

20
17

AANS

ANNUAL SCIENTIFIC MEETING



QUICK PLANNER

NEUROSURGERY:

A WORLD OF INNOVATION

APRIL 22-26, 2017 | LOS ANGELES



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American
Association of
Neurological
Surgeons

THE MORE

DIFFICULT THE CASE,

THE LESS DIFFICULT THE CHOICE OF HOSPITAL.



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The Mount Sinai Hospital is ranked No. 12 in Neurology & Neurosurgery by *U.S. News & World Report*, 2016-17. Our world class specialists are committed to the discovery of new treatments for neurological conditions and hold faculty appointments at Icahn School of Medicine at Mount Sinai, ranked among the nation's top medical schools by *U.S. News & World Report*.

- Cerebrovascular and Stroke
- Skull & Cranial Base Surgery
- Neuromodulation (Parkinson's, Movement & Psychiatric Disorders)
- Pituitary Tumors
- Benign Brain Tumors
- Adult and Pediatric Epilepsy
- Surgical Neuro-Oncology
- Spinal Disorders
- Neurotrauma
- Neurocritical Care
- Pain Management
- Craniofacial & Cranioplasty
- Peripheral Nerve
- Pediatric Neurosurgery
- Pediatric Cerebrovascular Surgery
- General Neurosurgery



**Mount
Sinai**
New York

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17

AANS

ANNUAL SCIENTIFIC MEETING

www.aans.org/AANS2017

NEUROSURGERY: A WORLD OF INNOVATION

APRIL 22-26, 2017 | LOS ANGELES



American
Association of
Neurological
Surgeons

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[@thejns](https://twitter.com/thejns)

Official Twitter feed of the *Journal of Neurosurgery (JNS)*

WEEK-AT-A-GLANCE

FRIDAY, APRIL 21

- 10 a.m.-6 p.m. **AANS Badge Pick-up**
Studio 3 Foyer, Level 3; JW Marriott
- 5-7 p.m. **AANS Registration**
South Lobby

SATURDAY, APRIL 22

- 6:30 a.m.-5 p.m. **Speaker Ready Room**
409A
- 6:30 a.m.-5:30 p.m. **AANS Registration**
South Lobby
- 8 a.m.-6 p.m. **AANS Badge Pick-up**
Studio 3 Foyer, Level 3; JW Marriott
- 8 a.m.-5 p.m. **All-day Practical Clinics**
(001-003)
- 8 a.m.-5 p.m. **International Symposium**
502AB
- 8 a.m.-12 p.m. **Morning Practical Clinics**
(004-009)
- 1-4 p.m. **Neurosurgeon-scientist Career**
Development Course
309
- 1-5 p.m. **Afternoon Practical Clinics**
(010-016)
- 1-5 p.m. **Leadership Development**
Course — Mid Career
Non-CME Event
407
- 6-8 p.m. **Dinner Symposium: Advanced Practice**
Providers (APPs): Preventive Care –
Planning Strategies for Your Long
Term Retirement Goals
Non-CME Event
Triple 8 China Bar and Grill

WEEK-AT-A-GLANCE

SUNDAY, APRIL 23

- 6:30 a.m.-5 p.m. **Speaker Ready Room**
409A
- 6:30 a.m.-6:30 p.m. **AANS Registration**
South Lobby
- 7 a.m.-4:30 p.m. **Society of Neurological Surgeons
(SNS) Chief Resident Course**
407
- 7:30 a.m.-4:30 p.m. **All-Day Practical Clinics**
(017-019)
- 7:30 a.m.-4:30 p.m. **International Symposium**
502AB
- 7:30 a.m.-4:30 p.m. **Advanced Practice Providers
Plenary Session**
404AB
- 7:30-11:30 a.m. **Morning Practical Clinics**
(020-027)
- 8 a.m.-8 p.m. **AANS Badge Pick-up**
Studio 3 Foyer, Level 3; JW Marriott
- 12:30-4:30 p.m. **Afternoon Practical Clinics**
(028-035)
- 12:30-4:30 p.m. **Leadership Development Course —
Senior Resident**
Non-CME Event
309
- 1-4:30 p.m. **Young Neurosurgeons Research
Forum**
Osler Lecture
Roberto C. Heros, MD, FAANS(L)
411

WEEK-AT-A-GLANCE

- 5-6:30 p.m.** **AANS Opening Ceremonies**
Exhibit Hall K
Paul Farmer, MD, PhD
Michael M. Haglund, MD, PhD, FAANS,
FAC (ECSA)
Walter D. Johnson, MD, FAANS(L)
Vanessa Kerry, MD, MSc
Moderator: Sanjay K. Gupta,
MD, FAANS
- 7-9 p.m.** **AANS Opening Reception**
Microsoft Square at L.A. LIVE

