroids in Acute Pain Management in Patients with Trigeminal Neuralgia

R. Xu

8:15–8:19 am

Interventional Therapies for SUNCT/SUNA: A Review

R. Smit

8:20–8:24 am

The Effect of Intraoperative Intrathecal Morphine Administration on the Length of Stay and Postoperative Pain Control for Patients Undergoing Lumbar Interbody Fusion

K. Beasley

8:25–8:29 am

The Internal Structure of Gasserian Ganglion and its Implications on the Efficacy of Percutaneous Radiofrequency Thermocoagulation for Trigeminal Neuralgia

B. Bozkurt

8:30–8:34 am

Effective Treatment of Refractory Complex Facial Pain with Motor Cortex Stimulation by Spinal Paddle Electrodes

A. Gong

8:35–8:39 am

Augmentation of Postoperative Pain and Opioid Consumption Following Craniotomy: A Study of Subcutaneous Sumatriptan

J. Woodward

8:40–8:44 am

PHANOR L. PEROT, JR: South Carolina's Father of Neurosurgery

Z. Hubbard

8:45–8:49 am

The History of Closed Skeletal Traction in the Management of Cervical Facet Dislocations

T. Chryssikos

MONDAY, MAY 2

8:50–8:54 am

“Life and Death 2” The First Neurosurgical Computer Simulation

I. Bhatia

8:55–8:59am

The Operating Table—Past, Present and Future

M. Helton

9–10:14 am

Rapid Fire Abstracts: Socioeconomic

9–9:04 am

Building and Implementing an Institutional Registry for a Data-driven National Neurosurgical Practice: Experience From a Multi-site Medical Center.

M. Bydon

9:05–9:09 am

Factors Associated with Pregnancy and Perinatal Outcomes in Female Neurosurgeons: A Cross-sectional Study

S. Parker

9:10–9:14 am

Affective Disorders are Associated with Longer Hospitalization and Hospital Charges in Patients Undergoing Elective Lumbar Spinal Fusion

S. Alomari

9:15–9:19 am

From Their Eyes: What Constitutes Effective Formative Feedback for Neurosurgery Residents

C. Neal

9:20–9:24 am

Association of Medicaid Expansion Under the Affordable Care Act with Receipt of Meningioma Treatment

C. Lopez Ramos

9:25–9:29 am

Influence of Healthcare Disparities On Outcomes for Spinal Metastasis Patients

K. Ashayeri

9:30–9:34 am

Legal Considerations of the Neurosurgical Physician and Physician Assistant Team

K. Hickman

9:35–9:39 am

Predicting Resilience and Burnout in Neurosurgery Trainees and Neurosurgeons Globally: Need for a Culture Shift

J. Skulsampaopol

9:40–9:44 am

Supplementary Insurance to Medicare: A Significant Factor in Discharge Disposition after Lumbar Spine Fusion in New York

A. Carpenter

9:45–9:49 am

A Qualitative Study of Fear and Unintended Consequences Emerging from Restrictive Opioid Prescribing Policies

C. Sedney

9:50–9:54 am

Surgical Start Time Impacts Length of Stay for Elective Neurosurgical Procedures

C. Cifarelli

9:55–9:59 am

Return to Work, Activities of Daily Living and Sports After Spinal Ependymoma Resection: A Monocenter Experience with Long-term Follow-up

V. Butenschoen

10–10:04 am

Characteristics of Transfer Patients Who Undergo Craniotomy

A. Carpenter

MONDAY, MAY 2

10:05–10:09 am

Role of Early Postoperative CT Scan in Elective Cranial Surgeries

J. Ruparelia

10:10–10:14 am

Improving Education on Cost-Effective Care in Neurosurgery: A Personalized, Web-Based Intervention for Residents

A. Khalafallah

10:15–11:09 am

Rapid Fire Abstracts: Tumor

10:15–10:19 am

Novel Bipolar Electric Field Therapy for the Treatment of Glioblastoma: Preliminary In-vitro and In-vivo Results

S. Dhawan

10:20–10:24 am

ACOT-7 Knockdown Regulates IRE1 α and Prolongs Survival in Preclinical Breast Cancer Brain Metastases

E. Petrosyan

10:25–10:29 am

Determining Surgically Relevant Structural Connectivity Inter-individual Biotypes Using Simulated Brain Surgery

M. Sughrue

10:30–10:34 am

BOLD Asynchrony is a Contrast-Independent Biomarker of High-Grade Glioma in Patients on Bevacizumab

P. Wu

10:35–10:39

Transcriptomic Landscape of Diffuse Infiltrating Gliomas Identifies Immune Subgroups in IDH Wildtype and Mutant Patients

X. Zhang

10:40–10:44

MRI Radiogenomics of Pediatric Medulloblastoma: A Multi-Center Study

M. Zhang

10:45–10:49 am



Identification of Targetable Glioblastoma Specific Antigens Using a B-cell-based Vaccine

B. Castro

10:50–10:54 am



Genetic Manipulation of CD97 Inhibits Patient-Derived Glioblastoma Stem Cell Invasion In Vivo

D. Eichberg

10:55–10:59 am

Circulating Tumor-Leukocyte Hybrid Cells: A Novel, Sensitive, and Specific Biomarker for Glioma in Peripheral Blood

S. Bowden

11–11:04 am

Radiogenomics and Radiomics of Skull Base Chordoma: Machine Learning-based Classification of Genetic Signatures and Clinical Outcomes by Multiparametric MRI

