Access the AANS 360 Mobile app that contains the 2018 Annual Meeting

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Network: AANS    Password: aansmtgs
Together, we confront the challenges of neurological disorders and diseases:

- Stroke: Ischemic and Hemorrhagic
- Brain tumors and lesions
- Cranial trauma
- Dystonia*
- Essential tremor
- Hydrocephalus
- Obsessive-compulsive disorder*
- Parkinson’s disease
- Spine: Degenerative and Deformity

*Approved as a Humanitarian Device in the US: the effectiveness of DBS for the treatment of Dystonia and OCD has not been demonstrated.
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FREE WIFI

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@neurosurgery
Legislative, advocacy and policy-related news from the Washington Office

facebook.com/AANSneuro

youtube.com/AANSneurosurgery
FRIDAY, APRIL 27

6:30 a.m.–5 p.m. Speaker Ready Room 283

10 a.m.–6 p.m. AANS Badge Pick-up
Preservation Hall Foyer, 2nd Floor;
New Orleans Marriott

5–7 p.m. AANS Registration
Hall H/I Lobby

SATURDAY, APRIL 28

6:30 a.m.–5 p.m. Speaker Ready Room 283

6:30 a.m.–5:30 p.m. AANS Registration
Hall H/I Lobby

8 a.m.–6 p.m. AANS Badge Pick-up
Preservation Hall Foyer, 2nd Floor;
New Orleans Marriott

8 a.m.–5 p.m. All-day Practical Clinics
(001, 003, 004)

8 a.m.–5 p.m. International Symposium,
Stereotactic and Functional,
Pediatrics and Neurotrauma
293–295

8 a.m.–12 p.m. Morning Practical Clinics
(006–010, 013)

1–4 p.m. Neurosurgeon-scientist Career
Development Course
270

1–5 p.m. Afternoon Practical Clinics
(014–020)

SUNDAY, APRIL 29

6 a.m.–5 p.m. Speaker Ready Room 283

6:30 a.m.–7 p.m. AANS Registration
Hall H/I Lobby
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<td>7 a.m.–4:30 p.m.</td>
<td>All-day Practical Clinic&lt;br&gt;(027)</td>
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<td>The NeuroPoint Alliance and Your Practice: Using Registries to Enhance Quality, Reimbursement, Certification and Clinical Research 391/392</td>
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<td>1–4:30 p.m.</td>
<td>Young Neurosurgeons Research Forum&lt;br&gt;388–390&lt;br&gt;Osler Lecture&lt;br&gt;Fredric B. Meyer, MD, FAANS</td>
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<td>5–6:30 p.m.</td>
<td>AANS Opening Ceremonies&lt;br&gt;New Orleans Theater&lt;br&gt;Welcome: Alex B. Valadka, MD, FAANS&lt;br&gt;Moderator: Norman Robinson&lt;br&gt;The Honorable Bill Cassidy, MD&lt;br&gt;Tommy Cvitanovich&lt;br&gt;Bennett deBoisblanc, MD&lt;br&gt;Arnie Fielkow&lt;br&gt;Lt. General Russel L. Honoré</td>
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7–9 p.m.  
AANS Opening Reception
Generations Hall

MONDAY, APRIL 30

6:30 a.m.–4 p.m.  
AANS Registration
Hall H/I Lobby

6:30 a.m.–5 p.m.  
Speaker Ready Room
283

7–9 a.m.  
Breakfast Seminars
(100–117, 119)

7 a.m.–5 p.m.  
NREF Cushing Circle Donor Lounge
284

7:30–9 a.m.  
AANS/CNS Section on Women in Neurosurgery (WINS) Breakfast
Mardi Gras Ballroom Salon DE
New Orleans Marriott

9 a.m.–4:15 p.m.  
AANS Exhibit Hall and Learning Center
Hall H/I

9–9:45 a.m.  
Morning Beverage Break in the AANS Exhibit Hall
Hall H/I

9:33 a.m.–1 p.m.  
Plenary Session I
Hall J

Historical Film—The History and Culture of New Orleans
Presented by Frank Culicchia, MD, FAANS

Louise Eisenhardt Lecture
Angela Duckworth, PhD

Hunt-Wilson Lecture
Daniel Ariely, PhD

AANS Presidential Address
Alex B. Valadka, MD, FAANS

1–2 p.m.  
Lunch in the AANS Exhibit Hall
Hall H/I

1:10–1:55 p.m.  
Lunch-and-learn Seminars
Non-CME Events
1:10–2 p.m. Neurosurgery “In Press”: Latest Results of Clinical Trials in Neurosurgery and Allied Fields 289/290

1:15–2:45 p.m. Advanced Practice Providers (APPs) Luncheon; The Privilege of Service—Volunteerism in Neurosurgery 297

2–3:30 p.m. Operative Nuances I: Microvascular Decompression Surgery and Intraoperative Challenges—3-D Presentation New Orleans Theater

2–5:30 p.m. Scientific Sessions I–VII
Scientific Session I: Tumor 394–396
Scientific Session II: Spine 293–295
Scientific Session III: Stereotactic and Functional Surgery 291/292
Scientific Session IV: Pediatrics 388–390
Scientific Session V: Cerebrovascular 391/392
Scientific Session VI: Neurotrauma and Critical Care 383–385
Scientific Session VII: AANS/CSNS Socioeconomic 286/287

3:30–4 p.m. Afternoon Beverage Break in the AANS Exhibit Hall Hall H/I

5:30–6:30 p.m. Joint Annual Business Meeting of the American Association of Neurological Surgeons (AANS) and the American Association of Neurosurgeons (ANN) 289/290
6:30–8 p.m.  NREF Donor Reception  
Riverview 2, New Orleans Marriott  
By invitation only

6:30–8:30 p.m.  Dinner Symposium: New Strategies for Endovascular Aneurysm Treatment  
Palace Café

Dinner Symposium: Ripped from the Headlines-Doctors in Medico-legal Crosshairs: Lessons Learned to Keep Lawyers and Regulators Away  
Antoine’s Restaurant

6:30–9:30 p.m.  AANS Section on the History of Neurological Surgery Section Dinner  
Setti S. Rengachary, MD  
Memorial Lecture  
Thomas J. Durant Jr., PhD  
The Court of Two Sisters Restaurant

8–9:30 p.m.  AANS International Reception  
New Orleans Museum of Art

TUESDAY, MAY 1

6:30 a.m.–4 p.m.  AANS Registration  
Hall H/I Lobby

6:30 a.m.–5 p.m.  Speaker Ready Room  
283

6:30 a.m.–5:45 p.m.  Luggage and Coat Check  
Hall J Foyer

7–9 a.m.  Breakfast Seminars  
(200–219)

7 a.m.–5 p.m.  NREF Cushing Circle Donor Lounge  
284

9 a.m.–4:15 p.m.  AANS Exhibit Hall and Learning Center  
Hall H/I

9–9:45 a.m.  Morning Beverage Break in the AANS Exhibit Hall  
Hall H/I
9:35 a.m. – 1 p.m.  Plenary Session II  
Hall J  

Historical Film—New Orleans Rising—Hurricane Katrina and its Aftermath  
Presented by David G. Kline, MD, FAANS(L)  

Rhoton Family Lecture  
Daniel H. Pink, JD  

Cushing Orator  
General Stan McChrystal  

1–2 p.m.  Lunch in the AANS Exhibit Hall  
Hall H/I  

1:10–1:55 p.m.  Lunch-and-learn Seminars  
Non-CME Events  

1:15–2:15 p.m.  WINS Mentorship Luncheon  
Booth #2046  

1:15–2:45 p.m.  Young Neurosurgeons Luncheon  
Preserving the Craft of Micro Neurosurgery  
Michael T. Lawton, MD, FAANS  
386/387  

2–3:30 p.m.  Operative Nuances II: Challenging Operative Moments During Microsurgery 3-D Video Presentation  
New Orleans Theater  

2–5:30 p.m.  Section Sessions  
AANS/CNS Section on Disorders of the Spine and Peripheral Nerves — Peripheral Nerves Section  
286/287  

AANS/CNS Cerebrovascular Section  
391/392  

AANS/CNS Section on Neurotrauma and Critical Care  
383–385  

AANS/CNS Section on Tumors I  
394–396  

AANS Section on Stereotactic and Functional Surgery  
291/292
2–5:30 p.m. Advancements in Neurotrauma Care
289/290

3:30–4 p.m. Afternoon Beverage Break in the AANS Exhibit Hall
Hall H/I

6:30–8:30 p.m. Dinner Symposium: Novel Techniques and Strategies to Treat Spine Disease in the Aging Population
Arnaud’s Restaurant
Dinner Symposium: Update on the Latest Advances in Fluorescence in Surgical Microscopy
Dickie Brennan’s Bourbon House

WEDNESDAY, MAY 2

6:30 a.m.–3:30 p.m. AANS Registration
Hall H/I Lobby

6:30 a.m.–4:30 p.m. Speaker Ready Room
283

6:30 a.m.–5:45 p.m. Luggage and Coat Check
Hall J Foyer

7–9 a.m. Breakfast Seminars
(305, 307–310, 312–217)

7 a.m.–12 p.m. NREF Cushing Circle Donor Lounge
284

9 a.m.–2:15 p.m. AANS Exhibit Hall and Learning Center
Hall H/I

9–9:45 a.m. Morning Beverage Break in the AANS Exhibit Hall and Learning Center
Hall H/I

9:35 a.m.–1 p.m. Plenary Session III
Hall J

Historical Film—The History of Louisiana Neurosurgery
Presented by Anil Nanda, MD, FAANS

Theodore Kurze Lecture
Gary Green, MD
Richard C. Schneider Lecture
Moderator: Regis Haid, MD, FAANS
Michael M. Haglund, MD, PhD, FAANS
Merwyn Bagan, MD, MPH, FAANS(L)

Van Wagenen Lecture
L. Dade Lunsford, MD, FAANS

1–2 p.m.  Lunch in the AANS Exhibit Hall
           Hall H/I

1–2 p.m.  Rapid Fire Abstracts:
           Cerebrovascular and Tumor
           AANS Learning Center in Exhibit Hall
           Booth #2428

1–2 p.m.  Rapid Fire Abstracts:
           Neurotrauma-Pediatrics—
           Stereotactic and Functional
           AANS Learning Center in Exhibit Hall
           Booth #2420

2–5 p.m.  Section Sessions
           AANS Section on the History of
           Neurological Surgery
           286/287

AANS/CNS Section on Disorders of the
Spine and Peripheral Nerves—Spine
Section
           293–295

AANS/CNS Section on Pain
           383–385

AANS/CNS Section on Pediatric
Neurological Surgery
           388–390

AANS/CNS Section on Tumors II
           394–396

Please Note: All abstracts are published as submitted by their authors. The AANS is unable to make any changes to the abstracts.
With honor, respect and gratitude, we thank all of our military attendees for their courageous service to the United States of America.

Please stop by the Registration area to receive a ribbon that commemorates your service.
6:30 a.m.–5 p.m.
Speaker Ready Room
Location: 283

6:30 a.m.–5:30 p.m.
AANS Registration
Location: Hall H/I Lobby

8 a.m.–6 p.m.
AANS Badge Pick-up
Location: Preservation Hall Foyer, 2nd Floor; New Orleans Marriott

8 a.m.–5 p.m.
All-day Practical Clinics

001 Introduction to Cerebrovascular Neurosurgery for Residents
Non-CME Event
Location: 265–268
A. Arthur; M. Bain; M. Binning; G. Colby; J. Davies; C. Griessenauer; B. Gross; J. Howington; P. Kan; C. Kellner; W. Mack IV; J. Mascitelli; J Mocco; C. Ogilvy; T. Oliver; P. Pandey; R. Replogle; D. Sigounas; R. Starke; R. Turner IV; E. Veznedaroglu; B. Walcott
Supported by: Cerenovus, Medtronic and Penumbra

6:30–9:30 p.m.
Resident’s Dinner (A continuation of Practical Clinic 001)
Location: Lucy’s Retired Surfers Bar & Restaurant
701 Tchoupitoulas Street
No Transportation Provided

003 You Are Never Too Old for Surgery: Spine Management in an Aging Population
Location: 384/385
P. Anderson; N. Brooks; D. Dirisio; D. Hoh; D. Josiah; A. Krishnaney; V. Miele; L. Prado; D. Resnick; S. Schmoller; J. Shin; M. Steinmetz; C. Stopper; S. Tharin; E. Tsai; E. Woodard

004 Advanced Endoscopic Skull Based Surgical Techniques
Location: 391/392
A. Cohen-Gadol; J. Fernandez-Miranda; P. Gardner; N. Malhotra; T. Schwartz; C. Snyderman
Supported by an educational grant from KLS Martin
It is with great pleasure that the leaders of the AANS welcome the European Association of Neurosurgical Societies (EANS) and the Continental Association of African Neurosurgical Societies (CAANS) to the 2018 AANS Annual Scientific Meeting as the collaborating continental societies.

8 a.m.–5 p.m.
International Symposium
Location: 293–295

STEREOTACTIC AND FUNCTIONAL SESSION
Moderators: A. Abosch; E. Eskandar; S. Sheth

8–8:05 a.m.
Introduction
S. Sheth

8:06–8:21 a.m.
New Targets for DBS for Movement Disorders
P. Blomstedt (Sweden)

8:22–8:37 a.m.
Neurosurgery for OCD: Stimulation or Ablation?
L. Zrinzo (United Kingdom)

8:38–8:53 a.m.
Superolateral MFB DBS for Depression
V. Coenen (Germany)

8:54–9:09 a.m.
Surgery for Temporal Lobe Epilepsy
T. Sajko (Croatia)

9:10–9:25 a.m.
Epilepsy Surgery in Africa: The Moroccan Experience
A. El Khamlichi (Morocco)

9:26–9:41 a.m.
Individualizing Surgery for Patients with Spasticity
J. Enslin (South Africa)
SATURDAY, APRIL 28

9:42–9:57 a.m.
Stereotactic and Functional Neurosurgery in Developing Countries: Experience of Niger
S. Sanoussi (Niger)

9:58–10:13 a.m.
Pathological Network in Essential Tremor and Surgical Implications
J. Regis (France)

10:14–10:37 a.m.
Stereotactic and Functional Panel/Case Discussions

10:38–10:53 a.m.
Beverage Break

PEDIATRIC SESSION
Moderators: F. Boop; G. Grant; M. Krieger

10:54–11:09 a.m.
Medulloblastomas in the Era of Molecular Biology: A Challenge for Developing Countries
S. Bakhti (Algeria)

11:10–11:25 a.m.
Radionuclide Shuntography for the Evaluation of Ventriculo-Peritoneal Shunt in Children with Hydrocephalus
M. Mahmud (Nigeria)

11:26–11:41 a.m.
Opportunities and Challenges for Pediatric Neurosurgery
A. Fieggen (South Africa)

11:42–11:57 a.m.
Modeling Neurological Diseases Using Stem Cell Technology
T. Wataya (Japan)

11:58 a.m.–12:13 p.m.
CVJ Anomalies and Skeletal Dysplasias in Children
P. Hinojosa (Spain)
12:14–12:29 p.m.
Cerebellar Mutism in Adults—Does it Exist?
O. Bankole (Nigeria)

12:30–12:45 p.m.
Brain Tumors in Teens—How to Deal with Strange Pathological Findings
I. Omerhodzic (Bosnia and Herzegovina)

12:46–1:01 p.m.
Match Making in Global Pediatric Neurosurgery
W. Harkness (United Kingdom)

1:02–1:25 p.m.
Pediatric Panel/Case Discussions

1:26–2:11 p.m.
Lunch Break
Concessions will be available to purchase in the Hall H/I Lobby near AANS Registration