MONDAY, APRIL 24

- 6:30 a.m.-4 p.m.** **AANS Registration**
South Lobby
- 6:30 a.m.-5 p.m.** **Speaker Ready Room**
409A
- 7-9 a.m.** **Breakfast Seminars**
(101-120)
- 9 a.m.-4:15p.m.** **AANS Exhibit Hall and Learning Center**
Exhibit Hall GHJ
- 9-9:45 a.m.** **Morning Beverage Break in the AANS Exhibit Hall**
Exhibit Hall GHJ
- 9:35 a.m.-1 p.m.** **Plenary Session I**
Exhibit Hall K
*Historical Film —
The History of Hollywood
Non-CME Event*
Hunt-Wilson Lecture
Salman Khan
Non-CME Event
Theodore Kurze Lecture
David B. Agus, MD
Distinguished Service Award
Volker K. H. Sonntag, MD, FAANS(L)

WEEK-AT-A-GLANCE

AANS Cushing Award for Technical Excellence and Innovation in Neurosurgery

Fady T. Charbel, MD, FAANS

AANS Presidential Address

Frederick A. Boop, MD, FAANS

1-2 p.m.

Lunch in the AANS Exhibit Hall
Exhibit Hall GHJ

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
501BC

1:15-2:45 p.m.

Advanced Practice Providers (APPs) Luncheon
Platinum Ballroom Salon AB;
JW Marriott

2-3:30 p.m.

Operative Nuances I: Handling Difficult Intraoperative Moments 3-D Video Presentation
152/153

2-5:30 p.m.

Scientific Sessions I-VII

Scientific Session I: Tumor
408AB

Scientific Session II: Spine
403AB

Scientific Session III:
Stereotactic and Functional Surgery
406AB

Scientific Session IV: Pediatrics
404AB

Scientific Session V:
Cerebrovascular
502AB

Scientific Session VI:
Neurotrauma and Critical Care
411

Scientific Session VII:
AANS/CSNS Socioeconomic
402AB

WEEK-AT-A-GLANCE

- 3:30-4 p.m.** Afternoon Beverage Break
in the AANS Exhibit Hall
Exhibit Hall GHJ
- 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)
407
- 6:30-8:30 p.m.** Dinner Symposium: Novel Techniques
and Strategies to Treat Spine Disease
in the Aging Population
Drago Centro
- Dinner Symposium: Surgical
Microscopy: New Techniques and
Technologies
Fleming's
- Dinner Symposium: Advanced Practice
Providers (APPs): Advances in Wound
Closure: Improving Patient Outcomes
with New Products and Techniques
Rosa Mexicana
- 6:30-8 p.m.** NREF Donor Reception
Olympic 3 Ballroom; JW Marriott
By invitation only
- 6:30-9:30 p.m.** AANS Section on the History of
Neurological Surgery Annual Dinner
Cicada Restaurant and Club
- 8-9:30 p.m.** AANS International Reception
GRAMMY Museum and Target Terrace

TUESDAY, APRIL 25

- 6:30 a.m.-4 p.m.** AANS Registration
South Lobby
- 6:30 a.m.-5 p.m.** Speaker Ready Room
409A
- 7-9 a.m.** Breakfast Seminars
(201-220)
- 9 a.m.-4:15 p.m.** AANS Exhibit Hall and Learning
Center
Exhibit Hall GHJ

WEEK-AT-A-GLANCE

- 9-9:45 a.m.** **Morning Beverage Break in the AANS Exhibit Hall**
Exhibit Hall GHJ
- 9:35 a.m.-1 p.m.** **Plenary Session II**
Exhibit Hall K
*Historical Film —
Neurosurgeons in the Movies*
Non-CME Event
Richard C. Schneider Lecture
Kevin J. Tracey, MD
Cushing Medalist
Robert F. Spetzler, MD, FAANS
Cushing Orator
Meg Whitman
Non-CME Event
- 1-2 p.m.** **Lunch in the AANS Exhibit Hall**
Exhibit Hall GHJ
- 1:10-1:55 p.m.** **Lunch-and-learn Seminars**
Non-CME Events
- 1:15-2:45 p.m.** **Young Neurosurgeons Luncheon**
Platinum Ballroom Salon FGH;
JW Marriott
- 2-3:30 p.m.** **Operative Nuances II: How to Stay Out of Trouble During Microsurgery 3-D Video Presentation**
152/153
- 2-5:30 p.m.** **Section Sessions**
AANS/CNS Section on Disorders of the Spine and Peripheral Nerves — Spine Section Session
403AB
AANS/CNS Section on Pain
406AB
AANS/CNS Section on Pediatric Neurological Surgery
404AB
AANS/CNS Section on Tumors I
408AB
AANS Section on the History of Neurological Surgery
402AB