Z. Gersey

11:05–11:09 am

Integrated Computational Analyses Reveal Novel Insights Into the Stromal Microenvironment of SHH-subtype Medulloblastoma

A. Landry

MONDAY, MAY 2

11:10 am–1:25 pm

Rapid Fire Abstracts: Neurotrauma

11:10–11:14

Expression of Thrombin-Cleaved Osteopontin and Integrin $\alpha 9$ and $\beta 1$ Signaling Pathway Molecules in Chronic Subdural Hematomas

K. Osuka

11:15–11:19 am

Improving Trauma Readiness in the Military Neurosurgical Community—Early Experience from the Army Military Civilian Trauma Team Training (AMCT3) Program

C. Mossop

11:20–11:24 am

MRI-based Treatment Response Assessment Maps, TRAMs, for Depicting Short/long-term Subtle BBB Disruption in Traumatic Brain Injury

Y. Mardor

11:25–11:29 am

Technical Nuances and Complications of Endoscopic-assisted Ventricular Catheter Placement in Ventriculo-peritoneal Shunt Insertion: a Single Center Experience

S. Jeong

11:30–11:34 am

Cerebral Cortical Functional Connectivity Following Mild, Repetitive Traumatic Brain Injury in the Mouse

S. Cramer

11:35 am–12:55 pm

Lunch

Concessions are available for purchase at ecoGrounds located level 2 near registration

12:56–1 pm

**Patterns of Intracranial Pressure Monitoring
in Patients with Severe Traumatic Brain Injury:
A TRACK-TBI Study**

V. Wang

1:01–1:05 pm

**Barriers to Early Surgery for Spinal Cord Injuries:
A Report from the North American Clinical Trials
Network for Spinal Cord Injury**

C. Neal

1:06–1:10 pm

**Antiplatelet, Anticoagulant, or Endovascular
Treatment for Stroke Prevention in Blunt
Cerebrovascular Injury: A Retrospective Cohort
Study with Systematic Review and Meta-analysis**

J. Ku

1:11–1:15 pm

**Association between Physiologic Frailty and
Discharge Outcomes after Admission for Non-
Operative Traumatic Brain Injury**

R. Sastry

1:16–1:20 pm

**Delayed Intracranial Hemorrhage of Mild Traumatic
Brain Injury Patients under Antithrombotics on
Routine Repeat CT Scan: a Systematic Review and
Meta-Analysis**

S. Elhadwe

1:21–1:25 pm

Hemispherotomy for Post-Traumatic Epilepsy

K. Wojcik

MONDAY, MAY 2

1:26–2:25 pm

Rapid Fire Abstracts: Pediatrics

1:26–1:30 pm

Surgical Decision Making in Brachial Plexus Birth Injuries: A Three Year Retrospective Review of 34 Patients

C. Gegg

1:31–1:35 pm

Complications of Internal Cranial Distractors

C. Wilkinson

1:36–1:40 pm

LITT Therapy for SEGA: Establishing its Role in Standard of Care

S. Boop

1:41–1:45 pm

Microsurgical Treatment of Pediatric Arteriovenous Malformations: A Large Single Center Case Series

D. Peters

1:46–1:50 pm

Comparison of Surgical Interventions for Early-Onset Scoliosis: a Systematic Review and Meta-analysis

M. Bydon

1:51–1:55 pm

Clinical Outcomes for Pediatric Hydrocephalic Patients Treated with ETV+CPC: A Systematic Review and Meta-analysis

J. Mann

1:56–2 pm

Spinal Dysraphism in Epispadias-exstrophy Complex

B. Judy

2:01–2:05 pm

The Role of Vagus Nerve Stimulation in Genetic Etiologies of Drug Resistant Epilepsy: A Meta-Analysis

M. LoPresti

2:06–2:10 pm

Feasibility of Low Field-Strength Magnetic Resonance Imaging in the Pediatric Neurosurgery Clinic

D. Donoho

2:11–2:15 pm

Effects of Extended Operative Time on Surgical and Hospital Outcomes After Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis

A. Elsamadicy

2:16–2:20 pm

Pediatric Stereotactic Image-Guided C1-2 Transarticular Screw Placement

M. Prablek

2:21–2:25 pm

Impact of Transfer Status on Discharge Disposition and Adverse Events Among Pediatric Patients Undergoing Malignant Brain Tumor Resection

S. Rangwala

2:26–3:25 pm

Rapid Fire Abstracts: Stereotactic and Functional

2:26–2:30 pm

First-in-human Use of Novel Platinum-Nanorod (PtNR) Multi-thousand Channel High Density Grid During Craniotomies for Pathologic Brain Resections

A. Raslan

2:31–2:35 pm

High Density Electrocorticography Reveals Functional Microstructure of Human Superior Temporal Gyrus

D. Cleary

2:36–2:40 pm

Impact of Subthalamic Nucleus Stimulation on Urinary Dysfunction and Constipation in Parkinson's Disease

A. Askari

MONDAY, MAY 2

2:41–2:45 pm

Distinct Perceptive Pathways Selected with Bursting and Tonic Patterns of Thalamic Electrical Stimulation

M. Willsey

2:46–2:50 pm

Safety and Effectiveness of the Assessment and Treatment of idiopathic Normal Pressure Hydrocephalus in 424 Patients in the Adult Hydrocephalus Clinical Research Network