NEUROTRAUMA SESSION
Moderators: G. Manley; D. Michael; D. Okonkwo

2:12–2:27 p.m.
The International Initiative for Traumatic Brain Injury Research (InTBIR)
G. Manley (United States)

2:28–2:43 p.m.
Biomarkers of TBI: Where (and Why) Do We Stand?
A. Buki (Hungary)

2:44–2:59 p.m.
Update on Surgical Trials in Traumatic Brain Injury
P. Hutchinson (United Kingdom)

3–3:15 p.m.
Guidelines for TBI: Time for Change?
F. Servadei (Italy)

3:16–3:31 p.m.
Threshold of Postoperative ICP Necessary for Better Than Vegetative Outcome After De-compressive Craniectomy for Severe Traumatic Brain Injuries
M. El-Fiki (Egypt)
3:32–3:47 p.m.  
**Outcome Predictions in Mild TBI**  
J. Ohman (Finland)

3:48–4:03 p.m.  
**The Enigma of Chronic Subdural Hematomas in Africa**  
S. Ohaegbulam (Nigeria)

4:04–4:19 p.m.  
**Individualised Treatment of TBI in the Era of Precision Medicine**  
A. Figaji (South Africa)

4:20–5 p.m.  
**Neurotrauma Panel/Case Discussions**

8 a.m.–12 p.m.  
**Morning Practical Clinics**

**006 How to Apply to Residency**  
*Location: 270*  
O. Adogwa; N. Agarwal; M. Aghi; S. Amin-Hanjani; N. Barbaro; J. Beckett; S. Chowdhry; D. Dornbos III; S. Han; M. Ivan; P. Jones; B. Kennedy; K. Kicielinski; R. Komotar; D. Mukherjee; E. Nduom; N. Oyesiku; J. Pace; K. Than; S. Wolfe; I. Yang

**008 Cranio cervical and C1C2 Stabilization Techniques, Surgical Approaches**  
*Location: 275–277*  
R. Anderson; D. Brockmeyer; A. Dailey; T. Hankinson; J. LaFuente; N. Theodore; C. Thome

**009 Zen and the Art of Posterior Fossa Surgery**  
*Location: 278/279*  
W. Couldwell; A. Nanda; M. Niemela; M. N. Pamir; D. Prevedello; V. Seifert
010 RHOTON LECTURE SERIES: 3-D Anatomy and Approaches to the Posterior Fossa and Posterior Skull Base

Location: New Orleans Theater
E. de Oliveira; J. Fernandez-Miranda; P. Gardner; V. Quilis-Quesada; P. Rubino; J. Sorenson

013 Update on Tumors for the General Neurosurgeon I: Adult Gliomas and Metastases

Location: 389/390
M. Berger; S. Chang; P. Fecci; S. Kalkanis; R. Ramakrishna; N. Sanai; J. Sheehan; A. Sloan; C. Watts; J. Weinberg

9:45–10:45 a.m.
Practical Clinic Morning Beverage Break
Location: 273/274 Foyer; 291 Foyer; 391 Foyer

12–1 p.m.
Practical Clinic Lunch*
Location: 271–273
* For medical attendees participating in an all-day Practical Clinic or in a morning AND afternoon Practical Clinic only. Concessions will be available to purchase in the Hall H/I Foyer near AANS Registration.

1–4 p.m
Neurosurgeon-scientist Career Development Course
Location: 270
S. Amin-Hanjani; B. Carter; E. Chiocca; S. Korn; D. Limbrick Jr; J. Ojemann; G. Zipfel

1–5 p.m.
Afternoon Practical Clinics

014 Emerging Technologies in Spine Surgery
Location: 393–396
J. Chapman; J. Cheng; D. Drazin; P. Grunert; J. P. Johnson; T. Kim; C. Luciano; N. Malhotra; A. Oyelese; N. Theodore; C. Thome; D. Tuason; M. Wang

Supported by an educational grant from Globus Medical
015 Endoscopic Lumbar Spinal Surgery: Cadaveric Hands on Course  
*Location:* Blue Surgical Lab in AANS Learning Center  
*Booth #2013*  
C. Hofstetter; P. Houle; D. Laich; T. Lubbers; M. Steinmetz; W. Taylor; A. Telfeian; M. Wang; G. A. West; P. Witt

016 Goodman Oral Board Review  
*Location:* 260/261  
K. Hongo; R. Komotar; T. Leipzig; A. Levi; R. Spinner

017 Laser Thermocoagulation (LITT)—How, When and Why  
*Location:* 275–277  
V. Chiang; M. Schulder; C. Tatsui; S. Tatter; J. Wilden

018 Controversies, Complications, Indications and Advances in MIS Spine Surgery  
*Location:* 278/279  
K. Fu; A. Kanter; P. Mummaneni; P. Park; D. Resnick; K. Than; M. Virk; M. Wang

019 Advanced Practice Providers (APP) Wound Care Clinic  
*Location:* 288–290  
S. Baccus; E. Butler; M. Langlois; S. Radhakrishnan

Supported by an educational grant from Johnson & Johnson Medical Devices Companies

020 Update on Tumors for the General Neurosurgeon II: Skull Base, Pediatric and Spine Tumors  
*Location:* 389/390  
M. Aghi; S. Bhatia; F. DeMonte; I. Dunn; F. Gentili; Z. Gokaslan; M. Link; I. Pollack

**2:30–3:30 p.m.**  
Practical Clinic Afternoon Beverage Break  
*Location:* 273/274 Foyer; 291 Foyer; 391 Foyer
SUNDAY, APRIL 29

6:30 a.m.–6 p.m.
Speaker Ready Room
Location: 283

6:30 a.m.–6 p.m.
AANS Registration
Location: Hall H/I Lobby

8 a.m.–8 p.m.
AANS Badge Pick-up
Location: Preservation Hall Foyer, 2nd Floor; New Orleans Marriott

7 a.m.–4:30 p.m.
All-day Practical Clinic

027 Society of Neurological Surgeons (SNS) Senior Resident Course: Transition to Practice
Non-CME Event
Location: 292
D. Benzil; C. Branch Jr.; J. Cheng; A. Cohen-Gadol;
W. Couldwell; Z. Ghogawala; J. Ratliff; J. Rosman; A. Scarrows;
A. Stroink; E. Veznedaroglu; M. Wang

7:30 a.m.–4:30 p.m.
Special Session

The NeuroPoint Alliance and Your Practice: Using Registries to Enhance Quality, Reimbursement, Certification and Clinical Research
Location: 391/392
S. Ansari; A. Asher; D. Brewer; M. Bydon; K. Cockroft;
R. Cowan; C. Devin; K. Foley; R. Haid; R. Harbaugh; C. Johnson;
J. Knightly; D. Kondziolka; J. McInerney; D. Mukherjee;
P. Mummaneni; C. Shaffrey; J. Sheehan
Supported by an educational grant from Brainlab

7:30 a.m.–4:30 p.m.
All-day Practical Clinics

002 CPT Coding Update with ICD-10 for Neurosurgeons: Coding Concepts by Case Example
Location: 270
P. Angevine; R. Johnson II; K. Pollock; J. Ratliff; C. Schirmer;
S. Simon; K. Swartz; L. Tumialan
025 Case-based Management of Traumatic Brain Injury
Location: 286/287
A. Figaji; G. Hawryluk; J. Jallo; R. Kitagawa; D. Okonkwo; H. Park; R. Rodgers; U. Samadani; F. Servadei; M. Stippler; S. Timmons; J. Zacko
Supported by an educational grant from Integra - Codman Specialty Surgical

7:30 a.m.–4:30 p.m.
International Symposium
Location: 293–295

SPINE SECTION
Moderators: J. Uribe; M. Wang; M. Wang

7:30–7:35 a.m.
Introduction
M. Wang

7:36–7:51 a.m.
Controversies in the Management of the Thoraco-lumbar Pott’s Disease
Y. Bouzoubaa (Morocco)

7:52–8:07 a.m.
SCIWORA in Children
A. Figaji (South Africa)

8:08–8:23 a.m.
Subaxial Cervical Trauma in Adults
A. Sidi Said (Algeria)

8:24–8:39 a.m.
Concomitant Cranio-spinal Trauma: Lessons from a Systematic Review
A. Demetriades (United Kingdom)

8:40–8:55 a.m.
Craniocervical Junction Trauma
J. LaFuente (Spain)

8:56–9:11 a.m.
Shifting Paradigms in the Surgical Treatment of Cervical Spine Degenerative Disease Related to Age
B. Splavski (Croatia)
9:12–9:27 a.m.
Risk of Cement Leakage and Pulmonary Embolism by Bone Cement Augmented Pedicle Screw Fixation of the Thoracolumbar Spine
B. Meyer (Germany)

9:28–9:43 a.m.
Regenerative and Reconstructive Approaches to the Lumbar Disc
C. Thome (Austria)

9:44–10:07 a.m.
Spine Panel/Case Discussions

10:08–10:23 a.m.
Beverage Break

CEREBROVASCULAR SESSION
Moderators: M. Aziz-Sultan; J. Morcos; G. Zipfel

10:24–10:39 a.m.
Planning Microsurgical Treatment of AVMS
F. Gonzalez-Llanos (Spain)

10:40–10:55 a.m.
Tears and Smiles in Cerebrovascular Surgery: Open Versus Endovascular Management of Ruptured Aneurysms
N. El Abbadi (Morocco)

10:56–11:11 a.m.
Characteristics and Treatment of Intracranial Dissecting Aneurysms
A. Andreou (Greece)

11:12–11:27 a.m.
Anterior Communicating Artery Aneurysms: Anatomical Forms and Microneurosurgical Management
A. Morsli (Algeria)

11:28–11:43 a.m.
Interest and Limitations of the Near-infrared ICG Videoangiography in Aneurysm Clipping
M. Bruneau (Belgium)
SUNDAY, APRIL 29

11:44–11:59 a.m.
Bypass Surgery... 50 Years Plus: Past, Present, Future
L. Regli [Switzerland]

12–12:15 p.m.
Microsurgical Management of Unruptured AVMs: Results from a 1999–2016 Series
M. Sames [Czech Republic]

12:16–12:31 p.m.
Characteristics, Treatment and Long-term Outcome of Intracranial DAVFs
M. Niemela [Finland]

12:32–12:58 p.m.
Cerebrovascular Panel/Case Discussions

12:59–1:44 p.m.
Lunch Break
Concessions will be available to purchase in the Hall H/I Lobby near AANS Registration.
TUMOR SESSION
Moderators: O. Al-Mefty; K. Arnautovic; S. Kalkanis

1:45–2 p.m.
Management of Large Vestibular Schwannomas: How to Improve Facial Nerve Function
A. El Ouahabi [Morocco]

2:01–2:16 p.m.
Location and Course of Facial Nerve in Vestibular Schwannomas
M. Ait Bachir [Algeria]

2:17–2:32 p.m.
Surgery for Posterior Fossa Tumors: Our Experience
R. Skomorac [Bosnia and Herzegovina]

2:33–2:48 p.m.
25 Years of Colloid Cyst Removal—Clinical Data on Outcome and Recurrence Rate: Endoscopic Approach is Way Better
J. Grotenhuis [Netherlands]

2:49–3:04 p.m.
Colloid Cyst Resection—Outcome in 80 Patients: The Transcallosal Approach is the Way to Go
T. Mathiesen [Sweden]

3:05–3:20 p.m.
Surgery of the Sella Turcica
A. El Azhari [Morocco]

3:21–3:36 p.m.
Meningioma Surgery—Are We Making Progress?
T. Meling [Norway]

3:37–3:52 p.m.
The Thalamus: Surgical Strategies and Tactics
U. Ture [Turkey]

3:53–4:30 p.m.
Tumor Panel/Case Discussions
SUNDAY, APRIL 29

7:30 a.m.–4:30 p.m.  
Advanced Practice Providers Plenary Session  
Location: 384/385  
Moderators: M. Langlois; C. Matthews

7:30–7:44 a.m.  
Welcome: Presidential Greeting  
A. Valadka

7:45–8:35 a.m.  
Neuronavigation  
E. Butler

8:36–9:16 a.m.  
Pain and Narcotic Addiction in Neurosurgery  
E. Air

9:17–9:32 a.m.  
Beverage Break

9:33–10:31 a.m.  
Peripheral Nerve Disease – Making Sense Out of Neurological Testing  
T. Wilson

10:32–11:30 a.m.  
Neurosurgery in the Geriatric Patient  
S. Radhakrishnan

11:31–12:30 p.m.  
Lunch Break  
Concessions will be available to purchase in the Hall H/I Lobby near AANS Registration.

12:31–1:21 p.m.  
The Advanced Practitioner in the Neuro ICU – Expanding the Role  
R. Blessing

1:22–2:07 p.m.  
Hydrocephalus Update—It’s Always the Shunt!  
C. DeLemos

2:08–2:28 p.m.  
Beverage Break
2:29–2:59 p.m.
**Functional Neurosurgery**
E. Mora

3–3:30 p.m.
**Endocrinology in Neurosurgery**
D. Donegan

3:31–3:40 p.m.
**400 Interdisciplinary care model Decreases Use of Critical Care Services After corrective Surgery for Adult Degenerative Scoliosis**
O. Adogwa

3:41–3:50 p.m.
**Advanced Practice Provider (APP) Abstract Award**
**401 Nursing Efforts in Spine and Peripheral Nerve Enhanced Recovery After Surgery (ERAS) Pathway Implementation and Outcomes**
K. Rupich

3:51–4 p.m.
**521 An Interdisciplinary Neurosurgery-Geriatric Co-Care Model Reduces Time to Initiation of Post operative Oral Narcotic Pain Regiment in Elderly Patients Undergoing Deformity Correction Surgery**
O. Adogwa

4:01–4:10 p.m.
**Advanced Practice Provider (APP) Abstract Award**
**403 Low Dose Steroid Use (Medrol Dose Pack) after Lumbar Laminectomy and/or Discectomy Surgery to Decrease Post-Operative Pain and Narcotic Use.**
D. Gardiner/B. McShane

4:11–4:20 p.m.
**404 Pathway for Omitting ICU Level of Care Following Craniotomy for Resection of Supra-tentorial Brain Tumors**
J. Viner

4:21–4:30 p.m.
**405 Glioblastoma Readmission Risk Score: Estimating 30 Day Readmission Risk after Glioblastoma Resection**
A. Mallela
030 Integrating Pain Management into Your Neurosurgical Practice
Location: Blue Surgical Lab in AANS Learning Center
Booth #2013
S. Falowski; A. Machado; A. Raslan; J. Schwabl; J. Sweet; A. Viswanathan
Supported by an educational grant from Abbott, Boston Scientific Neuromodulation, Medtronic and Nevro

031 Fundamentals in Spinal Stabilization Advanced Practice Providers/Medical Students/Residents
Location: 265–268
V. Chang; K. Das; A. Demetriades; V. Hillard; L. Holly; N. Patel; K. Than; L. Tumialan
Supported by an educational grant from Johnson & Johnson Medical Devices Companies

032 How to Launch a Career in Tumor Neurosurgery
Location: 260/261
M. Aghi; F. Barker II; G. Barkhoudarian; C. Bettegowda; D. Cahill; S. Chang; W. Curry Jr.; C. Farrell; S. Kalkanis; R. Komotar; J. Kuo; J. Moliterno Gunel; J. Sheehan; M. Vogelbaum

033 Deep Brain Stimulation (DBS): Update and New Directions
Location: 275–277
A. Abosch; E. Air; S. Ben-Haim; C. Halpern; M. Kaplitt; P. Larson; C. Mikell; J. Rolston; J. Rosenow; T. Sankar; S. Sheth; D. Whiting

034 What’s New in CV for the Practicing Neurosurgeon and Trainees
Location: 278/279
S. Amin-Hanjani; N. Bambakidis; F. Charbel; E. S. Connolly Jr.; B. Hoh; L. Kim; J Mocco; A. Siddiqui; A. Thomas; H. Woo; J. Zabramski; G. Zipfel

035 RHOTON LECTURE SERIES: 3-D Anatomy and Approaches to the Supratentorial Area and Anterior Skull Base
Location: New Orleans Theater
E. de Oliveira; J. Fernandez-Miranda; V. Quilis Quesada; P. Rubino; J. Sorenson; U. Ture
036 Neuromodulatory Surgeries for Epilepsy and Beyond  
*Location: 393–396*  
A. Aboch; J. Gonzalez-Martinez; G. Grant; R. Gross; C. Halpern; S. Ojemann; B. O’Neill; J. Willie  
*Supported by an educational grant from LivaNova, Medtronic, MRI Interventions, Inc., NeuroPace Inc., and Zimmer Biomet*

037 Microsurgical Management of Intracranial Aneurysms: Site specific Surgical Anatomy, Operation Intervention and Complication Management  
*Location: 288–290*  
H. Batjer; R. Dacey Jr.; A. Day; S. Giannotta; B. Welch

038 Update on the Management of Spine and Spinal Cord Injury  
*Location: 297*  
S. Dhall; M. Fehlings; D. Hoh; D. Lu; W. Jacobs; J. LaFuente; N. Theodore; C. Thome

039 Neurotrauma and Neurocritical Care for the Practicing Neurosurgeon: MOC Review and Update  
*Location: 386/387*  
P. Ball; P. Hutchinson; J. Medow; D. Michael; D. Okonkwo; P. Raksin; P. Villanueva

040 How to Tackle Difficult Cranial Cases: A Step-by-step Case-based Presentation  
*Location: 389/390*  
F. Gonzalez-Llanos; J. Morcos; M. Lawton; B. G. Thompson Jr.