WEEK-AT-A-GLANCE

- 2-5:30 p.m. **Advancements in Neurotrauma Care**
501BC
- 3:30-4 p.m. **Afternoon Beverage Break in the**
AANS Exhibit Hall
Exhibit Hall GHJ
- 6:30-8:30 p.m. **Dinner Symposium: Career**
Advancement to Health System
Leadership
The Palm
- Dinner Symposium: New Solutions**
for Aneurysm Treatment
Faith & Flower

WEDNESDAY, APRIL 26

- 6:30 a.m.-3:30 p.m. **AANS Registration**
South Lobby
- 6:30 a.m.-5 p.m. **Speaker Ready Room**
409A
- 7-9 a.m. **Breakfast Seminars (301-319)**
- 7-8:30 a.m. **AANS/CNS Section on Women in**
Neurosurgery (WINS) Breakfast
Platinum Ballroom Salon FG;
JW Marriott
- 9 a.m.-2:15 p.m. **AANS Exhibit Hall and Learning**
Center
Exhibit Hall GHJ
- 9-9:45 a.m. **Morning Beverage Break in the AANS**
Exhibit Hall
Exhibit Hall GHJ
- 9:35 a.m.-1 p.m. **Plenary Session III**
Exhibit Hall K
- Historical Film - Los Angeles History of*
Neurosurgery
Non-CME Event
- Louise Eisenhardt Lecture*
Amy Cuddy, PhD
- Rhoton Family Lecture*
Evandro Oliveira, MD, PhD, IFAANS

WEEK-AT-A-GLANCE

Humanitarian Award

John Ragheb, MD, FAANS

Van Wagenen Lecture

Prof. Dr. Magdalena Goetz

1-2 p.m.

Lunch in the AANS Exhibit Hall
Exhibit Hall GHJ

12-1 p.m.

NEW Rapid Fire Abstract Session:
Tumor and Cerebrovascular
409B

NEW Rapid Fire Abstract Session:
Pediatrics and Stereotactic and
Functional
410

2-5 p.m.

Section Sessions

AANS/CNS Cerebrovascular Section
502AB

AANS/CNS Section on Disorders of
the Spine and Peripheral Nerves –
Peripheral Nerves Section Session
402AB

AANS/CNS Section on Neurotrauma
and Critical Care
403AB

AANS/CNS Section on Stereotactic and
Functional Surgery
406AB

AANS/CNS Section on Tumors II
408AB

Please note: All abstracts are published as submitted by their authors. The AANS is unable to make any changes to the abstracts.

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Attendees are responsible for self-reporting CME earned from the Scientific, Plenary and General Sessions. Please visit MyAANS.org to self-report.

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ClinicalTrials.gov #NCT02684838

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- Talk with AANS Member Services staff to resolve questions about your membership record.
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- Meet key personnel from AANS affiliated organizations: *Journal of Neurosurgery* (JNS), NeuroPoint Alliance (NPA) and the Neurosurgery Research & Education Foundation (NREF). These organizations play a key role in advancing the cause of organized neurosurgery.
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SATURDAY, APRIL 22

Speakers listed are those who accepted the invitation to speak by March 25, 2017.

6:30 a.m.-5 p.m.

Speaker Ready Room

Location: 409A

6:30 a.m.-5:30 p.m.

AANS Registration

Location: South Lobby

8 a.m.-6 p.m.

AANS Badge Pick-up

Location: Studio 3 Foyer, Level 3; JW Marriott

8 a.m.-5 p.m.

All-day Practical Clinics

001 Introduction to Cerebrovascular Neurosurgery for Residents

Non-CME Event

Location: Didactic in 411 and Hands-on in 408 B

A. Arthur; M. Binning; G. Colby; J. Davies; C. Griessenauer; B. Gross; J. Howington; C. Kellner; W. Mack IV; J. Mascitelli; J. Mocco; C. Ogilvy; C. Schirmer; D. Sigounas; R. Starke; R. Turner IV; E. Veznedaroglu; S. Wolfe

Supported by Medtronic, Penumbra and Stryker.

6:30-9:30 p.m.

Resident's Dinner (A continuation of 001 Practical Clinic)

Location: Karl Strauss Brewing Company — 600 Wilshire Blvd.

No Transportation Provided

002 Current Treatments and Controversies in Traumatic Brain Injury

Location: 404AB

K. Gibbons; G. Hawryluk; J. Jallo; R. Kitagawa; D. Okonkwo; H. Park; R. Rodgers; U. Samadani; M. Stippler; S. Timmons

Supported by an educational grant from Codman Neuro, part of the Johnson & Johnson family of companies.