M. Hamilton

2:51–2:55 pm

Complete Corpus Callosotomy: Palliation for Catastrophic, Non-Localizing, Medically Refractory Epilepsy

J. Baumgartner

2:56–3 pm

Ambulatory Local Field Potential Recordings from the Thalamus in Epilepsy: Early Experience

D. Satzer

3:01–3:05 pm

Stereotactic Magnetic Resonance Guided Laser Ablation of Periventricular Nodular Heterotopia

R. McCormack

3:06–3:10 pm

Convection Enhanced Delivery of Autologous Cerebrospinal Fluid Improves Basal Ganglia Visualization During MRI-Guided Deep Brain Stimulation Surgery

S. Moosa

3:11–3:15 pm

Caudate Beta Power During Working Memory is Increased in Parkinson's Disease Patients

D. Paulo

3:16–3:20 pm

Short-latency Myogenic Evoked Potentials in Human Subjects from Cerebellar Dentate Nucleus Deep Brain Stimulation

F. Pucci

3:21–3:25 pm

Presence of Massa Intermedia; Implications on Neurocognitive Performance in a Geriatric Population

J. Pearce

3:26–4:25 pm

Rapid Fire Abstracts: Spine

3:26–3:30 pm

Prediction Model for Neurogenic Bladder Recovery One Year After Traumatic Spinal Cord Injury

M. Bydon

3:31–3:35 pm

Lateral Mass Screws Versus Pedicle Screws at C7—Reoperation Rates for Adjacent Segment Disease (Operative ASD) and Nonunions (Operative Nonunions) in Posterior Cervical Fusions Stopping at C7.

H. Brara

3:36–3:40 pm

Hydrogel Matrix Human Stem Cell Based Nucleus Pulposus Intervertebral Disc Regeneration

M. Perez-Cruet

3:41–3:45 pm

Optimal Realignment Outweighs Increased Perioperative Risk in ASD Surgery

P. Passias

3:46–3:50 pm

Lumbar Motion is Maintained with Paraspinous Tension Band for Degenerative Spondylolisthesis: Results from 24-month FDA Study

K. Kim

MONDAY, MAY 2

3:51–3:55 pm

Verteporfin-loaded Microparticles for Treatment and Radio-sensitization of Spinal Metastatic Disease

O. Akinduro



3:56–4 pm

Determining Timeframe of Maximum Clinical Improvement in Surgical Decompression for Cervical Spondylotic Myelopathy when Stratified by Preoperative Myelopathy Severity

C. Berlin



4:01–4:05 pm

The Comparison of Deep Learning and Classical Machine Learning Algorithms to Predict Post-operative Outcomes for Anterior Cervical Discectomy and Fusion Procedures with State-of-the-art Performance

A. Rodrigues

4:06–4:10 pm

6-month Outcomes for Patients Undergoing Posterior vs Circumferential Surgical Approach for Isthmic Spondylolisthesis

P. Arnold

4:11–4:15 pm

Preoperative Insomnia on Poor Postoperative Pain Control After Elective Spine Surgery and the Modified CAPPs Score

M. Yang

4:16–4:20 pm

Return to Work, Activities of Daily Living and Disability Improvement: 12-month Outcomes of an FDA IDE Trial of Decompression and Tension Band Stabilization for Degenerative Spondylolisthesis

W. Welch

4:21–4:25 pm

Assessing Pre-Operative Functional Decline in Lumbar Fusion and Lumbar Decompression Patients Through Smartphone-Based Accelerometry

S. Singh

INDUSTRY SUPPORT As of 3/28/22

The American Association of Neurological Surgeons wishes to acknowledge the following companies for their generous support of the 2022 Annual Meeting:

TITLE

Medtronic
Stryker

PLATINUM

DePuy/J&J
Codman Specialty Surgical,
a Division of Integra
LifeSciences
Globus
NuVasive
Zeiss

GOLD

Brainlab
GT Medical Technologies Inc.
Leica Microsystems
Merck

SILVER

Aesculap, Inc.
ATEC Spine
Carlsmed
Elekta
Longeviti Neuro Solutions
Mainstay Medical
Medexus Pharma
Mizuho America, Inc.
Phasor Health, LLC

BRONZE

3Spine
Aidoc
Azurity Pharmaceuticals
BK Medical
Fujifilm
Hyperfine
Kogent Surgical
Mitaka USA
Mizuho OSI
Natus
NICO Corporation
Novarad
Orthofix
Penumbra Inc
RapidAI
Synaptive Medical
Varian, A Siemens
Healthineers Company
Xoran
Zimmer Biomet

NREF

OPENS DOORS



Be Part of Neurosurgery's Future. Your continued support helps the NREF in its ongoing efforts to advance the specialty.

nref.org/Donate



SHUTTLE SERVICE

Most of our hotels are within walking distance, but we will provide transportation to and from the following hotels:

Four Seasons Hotel Philadelphia
W Hotel Philadelphia
The RitzCarlton, Philadelphia
Element Philadelphia

**Please note that those that have guest rooms at The Ritz Carlton and the Element Philadelphia will use the stop at the W Hotel as a shared stop.*