9:15–10:15 a.m.  
**Practical Clinic Morning Beverage Break**  
*Location: 273/274 Foyer; 291 Foyer; 391 Foyer*

11:30 a.m.–12:30 p.m.  
**Practical Clinic Lunch***  
*Location: 271–273*  
*For medical attendees participating in an all-day Practical Clinic or in a morning AND afternoon Practical Clinic only. Concessions will be available to purchase in the Hall H/I Lobby near AANS Registration.*
SUNDAY, APRIL 29

12–4:30 p.m.
Afternoon Practical Clinics

041 Brain Mapping and Awake Mapping Techniques
Location: 265–268
N. Barbaro; M. Berger; H. Duffau; J. Gonzalez-Martinez; G. Grant; G. McKhann; F. Sala; N. Sanai

042 Neurosurgery Faculty Development
Location: 260/261
L. Chin; C. Neal; A. Parr; U. Samadani; N. Selden; S. Wolfe; G. Zipfel

043 Spinal Alignment: Cervical to Pelvis...
What EVERY Surgeon Needs to Know; With Case Discussions
Location: 275–277
D. Coric; R. Haid Jr.; A. Kanter; P. Park; C. Shaffrey; J. Uribe

044 Practical and Technical Aspects of Transsphenoidal Surgery
Location: 278/279
G. Barkhoudarian; D. Baskin; J. A. Grotenhuis; J. Jane Jr.; D. Kelly; E. Laws Jr.; J. Liu; I. McCutcheon

045 Neurosurgical Care of Athletes: Concussion, Spine, Peripheral Nerve and Return-to-play
Location: 297
T. Adamson; J. Bailes Jr.; J. Maroon; M. McCrea; M. Oppenlander; A. Sills

046 Peripheral Nerve Injuries, Entrapments and Tumors: Examination and Evaluation
Location: 386/387
J. Brown; K. Harbaugh; M. Hebert-Blouin; L. Jacques; M. Mahan; R. Midha; L. Rasulic; R. Spinner; T. Wilson; E. Zager

12–5 p.m.
NREF Cushing Circle Donor Lounge
Location: 284

The Cushing Circle VIP Lounge is a quiet haven 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.
1–4:30 p.m.
Young Neurosurgeons Research Forum
Location: 389/390
Moderators: M. Ivan; F. Meyer; E. Nduom; T. Than

1–1:02 p.m.
Introduction of the Osler Lecture
M. Ivan

1:03–1:30 p.m.
Osler Lecture: Balance
F. Meyer

1:31–1:40 p.m.
Medical Student Summer Research Fellowship
Utilizing Engineered 3D in vitro Microenvironments to Examine Stem like Cell State in Glioblastoma
M. Paturu

1:41–1:50 p.m.
406 Chlorhexidine Showers Decrease Surgical Site Infections for Non Fusion Spinal Surgeries: An Analysis of 4,547 Surgeries
A. Chan

1:51–2 p.m.
407 Determination of thermal dose threshold for brain tissue lesioning via transcranial MR guided focused ultrasound in a porcine model
Z. Xu

2:01–2:10 p.m.
408 Peptide Therapeutics to Prevent Delayed Vasospasm after Subarachnoid Hemorrhage
P. Morone

2:11–2:20 p.m.
409 Ribavirin as a Potential Therapeutic for Atypical Teratoid/Rhabdoid Tumors
J. Casaos
SUNDAY, APRIL 29

2:21–2:30 p.m.
410 Trigeminal Nerve Stimulation Suppresses Cortical Spreading Depolarization
A. Rogers

2:31–2:40 p.m.
411 Modeling the Return to Consciousness After Severe TBI at a Large Academic Level 1 Trauma Center
N. Winans

2:41–2:50 p.m.
412 Classification of Finger Movements with an Intracortical Brain Computer Interface in a Human Brain
A. Jorge

2:51–3 p.m.
413 Clinicopathologic Implications of Genomic Disruption in Pituitary Adenomas
A. Larsen

3:01–3:10 p.m.
Beverage Break

3:11–3:20 p.m.
414 High Intensity Focused Ultrasound Treatment for Neuropathic Pain Induced by Common Peroneal Nerve Injury
T. Prabhala

3:21–3:30 p.m.
415 USMLE Step 1 Score as a Predictor of Career Path Beyond Neurosurgery Residency
A. Gelinne

3:31–3:40 p.m.
416 Functional Restoration of Social Encoding and Behavior in an Autism Mouse Model
D. Lee
3:41–3:50 p.m.
417 Procedural complexity independent of P2Y12 levels is a predictor of in stent thrombosis in Pipeline flow diversion of cerebral aneurysms
B. Jiang

3:51–4 p.m.
418 Vestibular Schwannoma Outcomes 5–24 years after Leksell Stereotactic Radiosurgery
A. Faramond

4:01–4:10 p.m.
419 Spine Surgery in Class IV and V Obese Patients: Outcomes and Surgical Nuances
G. Katsevman

4:11–4:20 p.m.
420 Combination of Protein Phosphatase 2A Inhibition and PD 1 Blockade Synergistically Induces Regression of Murine Intracranial Glioblastoma
D. Maggio

4:21–4:30 p.m.
Presentation of Quest Award Winners
M. Ivan
SUNDAY, APRIL 29

5–6:30 p.m.
AANS Opening Ceremonies
Location: New Orleans Theater

5–5:04 p.m.
Welcome
A. Valadka

5:05–5:07 p.m.
Introduction of Speakers
A. Valadka

5:08–5:18 p.m.
B. Cassidy

5:19–5:29 p.m.
T. Cvitanovich

5:30–5:40 p.m.
L. Honoré

5:41–5:51 p.m.
A. Fielkow

5:52–6:02 p.m.
B. deBoisblanc

6:03–6:30 p.m.
Panel with Invited Speakers
Moderator: N. Robinson

Immediately following the speaker panel, please join the second line walking parade to the Opening Reception venue.

Bill Cassidy
Tommy Cvitanovich
Lt. General Russel L. Honoré

Arnie Fielkow
Bennett deBoisblanc, MD
7–9 p.m.

**AANS OPENING RECEPTION**

*Location: Generations Hall*

**Ticket Required:** $250

One ticket is included with attendee, spouse and guest registrations.

A second line walking parade from the convention center to Generations Hall will immediately follow the conclusion of the Opening Ceremonies. Limited shuttle service provided from the convention center for those who do not wish to participate, or are unable to participate in the Second Line.

**Shuttle service provided from the following official AANS Hotels from 6:30–9:30 p.m.:**

- Astor Crowne Plaza-New Orleans French Quarter
- Courtyard New Orleans French Quarter/Iberville
- Hilton New Orleans Riverside
- Hyatt Centric French Quarter New Orleans
- InterContinental New Orleans
- Le Meridien New Orleans
- Loews New Orleans Hotel
- New Orleans Marriott
- Omni Royal Crescent
- Renaissance New Orleans Art Warehouse District Hotel
- Sheraton New Orleans Hotel
- The Ritz-Carlton New Orleans
- Windsor Court Hotel

**The following hotels are within walking distance:**

Embassy Suites by Hilton New Orleans Convention Center
Hampton Inn & Suites New Orleans—Convention Center
New Orleans Downtown Marriott at the Convention Center
6:30 a.m.–4 p.m.
AANS Registration
Location: Hall H/I Lobby

6:30 a.m.–5 p.m.
Speaker Ready Room
Location: 283

7–9 a.m.
Breakfast Seminars
Ticket Required: $100
Candidate and Medical Student Ticket: $65
Breakfast will be available in the 200 and 300 foyer for Breakfast Seminar attendees.

100 Pediatric Neurosurgery for General Neurosurgeons
Location: 278
R. Anderson; A. G. Fieggen; G. Grant; T. Hankinson; M. Krieger

101 Practice Pearls for the Outpatient Neurosurgical Advanced Practice Provider (APP)
Location: 265/266
S. Baccus; C. DeLemos; A. Edwards; M. Langlois; S. Radhakrishnan

102 Management of Vasospasm
Location: 270
R. Du; A. Dumont; B. Hoh; P. Le Roux; R. L. Macdonald; A. Patel

103 Contemporary Management of Spinal Fractures
Location: 289/290
S. Casha; B. Meyer; C. Sansur; N. Theodore; C. Thome; G. Trost

104 Lumbar Fusion and Non Fusion Intra-Laminar Stabilization: Options, Indications and Considerations
Location: 260/261
A. Dailey; R. Kritzer; E. Massicotte; J. O’Shea

105 Peripheral Nerve Entrapment Syndromes
Location: 275
A. Belzberg; J. Brown; L. Jacques; L. Rasulic; E. Zager
106 Management of Adult Scoliosis
Location: 286/287
P. Angevine; T. Koski; F. La Marca; P. Mummaneni; D. Okonkwo; E. Tessitore

107 New Innovations in Epilepsy Surgery
Location: 297
P. D. Adelson; N. Barbaro; P. S. Chandra; R. Gross

108 Chiari Malformations: Diagnosis, Treatments and Failures
Location: 276/277
K. Arnautovic; U. Batzdorf; D. Brockmeyer; M. Iantosca; D. Limbrick Jr.; K. Muraszko

109 Tumor related Epilepsy
Location: 292
M. Berger; R. Byrne; E. Chang; J. Politsky

110 Global Neurosurgery
Location: 368/387
R. Dempsey; M. Haglund; K. Lillehei; M. Qureshi; J. Ragheb; J. Rock; F. Servadei

Location: 267/268
Z. Ali; K. Madhavan; N. Malhotra; J. Mobasser

112 Pearls and Pitfalls of Big Data
Location: 384/385
A. Asher; F. Barker II; L. Chin; R. Harbaugh; R. Sawaya

113 Selecting Anterior Approaches for Cerebrovascular Surgery: From Eyebrow to OZ-Pros and Cons of Minimally Invasive Keyhole Approaches for Cerebrovascular Surgery
Location: 263
A. Dehdashti; A. Krisht; P. Nakaji; G. Pradilla; L. Sekhar

114 Controversies in Cerebrovascular and Endovascular Neurosurgery
Location: 271
J. De Vries; C. Ogilvy; K. Rotim; C. Schirmer; A. Siddiqui; E. Veznedaroglu
115 History, Contributions and Influence of Victor Horsley: A Graduate Seminar Focused on Readings Discussion and Attendee Full Participation
Location: 392
J. Goodrich; M. Preul; M. Schulder; C. Sloffer

116 Peri-operative Pain Management—is Narcotic Free America Possible?
Location: 389/390
C. Hofstetter; P. Mummaneni; J. Pilitsis; J. Sweet; M. Wang

117 Cerebral Trauma: State-of-the-art Treatment
Location: 272/273
D. Gupta; D. Michael; A. Rubiano; U. Samadani; F. Servadei

119 Management of Cranial Incidental Imaging Findings
Location: 288
S. Amin-Hanjani; S. Haines; C. Maher

**International Lounge**
Booth #1912
We welcome almost 400 of our international colleagues from over 80 countries to New Orleans. Come to the international Lounge for conversation and socializing with colleagues from around the world.

**April 30–May 2**
**13th Annual Neurosurgical Top Gun Competition, hosted by the Young Neurosurgeons Committee (YNC)**
Booth #2039
Each participant will have an opportunity to compete at several surgical stations and be scored on his or her performance. The first 50 participants receive a free Neurosurgical Top Gun t-shirt, and prizes will be awarded for each station winner.
MONDAY, APRIL 30

7 a.m.-5 p.m.
NREF Cushing Circle Donor Lounge
Location: 284
See page 32 for a description

7:30–9 a.m.
AANS/CNS Section on Women in Neurosurgery (WINS) Breakfast
Location: Mardi Gras Ballroom Salon DE; New Orleans Marriott
Louise Eisenhardt Lecturer
A. Duckworth
Fee: $100
Candidate and Medical Student Fee: $65
Supported by DePuy Synthes, Medtronic and Sophysa USA Inc.

9 a.m.–4:15 p.m.
AANS Exhibit Hall and Learning Center
Location: Hall H/I
Don’t miss your opportunity to speak with knowledgeable experts representing companies that support neurosurgical professionals. More than 200 exhibiting partners are ready to share innovative products and services in the exhibit hall. This is a chance to witness unique advancements taking place in the field of neurosurgery live and in-person, as well as personally connect with vendors, innovators and neurosurgeons.

9–9:45 a.m.
Beverage Break in the AANS Exhibit Hall
Location: Hall H/I
Stop by the NREF Foundation Bean Bag Toss Booth #2439.
With any donation amount, you may participate in a game of bean bag toss. Winners receive an NREF branded prize. NREF now accepts ApplePay.
9:33 a.m.–1 p.m.