SCHEDULE

Thursday, April 28

7:30 am–6:30 pm | Every 15 minutes

Friday, April 29

6:30–9 am | Every 15 minutes

9 am–3:30 pm | Every 30 minutes

3:30–9 pm | Every 15 minutes

Saturday, April 30

6:30–9 am | Every 15 minutes

9 am–3:30 pm | Every 30 minutes

3:30–7 pm | Every 15 minutes

Sunday, May 1

6:30–9 am | Every 15 minutes

9 am–3:30 pm | Every 30 minutes

3:30–5:30 pm | Every 15 minutes

Monday, May

6:30–9 am | Every 15 minutes

9am–3:30 pm | Every 30 minutes

3:30–5:30 pm | Every 15 minutes

NEUROSURGEONS AS ADVOCATES

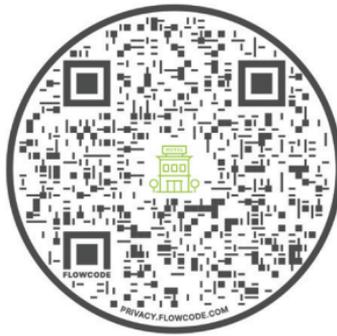


AANS 2023 LOS ANGELES

APRIL 21-24

SHOP HOTELS TODAY!

Book Now



onpeak.com/aans



Deep
Discounts



No Booking or
Change Fees



Hotel Rewards
Points

For all housing inquiries, contact onPeak at
aans@onpeak.com.

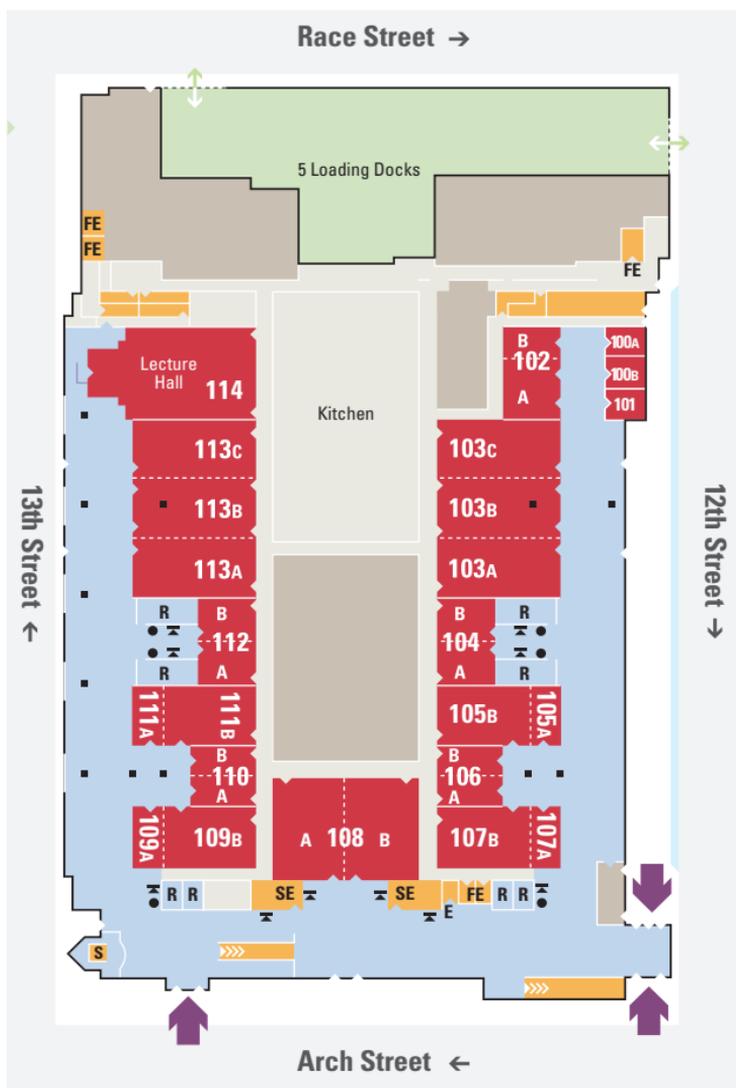


American
Association of
Neurological
Surgeons

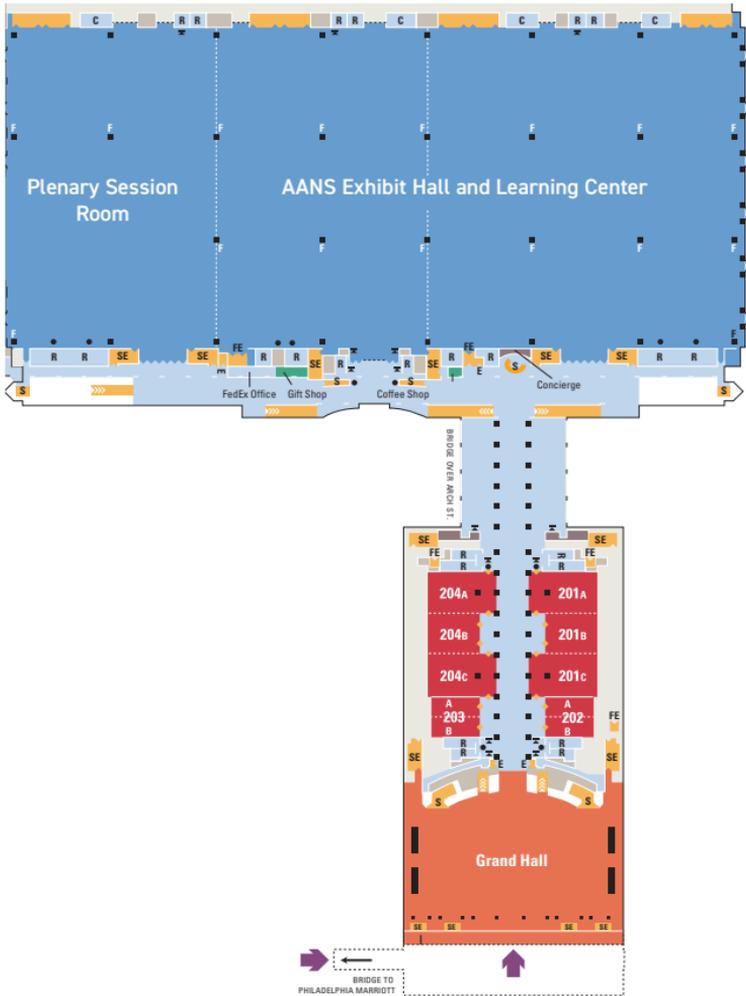
ONPEAK
OFFICIAL HOTELS

PENNSYLVANIA CONVENTION CENTER

Level 1

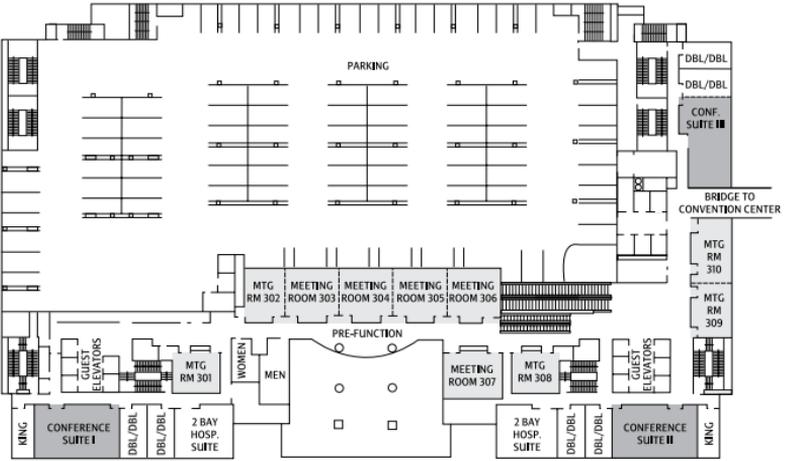


Level 2

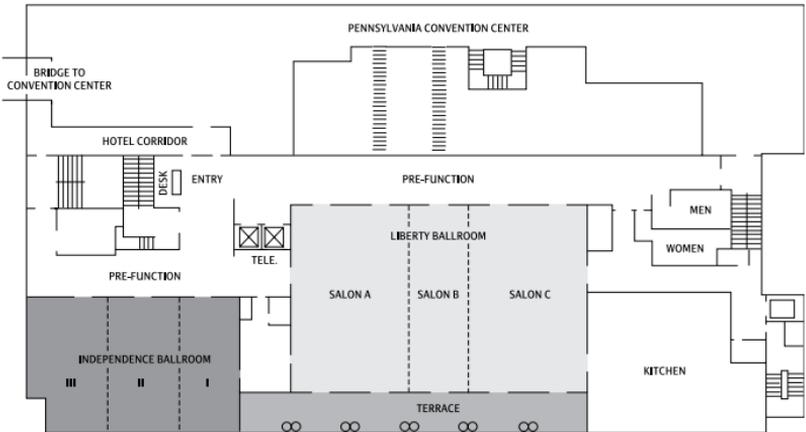


PHILADELPHIA MARRIOTT DOWNTOWN

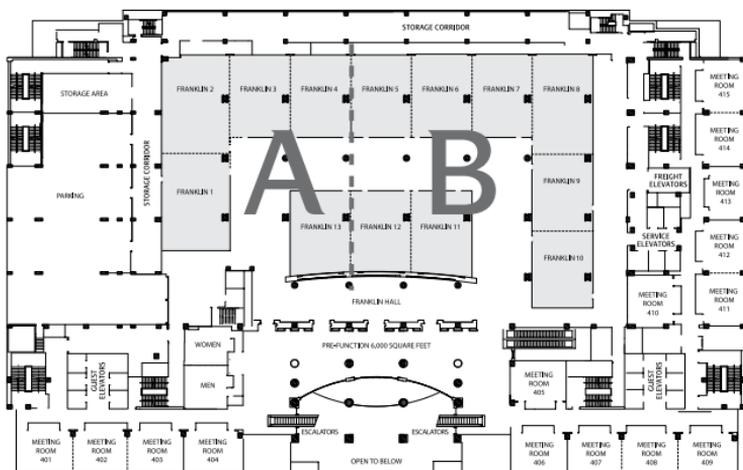
3rd Floor Meeting Rooms



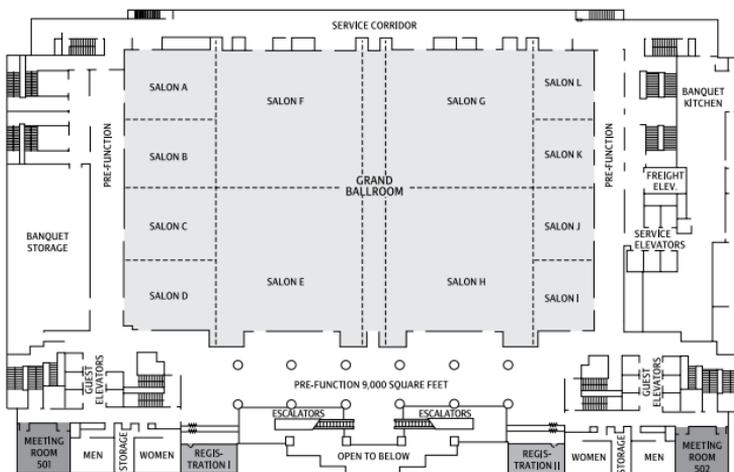
3rd Floor, Headhouse Tower Liberty and Independence Ballrooms



4th Floor Franklin Hall and Meeting Rooms



5th Floor Grand Ballroom and Meeting Rooms



TEN TIMES SAFER

AGAINST PLUNGING?