**Plenary Session I**

*Location: Hall J*

**Moderators:** F. Boop; J. Morcos

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**9:33–9:39 a.m.**

**Historical Film**

*The History and Culture of New Orleans*

Presented by F. Culicchia

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**9:40–9:43 a.m.**

**Neurosurgery Research & Education Foundation (NREF) Update**

R. Haid

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**9:44–9:46 a.m.**

**Welcome**

A. Valadka

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**9:47–9:49 a.m.**

**Introduction of the Louise Eisenhardt Lecture**

A. Parr

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**9:50–10:20 a.m.**

**Louise Eisenhardt Lecture**

A. Duckworth

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**10:21–10:31 a.m.**

**500 Enhanced recovery after surgery (ERAS) decreases postoperative opioid use in elective spinal and peripheral nerve surgery**

Z. Ali

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**10:32–10:33 a.m.**

**Assessment of the Trial Design/Level of Evidence**

A. Kulkarni

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**10:34–10:36 a.m.**

**Discussant**

M. Wang
10:37–10:47 a.m.
501 ASL Perfusion Imaging of the Frontal Lobes Predicts the Occurrence and Resolution of Posterior Fossa Syndrome
D. Yecies

10:48–10:50 a.m.
Discussant
D. Limbrick

10:51–11:01 a.m.
502 Single Neuronal Basis for Interactive Social Behavior in a Primate Model
A. Wang

11:02–11:04 a.m.
Discussant
J. Neimat

11:05–11:15 a.m.
503 Spinal cord stimulation reduces opiate use in patients with chronic pain
L. Gee

11:16–11:17 a.m.
Assessment of the Trial Design/Level of Evidence
A. Kulkarni

11:18–11:20 a.m.
Discussant
K. Burchiel

11:21–11:23 a.m.
Introduction of the Hunt Wilson Lecture
J. Morcos

11:24 a.m.–12:04 p.m.
Hunt Wilson Lecture
D. Ariely
12:05–12:07 p.m.
Introduction of the AANS Cushing Award for Technical Excellence and Innovation in Neurosurgery
D. Kondziolka

12:08–12:11 p.m.
AANS Cushing Award for Technical Excellence and Innovation in Neurosurgery
J. Adler

12:12–12:14 p.m.
Introduction of the Distinguished Service Award
F. Boop

12:15–12:18 p.m.
Distinguished Service Award
R. Harbaugh

12:19–12:23 p.m.
Introduction of the Presidential Address
J. Valadka; P. Valadka

12:24–12:54 p.m.
AANS Presidential Address
A. Valadka

12:55–1 p.m.
Introduction of the Lunch-and-learn Seminars
J. Morcos

1–2 p.m.
Lunch in the Exhibit Hall
Location: Hall H/I
1:10–1:55 p.m.
Lunch-and-learn Seminars
Non-CME Events

Deep Brain Stimulation (DBS) Designed for Accurate Targeting and Precise Control
Location: 265/266
S. Carcieri; R. E. Gross
Presented by Boston Scientific

Single Position Lateral Solutions to Treat L4-S1, Featuring Advanced 3-D Printed Implants and LessRay® Radiation Emission Reduction Technology
Location: 272/273
R. Isaacs; K. Khajavi
Presented by NuVasive, Inc.

Lower Back Pain and the Missing Link: Diagnosis and Treatment of Sacroiliac (SI) Joint
Location: 267/268
G. Dix
Presented by SI-Bone, Inc.

Evidence Based Biomaterials in Spine
Location: 278/279
D. Coric
Presented by Stryker

Evolve Cranial Surgical Workflows Through Integrated Technology
Location: 276/277
A. Fenoy; S. Wolfsberger
Presented by Medtronic

Understanding Legal Tools: The Keys to Locking Out Lawsuits and Reducing Taxes
Location: 260/261
D. McNeff
Presented by Legally Mine

Novalis Circle Symposium Surgical and Radiosurgical Innovations in Management of AVMs
Location: 271
Presented by Brainlab
1:10–2 p.m.
Neurosurgery “In Press”: Latest Results of Clinical Trials in Neurosurgery and Allied Fields
Location: 289/290
A. Abosch; S. Amin-Hanjani; F. Barker II; D. Cahill; Z. Ghogawala; U. Samadani

1:15–2:45 p.m.
Advanced Practice Providers Luncheon
The Privilege of Service—Volunteerism in Neurosurgery
Location: 297
C. DeLemos; M. Langlois; C. Matthews; J. Rock

2–3:30 p.m.
3-D Session—Operative Nuances I:
Microvascular Decompression Surgery and Intraoperative Challenges
Location: New Orleans Theater
F. Boop; A. Cohen-Gadol; W. Couldwell

Scientific Sessions

2–5:30 p.m.
Scientific Session I: Tumor
Location: 394–396
Moderators: R. Jensen; P. Jones

2–2:04 p.m.
Introduction of the Ronald L. Bittner Lecture
S. Kalkanis

2:05–2:39 p.m.
Ronald L. Bittner Lecture
Historical and Future Perspectives in Brain Tumor Therapy—Through the Surgeon’s and Patient’s Eyes
M. Rosenblum

2:40–2:49 p.m.
504 Five aminolevulinic acid (5ALA) for fluorescence guided surgery of high grade gliomas (HGG): U.S. experience interim analysis.
I. Germano
2:50–2:59 p.m.
Young Neurosurgeons Medical Student Abstract Award
505 Systemic and Local Immunosuppression In Patients With High Grade Meningiomas
D. Li

3–3:09 p.m.
Mahaley Clinical Research Award
506 Genotype Based Local Targeted Therapy for Glioma
G. Shankar

3:10–3:19 p.m.
Brainlab Neurosurgery Award
507 Analysis of Mutational Processes in 23 Adult Hemispheric Diffuse Gliomas Identifies DNA Damage Repair Deficiency as a Major Contributor to Gliomagenesis.
K. Ozduman

3:20–3:29 p.m.
Ronald L. Bittner Award on Brain Tumor Research
508 Convolutional Neural Networks Provide Rapid Intraoperative Diagnosis Of Neurosurgical Specimens Imaged With Stimulated Raman Histology
T. Hollon

3:30–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I

4:01–4:10 p.m.
Preuss Research Award
R. Ramakrishna

4:11–4:20 p.m.
AANS/CNS Joint Section on Tumors Neuro Oncology Trainee Award
510 The Risk of Malignancy after Stereotactic Radiosurgery
A. Wolf; D. Kondziolka
4:21–4:30 p.m.
511 CRISPR Improved: Inducible CRISPR Interference Achieves Specific and Reversible PIK3CA Silencing in Glioblastoma
A. Jahangiri

4:31–4:40 p.m.
512 RNA Deconvolution Reveals Distinctive Immunogenetic Landscapes in Nf2 and non Nf2 Meningiomas
J. Yeung

4:41–4:50 p.m.
513 Glioma Stem Cells Driven by Distinct BMI1 and EZH2 Transcriptional Pathways Targeted Separately or Synergistically
A. Sloan

4:51–5 p.m.
514 Multi agent vs. Single agent Intraventricular Chemotherapy for Patients with Neoplastic Meningitis (NM): Changing the Reputation of a Fearsome Disease
S. Zammar

5:01–5:10 p.m.
515 Integrative Analysis Implicates MYC and MAX in Functional Pituitary Adenomas
D. Tucker

5:11–5:20 p.m.
Late-breaking Abstract
Whole-Sellar Stereotactic Radiosurgery for Cushing’s Disease: Results from a Multicenter, International Cohort Study
M. Shepard

5:21–5:30 p.m.
Late-breaking Abstract
Glioblastoma Comprises of Two Molecularly Distinct Immunological Signatures
M. Pease
2–2:05 p.m.
516 Alterations to Information Transmission in the Brain following Spinal Cord Injury: A Resting State Functional Connectivity Analysis
M. Kaushal

2:06–2:11 p.m.
Sanford J. Larson, MD, PhD Award
517 Kyphoplasty Intraoperative Radiation Therapy: A New Treatment Paradigm for Spinal Metastasis—Phase I/II Clinical Trial
S. Gandhi

2:12–2:17 p.m.
Brian D. Silber Award
518 Predictive Factors of Survival in a Surgical Series of Metastatic Epidural Spinal Cord Compression and a Complete External Validation of Eight Multivariable Scoring Systems in a Prospective North American Multi Centre Study
A. Nater-Goulet

2:18–2:23 p.m.
Stewart B. Dunsker, MD, Award
519 Mesenchymal Stem Cell Seeded High Density Collagen Gel For Annular Repair: In Vivo Sheep Study
I. Hussain

2:24–2:28 p.m.
Question and Answer Session

2:29–2:34 p.m.
520 Potential of Human NP like Cells Derived From Umbilical Cord to Treat Degenerative Disc Disease: Novel Mechanism for Disk Regeneration
M. Perez-Cruet
2:35–2:40 p.m.
521 An Interdisciplinary Neurosurgery Geriatric Co Care Model Reduces Time to Initiation of Post-operative Oral Narcotic Pain Regiment in Elderly Patients Undergoing Deformity Correction Surgery
O. Adogwa

2:41–2:46 p.m.
522 Improvement in Ames ISSG Cervical Deformity Classification Modifier Grades Correlate to Clinical Improvement and Likelihood of Reaching MCID in Multiple Metrics: Series of 73 Patients with 1 Year Follow Up
M. Janjua

2:47–2:52 p.m.
523 Electrical Stimulation and White Matter Following Spinal Cord Injury in Rats
B. Kondiles

2:53–2:57 p.m.
Question and Answer Session

2:58–3:03 p.m.
524 Utility of Neuromonitoring During Lumbar Pedicle Subtraction Osteotomy for Adult Spinal Deformity
P. Reid

3:04–3:09 p.m.
525 Patient History of Anemia is an Independent Predictor of 30 Day Readmission in Elderly (≥60 Years Old) Spine Deformity Patients After Elective Spinal Fusion
O. Adogwa

3:10–3:15 p.m.
526 Predictive factors leading to readmission within 30 days in patients undergoing surgery for spinal metastases
J. Kumar
3:16–3:21 p.m.
527 Correlation of The Spinal Instability Neoplastic Score (SINS) Individual Components With Patient Reported Outcomes Following Surgery
I. Hussain

3:22–3:27 p.m.
Late-breaking Abstract
Metabolic and Endocrine Disorders in Pseudarthrosis
I. Khan

3:28–3:32 p.m.
Question and Answer Session

3:33–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center  
Location: Hall H/I

4:01–4:30 p.m.
Sonntag Lecture  
Evolving Concepts of Degenerative Spondylolisthesis
D. Resnick

4:31–4:36 p.m.
528 Chiari Malformation Clusters Describe Differing Presence of Concurrent Anomalies based on Chiari Type
M. Janjua

4:37–4:42 p.m.
529 Spondylolysis and Spondylolisthesis in American Professional Baseball Players
I. Kalfas

4:43–4:48 p.m.
530 Preliminary Return to Work Data from the Multi Center Prospective, Randomized CSM S Study: Approach Matters
J. Guan
4:49–4:54 p.m.
531 Treatment of the Fractional Curve Only in Adult Scoliosis: Comparison to Lower Thoracic and Upper Thoracic Fusions
P. Mummaneni

4:55–5 p.m.
Question and Answer Session

5:01–5:06 p.m.
532 The Institute for Healthcare Improvement—NeuroPoint Alliance Cooperative Quality Improvement Project: Using National Registries to Design Continuous Quality Improvement Protocols
A. Zuckerman

5:07–5:12 p.m.
533 Risk Factors Associated with 90 day Readmissions after Degenerative Lumbar Fusion: An Examination of the Michigan Spine Surgery Improvement Collaborative (MSSIC) Registry
P. Park

5:13–5:18 p.m.
534 Elderly Patients Have Worse EQ 5D Outcomes After Spondylolisthesis Surgery Than Young Patients, Yet They Are Satisfied With Surgery
A. DiGiorgio

5:19–5:24 p.m.
535 Complications and revision rates in robotic guided vs. fluoro guided minimally invasive lumbar fusion surgery report from MIS ReFRESH prospective comparative study
M. Wang

5:25–5:30 p.m.
Question and Answer Session
Scientific Session III: Stereotactic and Functional Surgery
Location: 291/292
Moderators: A. Machado; J. Pilitsis

2–2:09 p.m.
Philip L. Gildenberg, MD Resident Award
536 Immediate Restoration of Voluntary Movement with Epidural Spinal Cord Stimulation in Two Patients with Paraplegia
D. Darrow

2:10–2:19 p.m.
537 Cranial Nerve Outcomes after Stereotactic Radiosurgery for Skull Base Meningiomas
A. Faramand

2:20–2:29 p.m.
538 Hearing the Written Word: Listening and Reading Recruit Shared Lexical Semantic Networks
K. Forseth

2:30–2:39 p.m.
539 Sphenopalatine Ganglion Stimulation Elicits a Frequency and Time Dependent Effect on Blood Brain Barrier Permeability
R. Schmidt

2:40–2:49 p.m.
540 Structural connectivity associated with effective capsulotomy lesion volumes for refractory OCD
P. Nanda

2:50–2:59 p.m.
541 Increased Dynamic Modularity of the Fronto Temporo Limbic Network Precedes Enhanced Task Performance
V. Buch

3–3:09 p.m.
542 Asymmetric Development of Lesions from Stereotactic Radiosurgical Capsulotomy for Refractory OCD
V. Viswanathan
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:10–3:19 p.m.</td>
<td>543 Induction and Quantification of Plasticity in Human Cortical Networks</td>
<td>Y. Huang</td>
</tr>
<tr>
<td>3:20–3:29 p.m.</td>
<td>595 Seizure Outcomes and Cognitive Deficits Following Laser Interstitial Thermal Ablation in Mesial Temporal Epilepsy Patients</td>
<td>C. Donos</td>
</tr>
<tr>
<td>3:30–4 p.m.</td>
<td><strong>Beverage Break in the AANS Exhibit Hall and Learning Center</strong></td>
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<tr>
<td>4:01–4:10 p.m.</td>
<td>544 Long term Seizure Dynamics Detected Using a Novel Analytic Platform in Responsive Neural Stimulation for Epilepsy</td>
<td>N. Sisterson</td>
</tr>
<tr>
<td>4:11–4:20 p.m.</td>
<td>545 Mesial temporal lobe and cingulate event related potentials signal memory recall errors</td>
<td>E. Hudgins</td>
</tr>
<tr>
<td>4:21–4:30 p.m.</td>
<td>546 Granger causality analysis reveals a novel thalamic target for DBS treatment of a patient with acquired hemidystonia</td>
<td>I. Ohiorhenuan</td>
</tr>
<tr>
<td>4:31–4:40 p.m.</td>
<td>547 Analysis of Thermal Damage Estimates for the Prediction of Mesiotemporal Laser Ablation Zones</td>
<td>W. Jermakowicz</td>
</tr>
<tr>
<td>4:41–4:50 p.m.</td>
<td>548 Robot Guided Stereotaxy for Deep Brain Stimulation Surgery: An Initial Experience</td>
<td>A. Ho</td>
</tr>
</tbody>
</table>
4:51–5 p.m.  
549 Clinical Outcomes associated with robot assisted DBS placement into the STN in patients with Parkinson’s disease  
M. Paff

5:01–5:10 p.m.  
550 Clinical Outcomes in a Large Series of Subtemporal Selective Amygdalohippocampectomies for Medically Refractory Epilepsy  
T. Chen

5:11–5:20 p.m.  
597 Temporal lobectomy for seizure control: outcomes and predictors of seizure recurrence  
J. Andrews

5:21–5:30 p.m.  
551 Comparative Analysis of Subdural Grids vs. Stereo Electroencephalography in the Evaluation of Intractable Epilepsy  
N. Tandon

2–2:03 p.m.  
552 The need for Intensive Care Unit level of care in patients undergoing craniosynostosis surgery  
K. Greenan

2:04–2:07 p.m.  
553 Sports Related Concussions and Resulting Occipital Headaches: The Role of Posterior Scalp Nerve Decompression  
R. Iyer

2:08–2:11 p.m.  
Question and Answer Session

2:12–2:15 p.m.  
554 Risk Adjusted Overall Survival for Pediatric High Grade Astrocytomas by Location and Treatment in a National Cohort  
J. B. Iorgulescu
2:16–2:19 p.m.
555 Biomechanical Finite Element Analysis of the Developing Craniocervical Junction
D. Brockmeyer