A **BATTERY-OPERATED** drill/kit upgrade

PHASOR

**DISPOSABLE POWER DRILLS AND
CRANIAL ACCESS KITS (ALL-INCLUSIVE)
FOR EVDS, BIOPSIES, AND MORE
AT AN AFFORDABLE PRICE**

**FDA-CLEARED, CE-MARKED, IN USE AT
MANY LARGE U.S. & O.U.S. HOSPITALS**

VISIT US AT AANS BOOTH #1121

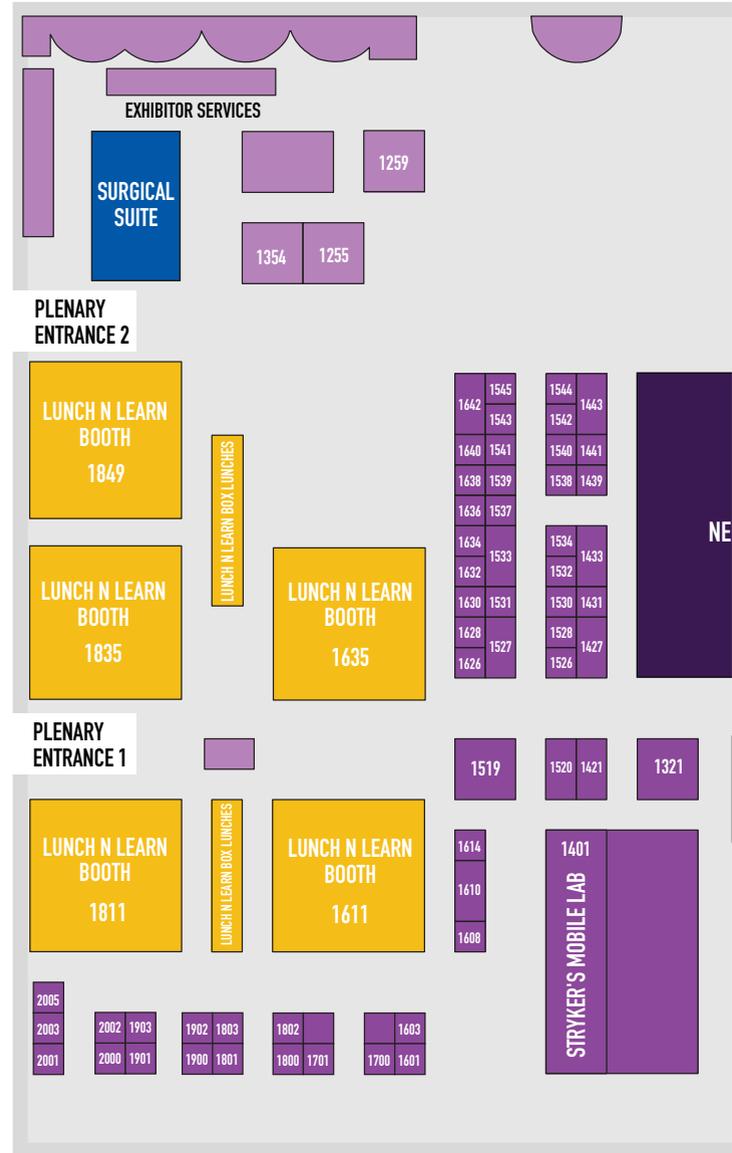
832.982.1234 | phasorhealth.com

- Phasor Drill Stop Extension can withstand up to 50 pounds (compared to 5 pounds) without plunging.

(c) 2022 Phasor Health, LLC, Houston, Texas, U.S.A.

PH-M 22-002

AANS EXHIBIT HALL AND LEA



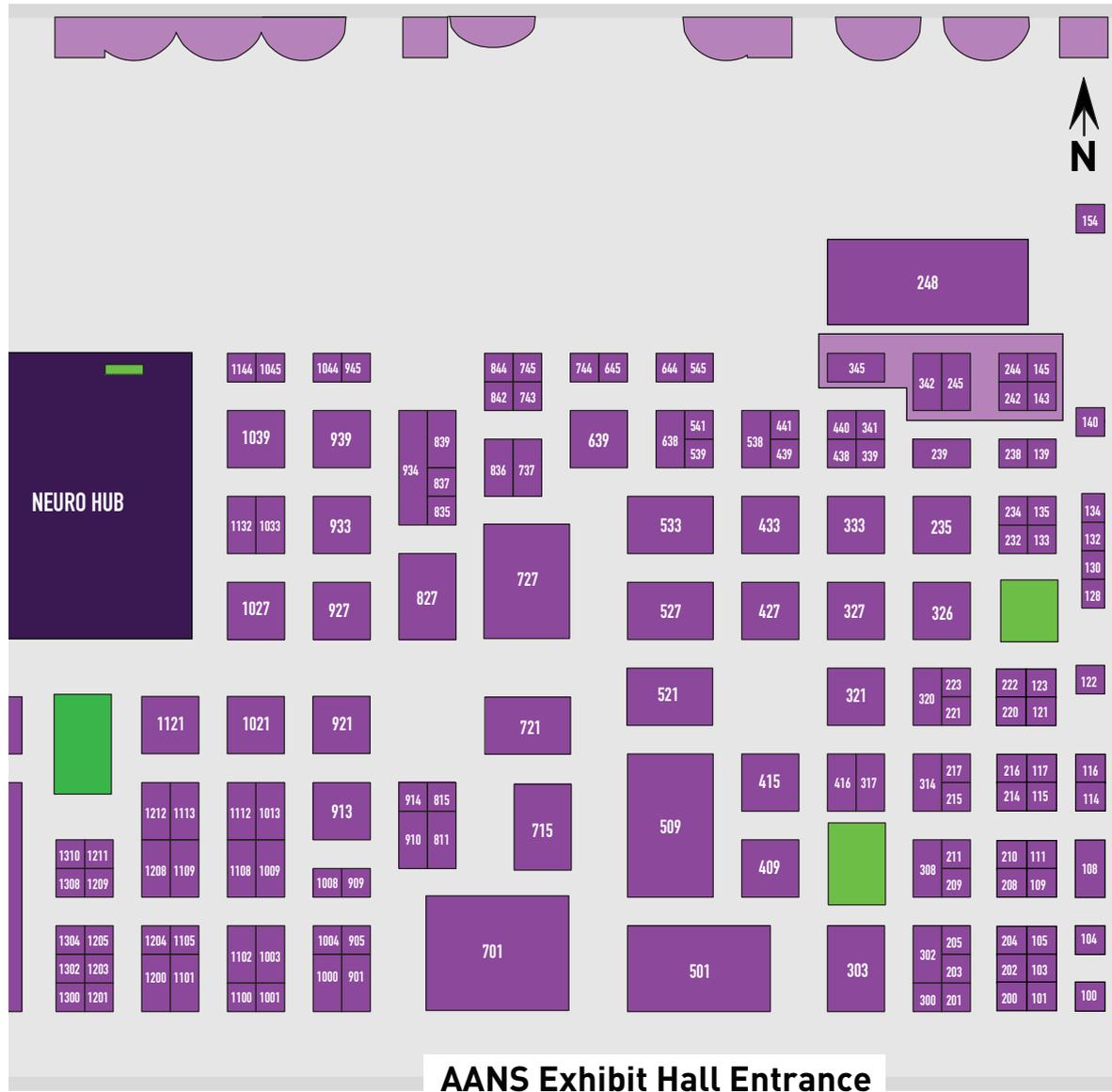
AANS Exhibit Hours

Friday, April 29, 2022, 6:30–8:30 pm, **Opening Reception**

Saturday, April 30, 2022, 8 am–4:30 pm

Sunday, May 1, 2022, 8 am–4:30 pm

EARNING CENTER



Visit the Exhibit Floor

The AANS Exhibit Hall showcases over 100 companies featuring the latest technology in neurosurgery. Join your colleagues in the exhibit hall to meet with innovative exhibitors and enjoy a refreshment.

- AANS Neuro Hub
- Lunch and Learns
- Surgical Suite
- Beverage Breaks
- Headset Distribution

Beverage Breaks in the AANS Exhibit Hall

Saturday, April 30, 8–8:30 am, 10–11 am,
3:30–4:30 pm
Sunday, May 1, 8 am–8:30 am, 10–11 am,
3:30–4:30 pm

Lunch in the Exhibit Hall (for Medical Attendees)

Saturday, April 30, 12:30–1:45 pm
Sunday, May 1, 12:30–1:45 pm

EXHIBITOR LIST (AS OF MARCH 20)

COMPANY	BOOTH
3Spine	326
4WEBMedical	1138
AANS/CNS Sections	1127
AANS Neuro Hub	1127
American Association of Neurological Surgeons (AANS)	1127
Accelus	1608
Acumed	901
AddUp	1308
Ad-Tech Medical Instrument Corp	1108
Aegis Spine, Inc.	1039
Aesculap, Inc.	721
Aidoc	235
Allegheny Health Network	1628
American Board of Neurological Surgery	202
American Surgical Company	216
Apex Medical, Inc.	743
Assent Medical Media	441
ATEC Spine	327
Augmedics	1610
Aygün Cerrahi Aletler Sanayi ve Ticaret A.S.	200
Azurity Pharmaceuticals	427
Baxter International	439
BIOCOMPOSITES	1538
Biologica Technologies	835
Bioplate	1533
Bioventus LLC	815
BK Medical	639
Blackrock Neurotech	1539
Blaze Bioscience	844
Bonefoam	1045
BOSS Instruments, Ltd.	302
Brain Aneurysm Foundation	341
Brainlab	501
Bremer Group	209
Camber Spine	204
Carltsmed	317
Centinel Spine	300
Cerapedics	1543
Ceribell, Inc.	1642
ChoiceSpine	1203
Clarus Medical, LLC	339
ClearPoint Neuro, Inc.	1526
CMF Medicon Surgical Inc.	221
Codman Specialty Surgical, a Division of Integra LifeSciences	521
Congress of Neurological Surgeons	837
CoreLink Surgical	1545
Covenant HealthCare	1528
Designs for Vision, Inc.	1113
Dio Medical Corp	1044
DiscGenics	1439
DIXI Medical USA Corp	208
DuraStat LLC	133
E-Posters	1127
Elekta	811
Elevation Spine	1431
elliquence	1209
Elsevier	438
Eminent Spine	139
Fehling Surgical Instruments Inc.	1421