2:20–2:23 p.m.
Question and Answer Session

2:24–2:27 p.m.
556 Quantitative Arteriovenous Malformation Scales Better Predict Early Outcomes in Pediatric Patients after Stereotactic Radiosurgery
G. Appelboom

2:28–2:31 p.m.
557 Incidence of Cervicomedullary Decompression in Patients with Achondroplasia: A Large, National Database Analysis
J. Nadel

2:32–2:35 p.m.
Question and Answer Session

2:36–2:38 p.m.
Announcement of Schulman and Hydrocephalus Awards
M. Proctor

2:39–2:42 p.m.
Introduction of the Donald D. Matson Lecture
M. Proctor

2:43–3:29 p.m.
Donald D. Matson Lecture
Pediatric Neurosurgery: A 50-year Perspective
R. Scott

3:30–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I
4:01–4:07 p.m.
Late-breaking Abstract
Comparison of the Efficacy Two Tranexamic Acid Dosage Regimes for Craniosynostosis Surgery. Multi-center Randomized Controlled Equivalency Trial.
M. Proctor

4:08–4:11 p.m.
Question and Answer Session

4:12–4:18 p.m.
Late-breaking Abstract
The Shunting Holy Grail: Decreasing Shunt Revisions
J. Gernsback

4:19–4:22 p.m.
Question and Answer Session

4:23–4:58 p.m.
Career Reflections
D. Bruce

4:59–5:09 p.m.
Point/Counterpoint Session: Pediatric Skull Base Surgery: Expanded Endonasal Approaches
E. Tyler-Kabara

5:10–5:20 p.m.
Point/Counterpoint Session: Pediatric Skull Base Surgery: Open Approaches
M. Levy

5:21–5:30 p.m.
Question and Answer Session

2–5:30 p.m.
Scientific Session V: Cerebrovascular
Location: 391/392
Moderators: R. James; C. Schirmer

2–2:09 p.m.
558 P2Y12 Precision in Therapeutic Monitoring of Dual Anti Platelet Therapy for Flow Diversion of Cerebral Aneurysms
M. Bender
2:10–2:19 p.m.
559 How to improve obliteration rates during volume staged stereotactic radiosurgery for large arteriovenous malformations
H. Kano

2:20–2:29 p.m.
International Abstract Award
560 Brain Functional Reconfiguration And Cognitive Impairment in Adult Moyamoya Disease: a Resting state FMRI Study
Y. Lei

2:30–2:31 p.m.
Introduction of the Yasargil Lecture
G. Zipfel

2:32–2:59 p.m.
Yasargil Lecture
Mastery and Legacy in Cerebrovascular Surgery: The Art in the Skill and the Skill in the Art
J. Morcos

3–3:30 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I

3:31–4:01 p.m.
Prospective Clinical Trials in Neurovascular Surgery: The Good, The Bad & The Ugly
K. Cockroft

4:02–4:11 p.m.
Late-breaking Abstract
Two-year Safety and Clinical Outcomes in Chronic Ischemic Stroke Patients after Implantation of Modified Bone marrow-derived Mesenchymal Stem Cells (SB623): A Phase 1/2a Study
G. Steinberg
4:12–4:21 p.m.  
**Late-breaking Abstract**  
S. Shah

4:22–4:31 p.m.  
561 Risk of branch occlusion and ischemic complications with Pipeline Embolization Device in treatment of posterior circulation aneurysms  
N. Abushehab

4:32–4:41 p.m.  
562 Trends in Interhospital Transfers and Mechanical Thrombectomy for Acute Ischemic Stroke  
T. Pieters

4:42–4:51 p.m.  
563 Analysis of Wide Neck Aneurysms in the Barrow Ruptured Aneurysm Trial  
J. Mascitelli

4:52–5:01 p.m.  
**Cerebrovascular Section Best Basic Scientific Paper**  
564 Vascular Targeting Causing Thrombosis in an Arteriovenous Malformation Animal Model  
A. Gauden

5:02–5:05 p.m.  
565 PHASES Score Applied to a Prospective Cohort of Aneurysmal Subarachnoid Hemorrhage Patients  
P. Foreman

5:06–5:09 p.m.  
566 Bypass surgery for the treatment of Complex aneurysms in 71 patients  
X. Shi

5:10–5:13 p.m.  
567 Defining Long-Term Clinical Outcomes and Risks of Stereotactic Radiosurgery (SRS) for Brainstem Cavernous Malformations  
R. Jacobs
5:14–5:17 p.m.
568 Phase I clinical trial of intracerebral transplantation using BMSC against acute ischemic stroke
M. Kawabori

5:18–5:21 p.m.
569 European Multicenter Study for Evaluation of a Dual Layer Flow Diverting Stent for Treatment of wide neck Intracranial Aneurysms: The EuFRED Study
C. Griesenauer

5:22–5:25 p.m.
570 Transvenous Curative Embolization of Cerebral Arteriovenous Malformation: Prospective Cohort Study
G. Mendes

5:26–5:29 p.m.
571 Wide Bifurcation Morphology Induces Aneurysmogenic High Positive Wall Shear Stress Gradient at the Apex Independent of Flow Rate
A. Malek

2–5:30 p.m.
Scientific Session VI: Neurotrauma
Location: 383-385
Moderators: G. Hawryluk; S. Hoffer

2–2:09 p.m.
ThinkFirst Injury Prevention Award
572 Professional Athlete Performance Decline Following Concussion: an analysis of three major sports
A. Yango-Kahn

2:10–2:19 p.m.
573 CT evidence of brainstem hemorrhage does not lead to worsened long term outcomes in severe traumatic brain injury
R. Puffer
2:20–2:29 p.m.
574 Complication Rates of PICC and CVC Lines in the Neuro Intensive Care Unit: a randomized trial
J. Davanzo

2:30–2:39 p.m.
575 Effects of combined neural stem cell therapy and treadmill training on functional recovery, cyst formation and astrogliosis after cervical spinal cord injury
A. Younsi

2:40–2:49 p.m.
576 Decompressive Craniectomy Impairs Glymphatic Circulation: Syndrome of the Trephined
B. Plog

2:50–2:59 p.m.
577 Automated Eye Tracking For Detection of Blast Brain Injury After a Natural Gas Explosion
A. Bin Zahid

3–3:09 p.m.
578 Complications Predicting Perioperative Mortality in Patients Undergoing Craniotomy: an ACS NSQIP Analysis
N. Goel

3:10–3:19 p.m.
579 Quantitative and Qualitative Analysis of Bone Flap Resorption in Patients with Cranioplasty after Decompressive Craniectomy
T. Korhonen

3:20–3:29 p.m.
596 Early VTE Chemoprophylaxis in TBI Patients Is Safe and Effective
D. Shin

3:30–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I
4:01–4:10 p.m.
580 CSF biomarkers correlate with results of neuropsychological testing in patients with chronic traumatic brain injury
R. Puffer

4:11–4:20 p.m.
581 Effect of Surgical Treatment On Isolated Acute Traumatic Axis Fractures In Older US Adults
M. Catalino

4:21–4:30 p.m.
582 Treatment of traumatic brain injury with vapoloaxamer [purified Poloxamer 188] improves functional recovery in rats
A. Mahmood

4:31–4:40 p.m.
583 Predictors of Primary Autograft Cranioplasty Survival and Resorption after Craniectomy
T. Korhonen

4:41–4:50 p.m.
584 The rise of the Acinetobacter baumannii: A meta-analysis on role of intra thecal anti-microbial therapy in reduction of mortality
N. Mohammed

4:51–5 p.m.
Late-breaking Abstract
Favorable Functional Recovery from Severe Traumatic Brain Injury Beyond Six Months
T. Wilkins

5:01–5:30 p.m.
J. Douglas Miller Lecture
A Novel Drug for the Treatment of Traumatic Brain Injury
H. Eisenberg
2–2:30 p.m.
Service and Healthcare Policy
F. Opelka

2:31–2:41 p.m.
Question and Answer Session

2:42–2:50 p.m.
Byron Cone Pevehouse Young Neurosurgeons Award
585 Surgeon Annual and Cumulative Volumes Predict Early Postoperative Outcomes After Brain Tumor Resection
R. Ramakrishna

2:51–2:59 p.m.
586 Topical vancomycin reduces hospital costs associated with surgical site infections in craniotomy
A. Mallela

3–3:08 p.m.
587 Creation of Academic Neurosurgery Leaders: Characteristics and Career Outcomes of AANS/NREF Research Award Recipients
T. Wilson

3:09–3:17 p.m.
588 A Prospective Multicenter Study Evaluating the Time Burden of Neurothrombectomy Call on Physicians
M. Williams

3:18–3:26 p.m.
589 Aneurysms in Autosomal Dominant Polycystic Kidney Disease; High Rates of De Novo Formation and Screening Failures
D. A. Wilkinson
3:27–3:32 p.m.
Question and Answer Session

3:33–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center

Location: Hall H/I

4:01–4:31 p.m.
Serving Neurosurgery—A Primer for all Ages
H. Batjer

4:32–4:39 p.m.
Question and Answer Session

4:40–4:48 p.m.
590 Assessing the Promise of Endoscopic Pituitary Surgery—A Matched Analysis of Clinical and Socioeconomic Outcomes
D. Vail

4:49–4:57 p.m.
591 Coding discrepancies between surgeons and employed coders
N. Sharma

4:58–5:06 p.m.
S. Godil

5:07–5:15 p.m.
593 Cost Utility Analysis of Cervical Deformity Surgeries Using One Year Outcomes
M. Janjua

5:16–5:24 p.m.
594 Neurosurgery Medical Profession Liability Claims in the United States
A. Elsamadicy

5:25–5:30 p.m.
Question and Answer Session
MONDAY, APRIL 30

6:30-8:30 p.m.
DINNER SYMPOSIA

176 New Strategies for Endovascular Aneurysm Treatment
*Location: Palace Café—605 Canal Street*
M. Aziz-Sultan; A. Boulos; D. Hoit; R. James; A. Siddiqui
*Ticket Required:* $195
No transportation provided

177 Ripped from the Headlines-Doctors in Medico-legal Crosshairs: Lessons Learned to Keep Lawyers and Regulators Away
*Location: Antoine’s Restaurant—713 St. Louis Street*
L. Chin; M. Sacopoulos; J. Segal; J. Tran; C. Van Der Veer; C. Watridge
*Ticket Required:* $195
No transportation provided

6:30–8 p.m.
NREF Donor Reception
*Location: Riverview 2, New Orleans Marriott*
By invitation only

6:30-9:30 p.m.
AANS Section on History of Neurological Surgery Annual Dinner
*Location: The Court of Two Sisters—613 Royal Street*

Setti S. Rengachary, MD
*Memorial Lecture*
T. Durant Jr.
*Ticket Required:* $150
8-9:30 p.m.
AANS International Reception
Location: New Orleans Museum of Art
One Collins C. Diboll Circle, City Park, New Orleans
All Attendees/Guests Must Reserve a Ticket in Advance.

Ticket Required: Complimentary for International Attendees, $25 for U.S. or Canadian attendees. No Children under 18 allowed.

Photography—Cameras without tripods or flashes are permitted in the permanent collection galleries. Video cameras are not permitted. No objects in special exhibition galleries or on loan may be photographed. Docents will be on hand to answer questions.

Shuttle bus transportation provided to and from New Orleans Marriott. Use Canal Street entrance.
Subtemporal Exposure

A lateral view of the crural and ambient cisterns is provided by a subtemporal exposure, which is bounded inferiorly by the incisura in these photographs. The tentorium may be divided for increased exposure. The Circle of Willis and upper basilar trunk are accessible. The oculomotor nerve is seen entering the roof of the cavernous sinus as the trochlear nerve enters posteriorly below the tentorial edge.

May 2019

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- Shunt Catheters
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TUESDAY, MAY 1

6:30 a.m.–4 p.m.
AANS Registration  
Location: Hall H/I Lobby

6:30 a.m.–5 p.m.
Speaker Ready Room  
Location: 283

6:30 a.m.–5:45 p.m.
Luggage and Coat Check  
Location: Hall J Foyer  
Fees: $2 per coat; $3 per bag

7–9 a.m.
Breakfast Seminars  
Ticket Required: $100  
Candidate and Medical Student Ticket: $65  
Breakfast will be available in the 200 and 300 foyer for Breakfast Seminar attendees.

200 Open vs. Endoscopic Approaches to the Anterior Skull Base
Location: 288  
O. Al-Mefty; C. David; F. Gentili; T. Meling; T. Schwartz; C. Sen

201 Adult Low-grade Gliomas
Location: 289/290  
D. Cahill; H. Duffau; L. Liau; M. Westphal

202 Pituitary Tumors
Location: 267/268  
M. Aghi; W. Couldwell; J. A. Grotenhuis; J. Jane Jr.; P. Jones; D. Prevedello

203 The Spectrum of Adjuvant Therapy for Brain Tumors
Location: 278  
S. Chang; R. Jensen; F. Lang Jr.; J. Sampson; C. Watts

204 SEEG Surgery in Pediatric Patients  
Location: 389/390  
S. Bhatia; J. Blount; J. Chern; G. Lo Russo; M. Smyth; N. Tandon

205 ABNS Board Preparation: What You Must Know
Location: 264  
J. Bruce; D. Kondziolka; A. Nanda; B. G. Thompson Jr.
206 Surgical Treatment of Parkinson’s Disease
Location: 292
E. Air; J. Jagid; S. Sheth

207 Business of Neurosurgery II: Growth and Management of Neurosurgical Practices
Location: 386/387
M. Abou-Samra; T. Payner; A. Stroink; C. Van Der Veer; E. Zusman

208 Maintaining Work Life Balance from Residency to Retirement
Location: 275
K. Fargen; R. Jones; B. Kennedy; T. Origitano; R. Turner IV; N. Vyas

209 Cervical Spondylotic Myelopathy
Location: 271
E. Bisson; R. Heary; M. Kaiser; I. Kalfas; P. Mummaneni; H. Nakagawa

210 Management of Acute Spinal Cord Injury
Location: 272/273
R. Anderson; S. Dhall; G. Hawryluk; A. Levi; E. Tsai

211 Shoulder vs. Spine: Differentiating Shoulder and Cervical Spine Pathology
Location: 276/277
N. Brooks; J. Burke; M. Smith; B. Subach; T. Witham

212 New and Evolving Technologies for Minimally Invasive Lumbar Disc Surgery
Location: 286/287
C. Branch Jr.; R. Fessler; J. Mobasser; L. Tumialan; M. Wang

213 Return-to-play After Sports Injury I: Spine Injury
Location: 270
D. Brockmeyer; M. Groff; D. Lu; C. Notarianni; S. Prasad

214 Cerebrovascular Imaging for the Advance Practice Provider
Location: 265/266
M. Koch; M. Langlois; C. Matthews; J. Romero; C. Stapleton
215 Complication Management and Avoidance in Vascular Neurosurgery: A Case Based Video Session
Location: 297
C. Alleyne Jr.; S. Amin-Hanjani; L. Kim; C. Loftus; R. Rosenwasser

216 Endovascular vs. Microsurgical Techniques for the Optimal Treatment of Intracranial Aneurysms
Location: 263
R. Armonda; A. Arthur; C. M. Cawley; L. Feng; P. Jabbour; A. Pandey

217 Cavernous Malformation: Current Controversies in Management
Location: 384/385
M. Gunel; A. Krisht; M. Lawton; L. Regli; R. M. Scott; G. Steinberg

218 Neurosurgical Management of Intractable Pain
Location: 392
Raslan; K. Slavin; J. Vesper; A. Viswanathan

219 The Use of Opioids in Neurosurgical Practice: How to be Safe, Effective and Compliant with New Prescribing Laws
Location: 260/261
F. Ferrante; J. Ing; J. Rosenow; J. Schwab; C. Winfree