COMPANY	BOOTH
Fujifilm	433
FzioMed, Inc.	1302
Glioblastoma Foundation	1542
Globus Medical	715
GT Medical Technologies Inc.	321
Hayes Locums	220
Hubly Surgical	545
Hudson Regional Hospital	1534
Hydrocephalus Association	541
Hyperfine	1321
icotec Medical, Inc.	644
IMRIS, Deerfield Imaging	1102
Insightec	1132
Invenio Imaging Inc.	1443
IRRAS	1205
Johnson & Johnson Medical Devices (JJMD)	303
joimax	210
Journal of Neurosurgery	1127
JTS Management	1634
Kaiser Permanente	1041
Kelyniam	1013
Kirwan Surgical Products LLC	1109
KLS Martin Group	416
Kogent Surgical	934
Leica Microsystems	727
Life Instrument Corporation	1527
LocumTenens.com	1441
Longeviti Neuro Solutions	527
L VH Neurosurgery	1532
Mainstay Medical	222
Medability	745
Medacta USA	1630
Medexus Pharma	533
Medi Lazer	211
Medprin Biotech GmbH	1208
Medtronic	701
Merck & Co., Inc.	909
Mercy Medical Center	238
MicroVention, Inc.	1632
Mitaka USA	333
Mizuho America, Inc.	827
Mizuho OSI	927
Monteris Medical	1101
Nadia International, Inc.	905
Natus	1519
NeuroLogica	1000
NeuroPace, Inc.	1537
NeuroPoint Alliance (NPA)	1127
Neurosurgery Research & Education Foundation (NREF)	1127
Neurosurgery PAC	1427
Nexstim	1614
NICO Corporation	415
Northwell Health	1640
NovaBone Products LLC	1001
Novarad	939
Novocure, Inc.	1304
NSK America Corporation	214
NuVasive	921

COMPANY	BOOTH
Olympus America Inc.....	839
Omniscient Neurotechnology.....	1433
Orthofix.....	1544
OssDsign.....	1033
Pacira BioSciences Inc.....	234
Panasonic i-PRO Sensing Soluti.....	239
Parkview Health.....	1636
Penumbra Inc.....	409
Peter Lasic US Inc.....	638
Phasor Health, LLC.....	1121
PMT Corporation.....	1212
Poriferous LLC.....	836
Pro Med Instruments.....	737
Presentation Theaters.....	1127
RapidAI.....	933
Raumedic Inc.....	1211
Renishaw Healthcare Inc.....	1531
Restor3d.....	135
Reveal Surgical.....	201
RIWOSpine US.....	440
Rose Micro Solutions LLC.....	215
RosmanSearch.....	1200
Sanara Med Tech.....	320
Sanford Health.....	842
Scanlan International, Inc.....	1004
SeaSpine.....	314
Sentinel Equity Group.....	539
ShuntCheck.....	1008
SI-BONE.....	1204
Singular Health Group Ltd.....	1530
Sontec Instruments, Inc.....	217
Sophysa USA.....	308
Spectrum Spine.....	538
Spine Wave, Inc.....	1100
Spineology.....	1300
SSM Health.....	945
Stryker.....	1401
Surgalign.....	1144
Surgeons Capital Management.....	205
Surgitel.....	223
Sutter Medical Technologies, USA.....	1003
Synaptive Medical.....	1027
TAKAYAMA/MUTOH.....	232
TEAC.....	914
TeDan Surgical Innovations, Inc.....	1009
Thieme Publishers.....	1105
ThinkFirst National Injury Prevention Foundation.....	1540
Thompson Surgical Instruments, Inc.....	1201
Tobra Medical, Inc.....	1626
UFSK-International OSYS GmbH.....	1112
USOMedical.....	203
Varian, A Siemens Healthineers Company.....	1021
Viomerse Inc.....	1541
Viticus Group.....	1310
Xoran Technologies, LLC.....	1520
Zap Surgical Systems.....	638
ZEISS.....	509
Zimmer Biomet.....	913
ZimVie.....	910



See your patients in a WHOLE NEW LIGHT.

Heads-up surgery is just the beginning.

But we didn't stop there. With precision robotics and digital visualization delivering crystal clear, immersive 3D images for the entire OR, we think you'll like what you see.

Visit **Booth 721** to learn more about the Aesculap Aeos® Robotic Digital Microscope.



Powered by
TRUE
by
DIGITAL
SURGERY

aesculapusa.com/aeos

AESCLAP®

Aesculap, Inc. - a B. Braun company



Medtronic

Visualize the
Procedure.



Realize the
Potential.

The power to plan, perform, and
verify at every step for patient-
specific treatment that sets a new
standard for neurological care.

Come see us at **Booth #701** for
in-person demos.

© 2022 Medtronic. Medtronic, Medtronic logo and Engineering the extraordinary are trademarks of Medtronic. All other brands are trademarks of a Medtronic company. UC202015927 EN