7 a.m.-5 p.m.
NREF Cushing Circle Donor Lounge
Location: 284
See page 32 for a description

9 a.m.–4:15 p.m.
AANS Exhibit Hall and Learning Center
Location: Hall H/I

9-9:45 a.m.
Beverage Break in the AANS Exhibit Hall
Location: Hall H/I
9:35 a.m.–1 p.m.
Plenary Session II
Location: Hall J
Moderators: F. Barker II; A. Valadka

9:35–9:44 a.m.
Historical Film—New Orleans Rising—
Hurricane Katrina and its Aftermath
Presented by D. Kline

9:45–9:47 a.m.
Introduction of the Rhoton Family Lecture
A. Valadka

9:48–10:18 a.m.
Rhoton Family Lecture
D. Pink

10:19–10:26 a.m.
Late-breaking Abstract
Complete 6-Month Primary Endpoint Results from the Prospective INSPIRE Study of the Investigational Neuro-Spinal Scaffold™ in Acute Thoracic Complete Spinal Cord Injury
K. S. Lee

10:27–10:29 a.m.
Discussant
S. Dhall

10:30–10:37 a.m.
Late-breaking Abstract
INTREPID: A Prospective, Double Blinded, Multicenter Randomized Controlled Trial Evaluating Deep Brain Stimulation with a New Multiple Source, Constant Current Rechargeable System in Parkinson’s Disease
R. Gross
10:38–10:40 a.m.
Discussant
A. Abosch

10:41–10:51 a.m.
613 The Roles of Rhythm and Prediction in Speech Perception
N. Tandon

10:52–10:54 a.m.
Discussant
D. Yoshor

10:55–11:05 a.m.
Robert Florin Award
614 Change in policy allowing overlapping surgery decreases length of stay in an academic, safety net hospital.
A. DiGiorgio

11:06–11:07 a.m.
Assessment of the Trial Design/Level of Evidence
F. Barker II

11:08–11:10 a.m.
Discussant
W. Couldwell

11:11–11:14 a.m.
JNS Update
J. Rutka

11:15–11:17 a.m.
Introduction of the International Lifetime Recognition Award
A. Valadka

11:18–11:20 a.m.
International Lifetime Recognition Award
J. Rosenfeld
11:21–11:31 a.m.
AANS Featured Speaker: International Lifetime Recognition Award Winner
J. Rosenfeld

11:32–11:42 a.m.
Journal of Neuro Oncology Award
615 Evaluation of Durable Response Rate in the Post Resection Setting and Association with Survival in Patients with Recurrent High Grade Glioma who Received Vocimagene Amiretrorepvec and 5 Fluorocytosine Treatment
B. Carter

11:43–11:44
Assessment of the Trial Design/Level of Evidence
F. Barker II

11:45–11:47 a.m.
Discussant
J. Markert

11:48–11:58 a.m.
616 Modified Risk Prediction Model for the Open Treatment of Unruptured Cerebral Aneurysms in Japan: UCAS Treat result and model verification using UCAS II outcome
A. Morita

11:59 a.m.–12 p.m.
Assessment of the Trial Design/Level of Evidence
F. Barker II

12:01–12:03 p.m.
Discussant
S. Amin-Hanjani

12:04–12:07 p.m.
CNS Update
A. Sharan

12:08–12:10 p.m.
Introduction of the Cushing Medalist
A. Valadka
12:11–12:15 p.m.  
**Cushing Medalist**  
J. Bean

12:16–12:17 p.m.  
**Introduction of the Cushing Orator**  
J. Ecklund

12:18–12:58 p.m.  
**Cushing Orator**  
Gen. S. McChrystal

12:59–1 p.m.  
**Introduction of the Lunch-and-learn Seminars**  
F. Barker II

1–2 p.m.  
**Lunch in the AANS Exhibit Hall**  
*Location: Hall H/I*
1:10–1:55 p.m.
**Lunch-and-learn Seminars**

**Non-CME Events**

- **Neuroform Atlas™: Initial Case Experience**
  - *Location: 278/279*
  - H. Boogaarts
  - *Presented by Stryker*

- **Cervical Arthroplasty or Arthrodesis: What are the Long Term Outcomes**
  - *Location: 276/277*
  - V. Traynelis
  - *Presented by Medtronic*

- **A New Era of Neurosurgery: Evaluation of Technologies for Enhancing Neurosurgery Workflows and Tumor Resection**
  - *Location: 267/268*
  - J. Bederson; J. Eschbacher; P. Nakaji
  - *Presented by Carl ZEISS Meditec, Inc.*

- **Optimizing Surgical and Post surgical Care with Mobile Computed Tomography**
  - *Location: 272/273*
  - D. VanSickle
  - *Presented by Samsung Neurologica*

- **Moving Towards Opioid Free Spine Surgery**
  - *Location: 265/266*
  - M. Wang
  - *Presented by DePuy Synthes*

1:15–2:45 p.m.
**Young Neurosurgeons Luncheon**

- *Location: 386/387*
- Moderators: M. Ivan; K. Than

- **Preserving the Craft of Micro Neurosurgery**
  - M. Lawton
  - *Ticket Required: $10*
2–3:30 p.m.
3-D Session—Operative Nuances II: Challenging Operative Moments During Microsurgery—A 3-D Presentation
Location: New Orleans Theater
A. Cohen-Gadol; W. Couldwell; M. Lawton; C. Maher

2–5:30 p.m.
Advancements in Neurotrauma
Location: 289/290
M. Langlois; G. MacCleery; C. Matthews; J. Medow; K. Onwuzulike; R. Temes; J. Ullman
Ticket Required: $100

Scientific Session

2–5:30 p.m.
AANS/CNS Cerebrovascular Section
Location: 391/392
Moderators: S. Simon; S. Tjoumakaris

2–2:05 p.m.
Introduction of the Donaghy Lecture
G. Zipfel

2–2:36 p.m.
Raymond M. Donaghy Lecture
The Art of Aneurysm Clipping: Uncertainty Versus Toxic Doubtlessness
A. Nanda

2:37–2:42 p.m.
600 Subarachnoid Hemorrhage Phosphorylates Neuronal Nitric Oxide Synthase at Ser1412 in the Dentate Gyrus of the Rat Brain
K. Wada

2:43–2:48 p.m.
Louise Eisenhardt Travel Scholarship
601 Outcomes and management of intracranial hemorrhage (ICH) in patients with ventricular assist devices (VAD)
G. Lai
TUESDAY, MAY 1

2:49–2:54 p.m.
602 Effect of Treatment Period on Outcomes after Stereotactic Radiosurgery for Brain Arteriovenous Malformations: An International Multicenter Study
J. Sheehan

2:55–3 p.m.
603 Reduction in Radiation and Contrast Dose Using Time-Resolved MRA prior to Angiography for Diagnosis of Spinal Dural Arteriovenous Fistulae
A. Witek

3:01–3:06 p.m.
604 Genome Wide Analysis of Penumbral Infarction in Ischemic Stroke
R. Rudy

3:07–3:12 p.m.
AANS International Travel Scholarship
605 Study of Thymosin alpha 1 and its effect in postoperative ICH patients
R. Shrestha

3:13–3:18 p.m.
606 Comparison of three-dimensional intraoperative digital subtraction angiography with intraoperative indocyanine green video angiography during intracranial aneurysm surgery
J. Fandino

3:19–3:29 p.m.
Question and Answer Session

3:30–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I

4:01–4:54 p.m.
Point/Counterpoint Session: Asymptomatic Carotid Disease
T. Brott; E. Levy; A. Nanda

4:55–5 p.m.
Question and Answer Session
5–5:30 p.m.
Cerebrovascular Section Business Meeting

2 p.m.–5:30 p.m.
AANS/CNS Section on Disorders of the Spine and Peripheral Nerves—Peripheral Nerves Section Session
Location: 286/287
Moderators: H. Gilmer; L. Jacques; M. Mahan

2–2:02 p.m.
Introduction of the David G. Kline Lecture
L. Jacques

2:03–2:48 p.m.
David G. Kline Lecture
Nerves and the NOLA Connection
E. Zager

2:49–3:08 p.m.
Point/Counterpoint Session: MR Neurography vs. Ultrasound for Peripheral Nerve Surgery
A. Filler; H. Shankar

3:09–3:29 p.m.
War related Peripheral Nerve Injuries
M. Preul

3:30–3:36 p.m.
645 Selective Peripheral Denervation for Cervical Dystonia: Experience in 110 cases using a Muscle-Splitting Lateral Approach
C. Arce

3:37–4:00 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I

4:01–4:16 p.m.
Peripheral Nerve Interfaces for Amputees
M. Mahan
4:17–4:27 p.m.
Peripheral Nerve Surgery Education/
Service Ratio
R. Spinner

4:28–4:29 p.m.
Introduction of the 2016 Kline Research Awardee
R. Midha

4:30–4:45 p.m.
Report from 2016 Kline Research Awardee
Neuroanatomical Analysis of Distal Surcharge End
to Side Nerve Repair for In continuity Nerve Injury
in Rodents
S. Ramachandran

4:46–4:51 p.m.
607 Peroneal Nerve Decompression: Institutional
Review and Meta analysis to Identify Predictors of
Surgical Outcomes
C. Wilson

4:52–4:57 p.m.
608 The Accessory Obturator Nerve: An Anatomical
Study with Relevance to Anterior and Lateral
Approaches to the Lumbosacral Spine.
M. Protas

4:58–5:03 p.m.
609 Efficacy of Keyhole Approach to Carpal Tunnel
Syndrome under Ambulatory Strategy
I. Duran

5:04–5:09 p.m.
610 Distal Peroneal Nerve Decompression after
Sciatic Nerve Injury Secondary to Total Hip
Arthroplasty
T. Wilson

5:10–5:15 p.m.
611 Selective Neurotomy for Spasticity: A Single
Center Experience
I. Eli
5:16–5:21 p.m.
612 Mathematical model of perineural tumor spread pilot study on 2 cases
S. Capek

5:22–5:30 p.m.
Question and Answer Session

2–5:30 p.m.
AANS/CNS Section on Stereotactic and Functional Surgery
Location: 291/292
Moderators: S. Sheth; A. Viswanathan

2–2:03 p.m.
Introduction to the Session
S. Sheth

2:04–2:19 p.m.
Functional Brain Mapping: Moving Beyond “Show Me 2 Fingers”
G. McKhann

2:20–2:35 p.m.
Trial Design in Functional Neurosurgery
S. Sheth

2:36–2:51 p.m.
Modeling Brain Anatomy and Function to Simulate and Guide Surgery
E. Air

2:52–3:07 p.m.
Computational Modeling to Predict Functional Neurosurgery Outcomes
R. Richardson

3:08–3:18 p.m.
Neurosurgical Face-off: Neuromodulation for Pain
A. Viswanathan

3:19–3:29 p.m.
Neurosurgical Face-off: Ablative Procedures for Pain
A. Machado
3:30–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center

Location: Hall H/i

4:01–4:10 p.m.
617 GABAergic Basal Ganglia Output Modulates Tonic and Burst Modes of Thalamic Neurons
Z. Huang

4:11–4:20 p.m.
618 Outcomes of a Prospective, Multi-center International Registry of DBS for Parkinson’s Disease
J. Vesper

4:21–4:30 p.m.
619 A closed loop deep brain stimulation system for essential tremor
A. Ko

4:31–4:40 p.m.
620 Double blind Randomized Trial of V1 Trigeminal Stimulation for Refractory Major Depression
A. De Salles

4:41–4:50 p.m.
621 Gamma and Theta Band Power Increases in the Anterior and Posterior Hippocampus Predict Successful Episodic Memory Formation
J. Caruso

4:51–5 p.m.
622 A Prospective Trial of Magnetic Resonance guided Focused Ultrasound Thalamotomy for Essential Tremor: Results at the 2 year Follow up
C. Park

5:01–5:10 p.m.
623 Trial of Convection Enhanced Delivery of Muscimol in Patients with Medically Intractable Epilepsy
D. Argersinger
5:11–5:20 p.m.  
624 Electrophysiologic Mapping of Cortical Networks Activated by Dorsal vs. Ventral Subthalamic Nucleus Deep Brain Stimulation  
A. Minisandram

5:21–5:30 p.m.  
625 Distinct cortical regions mediate improvements in individual motor symptoms after subthalamic nucleus deep brain stimulation in Parkinson’s disease  
V. Krishna

2–5:30 p.m.  
AANS/CNS Section on Neurotrauma and Critical Care  
Location: 383–385  
Moderators: P. Raksin; M. Stippler

2–2:03 p.m.  
Introduction to the Session  
P. Raksin

2:04–2:34 p.m.  
Update: Miami Project to Cure Paralysis  
A. Levi

2:35–2:38 p.m.  
2018–19 Codman Award Winner Announcement  
E. Tsai

2:39–2:49 p.m.  
2017 Codman Neurotrauma Research Award Presentation  
J. Joseph

2:50–2:59 p.m.  
626 A Football Helmet Prototype That Reduces Linear and Rotational Acceleration Through the Addition of an Outer Shell  
S. Zuckerman

3–3:09 p.m.  
627 Effect of Platelet Dysfunction on Outcomes in Traumatic Brain Injury  
A. Guillotete
3:10–3:19 p.m.
628 Preoperative Risk Score Predicts 30 day Mortality Following Emergency Surgery for Intracranial Hemorrhage
R. Rahmani

3:20–3:29 p.m.
629 Bedside Wearable Mixed Reality Holograms Guide External Ventricular Drain Insertion
Y. Li

3:30–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I

4:01–4:02 p.m.
Introduction to the Charles Tator Lecture
M. Steinmetz

4:03–4:30 p.m.
Charles Tator Lecture
Spinal Cord Injury: A 40 year Perspective
E. Benzel

4:31–4:40 p.m.
630 Aggressive Surgical Treatment and Critical Care Are Associated With Improved Neurologic Recovery in Complete SCI
A. DiGiorgio

4:41–4:50 p.m.
631 Predicting Venous Thromboembolic Complications following Neurological Surgery Procedures
D. Dornbos III

4:51–5 p.m.
632 Lumbar Puncture Feasibility in the Presence of Cerebral Mass Effect
J. Pace
5:01–5:10 p.m.
633 Traumatic Intracranial Hemorrhage in the Setting of 4 Factor Prothrombin Complex Concentrate
H. Mushlin

5:11–5:20 p.m.
634 Expression of Autophagy Signaling Molecules in Chronic Subdural Hematoma Outer Membranes
K. Osuka

5:21–5:30 p.m.
635 Cerebrospinal Fluid Concentrations of Macrophage Migration Inhibitory Factor as a Potential Biomarker of Vasospasm in Subarachnoid Hemorrhage
K. Kwan

2–5:30 p.m.
AANS/CNS Section on Tumors I
Location: 394–396
Moderators: W. Al-Holou

2–2:04 p.m.
Introduction to the Session: Advancements in the Management of Spinal Oncology
W. Al-Holou

2:05–2:15 p.m.
The Relevance of Metastatic Spinal Tumors to a Neurosurgeon: Disease Prevalence and Survival in a New Era of Oncological Treatments
Z. Gokaslan

2:16–2:31 p.m.
Advancements in Spinal Oncological Surgery: The Importance of Separation Surgery
M. Bilsky

2:32–2:47 p.m.
Laser Ablation for Spinal Tumors
C. Tatsui

2:48–3:03 p.m.
Multidisciplinary Management of Primary Spinal Tumors
L. Rhines
3:04–3:29 p.m.
Interactive Spinal Tumor Board Discussion: Multidisciplinary Approach to Different Tumors
Panelists: M. Bilsky; Z. Gokaslan; L. Rhines; N. Szerlip; C. Tatsui

3:30–4 p.m.
Beverage Break in the AANS Exhibit Hall and Learning Center
Location: Hall H/I

4:01–4:10 p.m.
636 Hypopituitarism after Gamma Knife Radiosurgery for Pituitary Adenomas: A Multicenter, International Study
D. Cordeiro

4:11–4:20 p.m.
637 MEG Imaging of Recurrent Gliomas Reveals Functional Plasticity of Language Networks
P. Tarapore

4:21–4:30 p.m.
Leksell Radiosurgery Award
638 Stereotactic Radiosurgery for the Management of Acromegaly: Outcomes of a Multicenter Retrospective Cohort Study
D. Ding

4:31–4:40 p.m.
AANS/CNS Joint Section on Tumors Skull Base Award
639 Intraoperative Assessment of Meningioma Proliferative Potential Revealed Intratumoral Heterogeneity and Its Relevance to Biological Characteristics
S. Oya

4:41–4:50 p.m.
American Brain Tumor Association Young Investigator Award
640 Repeat Stereotactic Radiosurgery for Cushing’s Disease: Outcomes of an International, Multicenter Study.
G. Mehta
4:51–5 p.m.
**Columbia Softball Pediatric Award**

641 In Silico Identification of Neo Antigens in a High Grade Pediatric Brain Tumor Cohort Utilizing Next Generation Sequencing: Pilot Study of a Discovery Pipeline for Immunotherapy Targets

P. Madsen

5:01–5:10 p.m.
**642 Unique Nascent RNA Sequences that Distinguish Normal Brain and Malignant Gliomas**

L. Chin

5:11–5:20 p.m.
**643 ABC Transporter Inhibition Plus Vessel Permeability Reduction Enhances the Efficacy of CED in DIPG**

V. Tsvankin

5:21–5:30 p.m.
**640 SYMPHONY: A Novel Synergistic Nanotechnology Based Platform for the Improvement of Laser Interstitial Thermal Therapy**

P. Chongsathidkiet

6:30–8:30 p.m.
**Dinner Symposia**

276 Novel Techniques and Strategies to Treat Spine Disease in the Aging Population

*Location: Arnaud’s—813 Bienville Street*

D. Chou; D. Coric; D. Hoh; P. Mummaneni; M. Virk; M. Wang

*Ticket Required: $195*

*Supported by an educational grant from Johnson & Johnson Medical Devices Companies*

277 Update on the Latest Advances in Fluorescence in Surgical Microscopy

*Location: Bourbon House—144 Bourbon Street*

M. Berger; C. Charalampaki; W. Couldwell; C. David; C. Nickele

*Ticket Required: $195*

*No transportation provided*
SAVE THE DATE

The Benzel Symposium: State-of-the-art in Complex Spine Surgery, A Scientific Tribute and Global Celebration

April 11–12, 2019
San Diego Convention Center, San Diego
WEDNESDAY, MAY 2

6:30 a.m.-3:30 p.m.
AANS Registration
Location: Hall H/I Lobby

6:30 a.m.-3:30 p.m.
Speaker Ready Room
Location: 283

6:30 a.m.-5:45 p.m.
Luggage and Coat Check
Location: Hall J Foyer
Fees: $2 per coat; $3 per bag

7–9 a.m.
Breakfast Seminars
Ticket Required: $100
Candidate and Medical Student Ticket: $65
Breakfast will be available in the 200 and 300 foyer for Breakfast Seminar attendees.

300 Anticoagulation for the Neurosurgeon and Hemostasis in Neurosurgery
Location: 276/277
M. Aziz-Sultan; M. Baskaya; S. Nimjee; M. Stippler; E. Tsai

301 Surgical Approaches to the Lateral Skull Base
Location: 292
J. Ciporen; J. Olson; H. van Loveren; W. Vandergrift III

302 Minimally Invasive Spinal Neurosurgery: Indications, Techniques and Complications
Location: 389/390
C. Branch Jr.; K. Foley; P. Park; L. Tumialan

303 Challenging Spinal Cases: Pearls and Pitfalls
Location: 263
A. Demetriades; S. Dhall; D. Hoh; S. Prasad; J. Shin; E. Woodard

304 Advanced Lateral Transpsoas MIS Techniques: Expanding LLIF Indications
Location: 384/385
D. Chou; A. Kanter; J. Liu; J. O’Toole

305 Intracranial Endoscopy
Location: 392
A. Cohen; J. Drake; C. Heilman; E. Jackson
WEDNESDAY, MAY 2

307 Stem Cell Therapeutics in Neurosurgery
Location: 286/287
J. Boockvar; N. Boulis; I. Germano; A. Grande; A. Parr; G. Steinberg

308 Skating to Where the Puck Will Be: Strategies for Neurosurgery Practices and Programs to Compete in Health Care’s Future
Location: 271
D. Coric; J. Ecklund; R. Friedlander; A. Stroink; K. Swartz

309 So I Want to Write a Neurosurgical Manuscript and Make Sure It Gets Published
Location: 270
E. Benzel; T. Mathiesen; A. Nanda; N. Oyesiku; J. Rutka

310 Real World Outcomes: Measuring Outcomes and Safety in Neurosurgery
Location: 264
A. Asher; A. Boulos; M. Bydon; Z. Ghogawala; J. Knightly; J. Slotkin

312 Return-to-play After Sports Injury II: Concussion
Location: 386/387
J. Bailes Jr.; A. Duhaime; M. Krieger; J. Maroon; M. Proctor; A. Sills

313 Controversies in the Management of Intracerebral Hematomas
Location: 260/261
E. S. Connolly Jr.; M. Fusco; S. Wolfe
314 Fluorescence Technologies in Tumor Neurosurgery: Present and Future Directions
Location: 297
M. Berger; A. Cohen-Gadol; C. Hadjipanayis; T. Julien; N. Sanai

315 Malignant Brain Tumors: State-of-the-art Treatment
Location: 267/268
G. Dunn; R. Everson; P. Fecci; L. Liao; G. Woodworth

316 Remove, Radiate or Just Observe: Acoustic Tumors
Location: 278
P. Camarata; J. Golfinos; M. Link; L. D. Lunsford; J. Regis; A. Samii; M. Schwartz

317 Attaining a Solid Fusion: Evidence Review and Suggestions for Success
Location: 265/266
R. Fessler; K. Fu; R. Haid Jr.; M. Oppenlander

7 a.m.–12 p.m.
NREF Cushing Circle Donor Lounge
Location: 284
See page 32 for a description

9–9:45 a.m.
Beverage Break in the AANS Exhibit Hall
Location: Hall H/I
WEDNESDAY, MAY 2

9:35 a.m.–1 p.m.
Plenary Session III
Location: Hall J
Moderators: G. Grant; S. Timmons

9:35–9:44 a.m.
Historical Film—
The History of Louisiana Neurosurgery
Presented by A. Nanda

9:45–9:47 a.m.
Introduction to the Kurze Lecture
A. Valadka

9:48–10:18 a.m.
Theodore Kurze Lecture
G. Green

10:19–10:29 a.m.
Cerebrovascular Section Best Clinical
Scientific Paper
724 Excavation and not Ulceration Best Describes
the Process of Plaque Degradation
H. Mousavi

10:30–10:32 a.m.
Discussant
J. Wilson

10:33–10:43 a.m.
725 Observation of Cortical Spreading
Depolarizations after Chronic Subdural Hematoma
Evacuation
L. Mohammad

10:44–10:46 a.m.
Discussant
G. Hawryluk
10:47–10:49 a.m.
Introduction—Moderator to the Richard C. Schneider Lecture
R. Haid Jr.

10:50–11:19 a.m.
Richard C. Schneider Lecture
M. Bagan; M. Haglund

11:20–11:30 a.m.
726 Initial Provider Type is Associated with Opiate Use in Patients with Newly Diagnosed Low Back Pain
T. Azad

11:31–11:33 a.m.
Discussant
K. Follett

11:34–11:44 a.m.
727 Development of an Intraoperative Electrophysiological Monitoring Simulator for a Peripheral Nerve Schwannoma Model
P. Joo

11:45–11:47 a.m.
Discussant
K. Harbaugh

11:48–11:50 a.m.
Introduction to the Humanitarian Award
S. Kalkanis

11:51–11:54 a.m.
Humanitarian Award
J. Rock
11:55–11:58 a.m.
Introduction to the Van Wagenen Lecture
S. Haines

11:59 a.m.–12:19 p.m.
Van Wagenen Lecture
Jumpstarting Your Career in Neurosurgery
L. D. Lunsford

12:20–12:30 p.m.
Vesalius Award
728 American Views of Sir Victor Horsley in Cushing’s Era
K. Lehner

12:31–12:33 p.m.
Discussant
J. Goodrich

12:34–12:44 p.m.
Integra Foundation Award
729 Prospective Multicenter Study Comparing Surgical Outcomes of Microscopic Transsphenoidal Surgery and Fully Endoscopic Transsphenoidal Surgery Techniques for Nonfunctioning Pituitary Adenomas (TRANSSPHER Study)
A. Little

12:45–12:46 p.m.
Assessment of the Trial Design/Level of Evidence
S. Amin-Hanjani

12:47–12:49 p.m.
Discussant
N. Oyesiku

12:50–12:52 p.m.
Introduction of the Incoming AANS President
A. Valadka
12:53–1 p.m.
2018/2019 AANS President
S. Timmons

1–2 p.m.
Lunch in the AANS Exhibit Hall
Location: Hall H/I

1–2 p.m.
Rapid Fire Abstract Session: Cerebrovascular and Tumor
Location: AANS Learning Center, Hall H/I, Booth #2428
Moderators: S. Amin-Hanjani; L. Chin

1–1:03 p.m.
730 Predictors of Recurrence, Progression, and Retreatment in Basilar Tip Aneurysms: A Location-Controlled, Kaplan-Meier Analysis
I. Abecassis

1:04–1:07 p.m.
731 Formation of intracranial de novo aneurysms and recurrence after neck clipping—a systematic review and meta analysis.
A. Spiessberger

1:08–1:11 p.m.
732 Risk of de novo aneurysms formation in patients with a prior diagnosis of ruptured and unruptured aneurysm: systematic review and meta analysis
L. Rangel-Castilla

1:12–1:15 p.m.
733 Validation of a Predictive Scoring System for Ventriculoperitoneal Shunt Insertion following Aneurysmal Subarachnoid Hemorrhage
R. Gupta
1:16–1:19 p.m.
734 Delayed Hydrocephalus Following Successful EVD Weaning in Aneurysmal Subarachnoid Hemorrhage: Risk Factors and Prognosis
O. Akinduro

1:20–1:23 p.m.
735 Reconsidering an Important Subclass of High Risk Dural Arteriovenous Fistulas for Stereotactic Radiosurgery
H. Kano

1:24–1:27 p.m.
736 Contrast Induced Neurotoxicity after Neuro Endovascular Interventions
Y. Li

1:28–1:31 p.m.
737 Complications Associated with Cardiac Valvular Surgery in Those Presenting with Infective Endocarditis related Stroke
P. Castaneda

1:32–1:35 p.m.
738 Activation of hypoxia responses in aging mouse glioma model.
A. Mikheev

1:36–1:39 p.m.
739 Quantification of glioblastoma mass effect by lateral ventricle displacement
C. Chen

1:40–1:43 p.m.
740 Antitumor Efficacy Of Anti-CTLA-4 In ACTH-Secreting Pituitary Adenomas: A Novel Immunotherapeutic Approach For Cushing’s Disease
H. Kemeny

1:44–1:47 p.m.
741 Less is More: Antibiotics Alone as Therapy for Ommaya Reservoir Associated Bacterial Infections in Patients with Cancer
A. Ali
1:48–1:51 p.m.
742 Survival Benefit of Surgical Resection with Stereotactic Radiosurgery in Synchronously Diagnosed Brain Metastasis from Non Small Cell Lung Cancer
J. Wang

1:52–1:55 p.m.
743 Morphometrics Predicts Overall Survival in Patients with Lung, Breast, Prostate, or Myeloma Spine Metastases, Regardless of Histology
H. Zakaria

1:56–1:59 p.m.
744 Diffuse Intrinsic Pontine Glioma (DIPG) Sequencing Reveals Epigenetic Dysregulation of Gene Expression and BET Inhibition as a Novel Therapeutic Strategy
A. Saratsis

1–2 p.m.
Rapid Fire Abstract Session: Neurotrauma, Pediatrics and Stereotactic and Functional
Location: AANS Learning Center; Hall H/I, Booth #2420
Moderators: M. Krieger; N. Malhotra; U. Samadani

1–1:03 p.m.
745 A Clinical Decision Rule to Predict Intracranial Hypertension in Severe Traumatic Brain Injury: Data from the Latin American BEST TRIP Randomized Controlled Trial
A. Alali

1:04–1:07 p.m.
746 Morbidity and Mortality Associated with Intracranial Hemorrhage after LVAD placement
P. Das

1:08–1:11 p.m.
747 Screening Duplex Ultrasonography Does Not Reduce Pulmonary Embolism Rate or Mortality in Neurosurgery Patients
R. Dambrino IV
1:12–1:15 p.m.
770 When in Doubt, Operate: An International Survey of Neurosurgeon Decision-Making in Severe TBI
T. Williamson

1:16–1:19 p.m.
748 On Field Signs Predict Future Acute Symptoms After Sport Related Concussion: A Structural Equation Modeling Study
A. Kuhn

1:20–1:23 p.m.
749 Empiric Treatment of Bacteruria in Neurosurgical Trauma Patients: a Retrospective Study of 3563 Patients
P. Belton

1:24–1:27 p.m.
750 Novel football helmet design reduces CSDM15, a computational surrogate of diffuse axonal injury, compared to three commonly used helmets in a finite element head model
J. Ruzevick

1:28–1:31 p.m.
751 Association between Involvement in Specific Sports and Lifetime Risk of Developing a Traumatic Brain Injury in Young Student Athletes
C. Koa Affana

1:32–1:35 p.m.
752 Radiation DNA Damage Repair Inhibition by GSK J4 in DIPG
N. Louis

1:36–1:39 p.m.
753 Analysis of hydrocephalus and Chiari malformation after prenatal and postnatal myelomeningocele closure: Report from a single institution
T. Flanders
1:40–1:43 p.m.
754 The genetic landscape of familial congenital hydrocephalus.
A. Sebai

1:44–1:47 p.m.
755 Does Microelectrode Recording Affect Lead Location in DBS Surgery? A Retrospective Analysis
R. Kochanski

1:48–1:51 p.m.
756 Bilateral Network Dynamics of Speech Production
K. Forseth

1:52–1:55 p.m.
757 A meta-analysis of outcomes and complications of MR-guided Focused Ultrasound in the treatment of Essential tremor
N. Mohammed

1:56–1:59 p.m.
758 Divergence and Convergence of Language Networks in Noun and Verb Naming
C. Kadipasaoglu

Section Sessions

2–5 p.m.
AANS Section on the History of Neurological Surgery
Location: 286/287
Moderators: T. Dagi; M. Preul

2–2:02 p.m.
Introduction to the Victor Horsley Lectureship
M. Preul

2:03–2:48 p.m.
The Sir Victor Horsley Lecture on the History of Neurosurgery
D. Kline
2:49–2:59 p.m.
Question and Answer Session

3–3:02 p.m.
Introduction of the Vesalius Award
M. Preul

3:03–3:13 p.m.
Vesalius Award
700 Travels to the Tropics: “Deutschtum” and Fedor Krause’s visits to Brazil
S. da Silva (Brazil)

3:14–3:24 p.m.
701 Victor Horsley and Surgical Management of Firearm Injuries of the Head
T. Dagi

3:25–3:35 p.m.
702 Astronaut Michael Collins; Apollo 8 and the Anterior Cervical Fusion that Changed the History of the Human Spaceflight
R. Menger

3:36–3:46 p.m.
703 Neurosurgery in Albania Started With Walter Lehman
M. Petrela

3:47–3:57 p.m.
704 Insights into the Past And Future of Atlantoaxial Stabilization Techniques
N. AlShafai

3:58–4:08 p.m.
705 Louise Eisenhardt’s Personal Notes: how she and “Dr C” collected data and followed patients
K. Hundley

4:09–4:19 p.m.
706 The History of the Operating Microscope in Neurosurgery: Spectacles to Virtual Reality
R. Scranton
4:20–4:30 p.m.
707 Why Did Psychosurgery Fail the First Time Around?
T. Dagi

4:31–4:41 p.m.
708 Physician Signers of the Declaration of Independence: Implications for Service for today’s Neurosurgical Leaders
G. Rosseau

4:42–4:52 p.m.
709 The Neurosurgery Ancestry Tree
G. Habboub

4:53–5 p.m.
Question and Answer Session

2–5 p.m.
AANS/CNS Section on Pain
Location: 384/385
Moderators: S. Ben-Haim; J. Schwalb

2–2:34 p.m.
John Loeser Lecture
Opioids in a World of Hurt
K. Follett

2:35–2:40 p.m.
Question and Answer Session

2:41–3:01 p.m.
Non-opioid Pharmacotherapy for Pain
S. Ben-Haim

3:02–3:22 p.m.
Pharmacogenomics and Pain Control
Z. Mirzadeh

3:23–3:43 p.m.
Legal Implications of Opioid Policy on the Clinician
D. Blaney-Koen
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<tr>
<td>3:44–3:54 p.m.</td>
<td>Debate with all Speakers</td>
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<td>3:55–4:04 p.m.</td>
<td>William H. Sweet Young Investigator Award</td>
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<td>710 Long-Term Pain Relief Rates After Failed Stereotactic Radiosurgery</td>
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<td>for Idiopathic Trigeminal Neuralgia: A Prospective Comparison of</td>
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<td>First-time Microvascular Decompression and Repeat Stereotactic Radiosurgery</td>
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<td>K. Raygor</td>
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<td>4:05–4:14 p.m.</td>
<td>711 Effects of Subthalamic Deep Brain Stimulation With Gabapentin and</td>
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<td>Morphine on Mechanical and Thermal Thresholds in 6-Hydroxydopamine Lesioned Rats</td>
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<td>B. Kaszuba</td>
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<td>4:15–4:24 p.m.</td>
<td>712 Spinal Cord Stimulation at 10 kHz for Treatment of Chronic Upper Limb and Neck Pain</td>
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<td>M. Guirguis</td>
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<td>4:25–4:34 p.m.</td>
<td>766 Subthalamic Nucleus Deep Brain Stimulation Combined with Duloxetine Changes Pain Behavior in Parkinsonian Rats</td>
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<td>M. Shao</td>
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<td>4:35–4:44 p.m.</td>
<td>713 Compensation for Neuropathic Hyperexcitability in Peripheral Nerves Ultimately Fails</td>
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<td>H. Shakil</td>
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<td>4:45–4:54 p.m.</td>
<td>714 Is Pain Relief Efficacy After Cingulotomy Dependent on Lesion Number?</td>
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<td></td>
<td>Z. Mirzadeh</td>
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<tr>
<td>4:55–5 p.m.</td>
<td>Question and Answer Session</td>
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</table>
2–5 p.m.  
**AANS/CNS Section on Pediatric Neurological Surgery**  
*Location: 389/390*  
*Moderators: L. Baird; C. Madura; J. Raskin; E. Rizk*

### 2–2:30 p.m.  
**Panel—Lipomyelomeningocele: How I do It**  
S. Lam; E. Rizk; O. Roberts

### 2:31–2:42 p.m.  
**Question and Answer Session**

### 2:43–3:03 p.m.  
**Topic Review: Pediatric Blunt Cerebrovascular Injuries—Imaging and Management Update**  
R. Bollo

### 3:04–3:15 p.m.  
**Question and Answer Session**

### 3:16–3:47 p.m.  
**Malpractice Litigation in Pediatric Neurosurgery: Perspectives and Avoidance**  
R. Scott; J. Wisoff

### 3:48–4 p.m.  
**Question and Answer Session**

### 4:01–4:06 p.m.  
**715 Shunt Infection Rate in Sub-Saharan Africa in a Randomized Controlled Trial of the Bactiseal Universal Shunt**  
K. Vaughan

### 4:07–4:12 p.m.  
**716 Optic Nerve Diffusion Tensor Abnormality in Children Presenting Acutely with Hydrocephalus**  
J. Quon
4:13–4:18 p.m.
767 De novo mutations in inhibitors of Wnt, BMP, and Ras/ERK signaling pathways in non-syndromic midline craniosynostosis
C. Furey

4:19–4:24 p.m.
C. Furey

4:25–4:30 p.m.
718 Exome Sequencing Defines the Molecular Pathogenesis of Vein of Galen Malformation
D. Duran

4:31–4:36 p.m.
719 The Global Incidence and Prevalence of Hydrocephalus
A. Isaacs

4:37–4:42 p.m.
720 Lumbar Disc Herniation Requiring Microdiscectomy in the Pediatric Population: Risk Factors, Presentation and Functional Outcomes
M. McAvoy

4:43–4:48 p.m.
721 Non-surgical Treatment to Prevent Post-hemorrhagic Hydrocephalus of Prematurity
F. Conteh

4:49–4:54 p.m.
722 Pediatric supratentorial ependymoma: surgical, clinical, and molecular analysis
J. Lillard

4:55–5 p.m.
723 The Addition of Choroid Plexus Cauterization May Reduce Post-Hemispherectomy Hydrocephalus: Early UCLA Experience
A. Tucker
2–5 p.m.
AANS/CNS Section on Disorders of the Spine and Peripheral Nerves—Spine Section Session

Location: 294/295
Moderator: D. Hoh; J. Knightly; M. Wang
Supported by an educational grant from Johnson & Johnson Medical Devices Companies

2–2:12 p.m.
Robotic Spine Surgery: The Future
M. Wang

2:13–2:25 p.m.
Robotic Spine Surgery: Not Ready for Primetime
J. Uribe

2:26–2:38 p.m.
Thoracolumbar Burst Fracture Without Neuro Deficit: Percutaneous Fixation is Superior
P. Park

2:39–2:51 p.m.
Thoracolumbar Burst Fracture Without Neuro Deficit: Open Fixation is Superior
S. Dhall

2:52–3:04 p.m.
Outpatient Unilateral Cervical Radiculopathy: Posterior Foraminotomy is the Procedure of Choice
T. Adamson

3:05–3:17 p.m.
Outpatient Unilateral Cervical Radiculopathy: Cervical Artificial Disc is the Procedure of Choice
M. Shaffrey

3:18–3:33 p.m.
Question and Answer Session

3:34–3:46 p.m.
Minimally Invasive Adult Deformity Surgery: Indications and Complication Avoidance
P. Mummaneni
3:47–3:59 p.m.
Sagittal Imbalance Correction: Lateral ALL Release versus PSO
A. Kanter

4–4:12 p.m.
Adult Deformity Surgery in the Osteoporotic Spine
C. Shaffrey

4:13–4:25 p.m.
Spine Tumor Surgery in the Elderly
D. Chou

4:26–4:38 p.m.
C1-2 Fractures in the Elderly
S. Prasad

4:39–4:51 p.m.
Cervical Osteomyelitis and Kyphosis Correction
D. Coric

4:52–5 p.m.
Question and Answer Session

2–5 p.m.
AANS/CNS Section on Tumors II
Location: 395/396
Moderators: S. Kalkanis; R. Ramakrishna

2–2:05 p.m.
Introduction to the Session: The Promise of Viral Oncolytic Therapy
R. Ramakrishna

2:06–2:22 p.m.
History and Potential Future Applications of Oncolytic Virus Therapy
R. Martuza
2:23–2:39 p.m.
Oncolytic Adenoviruses: Clinical Trials and the Delivery Problem
F. Lang Jr.

2:40–2:56 p.m.
Oncolytic Adenoviruses and Immunotherapy for Gliomas
J. Fueyo

2:57–3:13 p.m.
GBM Clinical Trials with Viral Based Gene Therapies: Resurrection of an Old Paradigm
E. Chiocca

3:14–3:30 p.m.
Oncolytic HSV and Immunotherapy for Adults and Children with Glioma
J. Markert Jr.

3:31–3:40 p.m.
759 Microglia glioblastoma interactions influence clinical survival
C. Chen

3:41–3:50 p.m.
760 Outcomes of Adoptive Cell Transfer with Tumor Infiltrating Lymphocytes for Metastatic Melanoma Patients with and without Brain Metastases
G. Mehta

3:51–4 p.m.
761 Tumor Induced Immunosuppression Promotes Brain Metastasis in Patients with Non Small Cell Lung Cancer
D. Li
4:01–4:10 p.m.
762 Activation of Canonical EGFR Pathway in Cushing’s Disease
J. Boyle

4:11–4:20 p.m.
763 Antitumor Efficacy Of Anti PDL 1 In ACTH Secreting Pituitary Adenomas: An Immunotherapeutic Approach For Cushing’s Disease
H. Kemeny

4:21–4:30 p.m.
764 Comparison of Intraoperative Imaging with Receptor specific versus Passive Delivery of Near Infrared Dyes in Human Pituitary Adenoma Surgery
S. Cho

4:31–4:40 p.m.
765 Treatment response assessment maps (TRAMs): increased/decreased sensitivity to tumor/treatment effects as a function of time post contrast injection
Y. Mardor

4:41–4:50 p.m.
769 The Development of a Technical Skills Test for Objective Assessment in Neuroendoscopic Education
E. Nevzati

4:52–5 p.m.
768 Enhanced 5-ALA induced Fluorescence in Hormone Secreting Pituitary Adenomas
A. Bhatnagar
The AANS wishes to thank the following companies for their support of the 2018 AANS Annual Scientific Meeting:

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FLOOR 2

MARriott’S PERSERVATION HALL
FLOOR 41

FLOOR 5

FLOOR 4
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Friday, 4/27: 5 p.m. – 7 p.m.
Saturday, 4/28: 8 a.m. – 5 p.m.
Sunday, 4/29: 8 a.m. – 6 p.m.
Monday, 4/30: 8 a.m. – 4 p.m.
Tuesday, 5/1: 8 a.m. – 4 p.m.
Wednesday, 5/2: 8 a.m. – 3:30 p.m.

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### SHUTTLE SERVICES ROUTES

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<th>HOTEL</th>
<th>PICKUP LOCATION</th>
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<tr>
<td><strong>ROUTE-A &gt; PINK</strong></td>
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<tr>
<td>1 Hotel</td>
<td>1 Stop</td>
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<tr>
<td>New Orleans Marriott</td>
<td>Curbside on Canal Street</td>
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</tbody>
</table>

| **ROUTE-B > GREEN** | |
| 4 Hotels | 2 Stops |
| Astor Crowne Plaza-New Orleans French Quarter | Curbside on Canal Street |
| Hyatt Centric French Quarter New Orleans | Use Astor Crowne Plaza Stop on Canal Street |
| The Ritz-Carlton New Orleans | Curbside on Canal Street |
| Courtyard New Orleans French Quarter/Iberville | Use Ritz-Carlton stop on Canal Street |

| **ROUTE-C > BLUE** | |
| 5 Hotels | 3 Stops |
| Le Meridien New Orleans | Curbside on Poydras Street |
| Windsor Court Hotel | Use Le Meridien stop on Poydras |
| InterContinental New Orleans | Curbside on on Poydras at St. Charles |
| Sheraton New Orleans Hotel | Curbside on Canal Street |
| Omni Royal Crescent | Use Sheraton stop on Canal Street |

| **ROUTE-D > ORANGE** | |
| 3 Hotels | 3 Stops |
| Hilton New Orleans Riverside | Hotel’s bus entrance |
| Renaissance New Orleans Art Warehouse District Hotel | Across Tchoupitoulas from hotel |

### WALKING HOTELS & CONVENTION CENTER
- Embassy Suites by Hilton New Orleans Convention Center
- Hampton Inn & Suites New Orleans—Convention Center
- New Orleans Downtown Marriott at the Convention Center
- New Orleans Ernest N. Morial Convention Center
## SHUTTLE SERVICES

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<td>4:30–7:15 p.m.*</td>
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<td><strong>Saturday, April 28, 2018</strong></td>
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<td>6:30 a.m.–5:30 p.m.*</td>
<td>Every 20–30 minutes</td>
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<td><strong>Sunday, April 29, 2018</strong></td>
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<td>6:30–9 a.m.</td>
<td>Every 13–15 minutes</td>
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<td>9 a.m.–3:30 p.m.</td>
<td>Every 20–30 minutes</td>
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<td>3:30–6:30 p.m.</td>
<td>Every 10–15 minutes</td>
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<tr>
<td>Opening Reception—Generations Hall</td>
<td>Service from official hotel stops from 6:30–9:30 and one run only from convention center immediately following Opening Ceremonies</td>
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<tr>
<td>6:30–8:30 p.m.</td>
<td>Every 8–10 minutes</td>
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<tr>
<td>8:30–9:30 p.m.*</td>
<td>Return service as needed</td>
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<td><strong>Monday, April 30, 2018</strong></td>
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<td>3:30–7 p.m.*</td>
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<td><strong>Tuesday, May 1, 2018</strong></td>
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<td><strong>Wednesday, May 2, 2018</strong></td>
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<td>9 a.m.–3:30 p.m.</td>
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<tr>
<td>3:30–5:45 p.m.*</td>
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* Denotes the last bus to depart from the convention center to official hotels

### $20 Airport Service on Wednesday, May 2nd

- Reservation required by calling or visiting the shuttle desk at the New Orleans Ernest N. Morial Convention Center, Hall H/I Driveway. Phone 619.921.0305
- Service from the convention center to Louis Armstrong New Orleans International Airport every 30 minutes beginning at 12:45 p.m. with last departure at 5:15 p.m.
- Payment by cash or credit card
- Please allow 30–40 minutes travel time
Visit the Exhibits and Learning Center—Exhibit Hall H/I

The AANS Exhibit Hall brings together over 200 companies who offer innovative products and services to the neurosurgical space.

The AANS Learning Center, located near the AANS Resource Center, offers educational opportunities to neurosurgeons at every stage of their career from Neurosurgical Top Gun for residents/fellows, to surgical labs for practical clinics, and kiosks for viewing e-posters presenting peer research.
Exhibit Hall Hours:
Monday, April 30, 9 a.m.–4:15 p.m.
Tuesday, May 1, 9 a.m.–4:15 p.m.
Wednesday, May 2, 9 a.m.–2:15 p.m.

Beverage Breaks in the AANS Exhibit Hall:
Monday, April 30, 9–9:45 a.m., 3:30–4 p.m.
Tuesday, May 1, 9–9:45 a.m., 3:30–4 p.m.
Wednesday, May 2, 9–9:45 a.m.

Lunch in the AANS Exhibit Hall:
Monday, April 30, 1–2 p.m.
Tuesday, May 1, 1–2 p.m.
Wednesday, May 2, 1–2 p.m.
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