003 Stereotactic and Functional Neurosurgery: Hands-on Workshop

Location: 403

A. Abosch; C. Halpern; F. House; W. Nasiri; W. Lake;

S. Ojemann; J. Schwalb; K. Sillay; N. Tandon; J. Thompson

CANCELLED

SATURDAY, APRIL 22

It is with great pleasure that the leaders of the AANS welcome the Asian-Australasian Society of Neurological Surgeons (AASNS) and the European Association of Neurosurgical Societies (EANS) to the 2017 AANS Annual Scientific Meeting as the collaborating continental societies.



8 a.m.-5 p.m. International Symposium

Location: 502AB

STEREOTACTIC AND FUNCTIONAL SESSION

Moderators: C. Hamani; N. Pouratian; K. Slavin

8-8:05 a.m.

Introduction

B. Iskandar; D. Michael; K. Slavin

8:06-8:21 a.m.

Imaging and Targeting for Deep Brain Stimulation Surgery

S. Horisawa

8:22-8:37 a.m.

Neuromodulation for Axial Symptoms in Parkinsonism

E. Fonoff

8:38-8:53 a.m.

Focal Hand Dystonia, a New Indication of Stereotactic Surgery

S. Horisawa

8:54-9:09 a.m.

Neurosurgery for Addiction an Experimental Model

J. Regis

9:10-9:25 a.m.

Occipital Nerve Stimulation in Chronic Refractor Cluster Headache

D. Fontaine

9:26-9:41 a.m.

Complications of EEG Monitoring

K. Fountas

9:42-9:57 a.m.

Anterior Thalamic DBS and Bilateral Radiofrequency Lesions for Treatment of Intractable Epilepsy: 5 Year Experience

A. Sitnikov

9:58-10:13 a.m.

Gamma Knife Radiosurgery in Singapore: 20 Year Experience

Y. Tsai

10:14-10:29 a.m.

Beverage Break

10:29-10:53 a.m.

Stereotactic and Functional Session/Case Discussions

PEDIATRIC SESSION

Moderators: S. Bhatia; J. Blount; B. Iskandar

10:54-11:09 a.m.

Threshold Concepts and Its Role in Pediatric Neurosurgery Training

S. Wan Tew

11:10-11:25 a.m.

Epilepsy In The First 3 Years of Life

D. Muzumdar

11:26-11:41 a.m.

Role of Endoscopy in Intraventricular Tumors

C. Deopujari

11:42-11:57 a.m.

Decision-making in Pediatric Neurocritical Care

A. Figaji

11:58 a.m.-12:13 p.m.

Fetal Neurosurgery — MMC Repair

S. Cavalheiro

12:14-12:29 p.m.

Surgical Treatment and Long Time Follow-up of Children with Moyamoya Disease

R. Shirane

SATURDAY, APRIL 22

12:30-12:45 p.m.

Telemetric ICP Monitoring in Children

M. Juhler

12:46-1:01 p.m.

Pediatric Neurosurgery Around the World

W. Harkness

1:02-1:47 p.m.

Lunch Break

Concessions will be available to purchase at the Compass Café in the South Building

1:48-2:11 p.m.

Pediatric Panel/Case Discussions

NEUROTRAUMA SESSION

Moderators: M. R. Bullock; D. Michael

2:12-2:27 p.m.

Early and Delayed Neurodegeneration Following Traumatic Brain Injury and Sports-related Concussion

N. Marklund

2:28-2:43 p.m.

Cerebral Microdialysis in Traumatic Brain Injuries: Research or Prognostic Tool for a Neurosurgeon

D. Gupta

2:44-2:59 p.m.

Management of TBI: A Worldwide Perspective

F. Servadei

3-3:15 p.m.

Decompressive Craniectomy for Severe Traumatic Brain Injury: Ethical Considerations

S. Honeybul

3:16-3:31 p.m.

TBI Guidelines in India

R. Narayan

3:32-3:47 p.m.

**To Operate or Not: How to Decide
Aggressive Surgical Care of TBI in Limited
Resources Settings**

A. Rubiano

3:48-4:03 p.m.

**Current Insight into a Non-invasive Assessment
of Post Traumatic Cerebral Vasculature by TCD
Ultrasonography**

B. Splavski

4:04-4:19 p.m.

Beverage Break

4:20-5 p.m.

Neurotrauma Panel/Case Discussions

8 a.m.-12 p.m.

Morning Practical Clinics

004 Pediatric Endoscopic Craniocystostomy Repair

Location: 501A

T. Hankinson; D. Jimenez; M. Proctor; A. Ritter; M. Smyth

**005 Integrating Pain Management
Into Your Neurosurgical Practice**

*Location: Red Surgical Lab in AANS Learning Center;
Exhibit Hall G*

S. Falowski; J. Miller; A. Mogilner; J. Pope; J. Rosenow;
J. Sweet; A. Viswanathan

*Supported by an educational grant from Abbott, Boston Scientific
Neuromodulation and Nevro.*

006 Zen and the Art of Posterior Fossa Surgery

Location: 152/153

W. Couldwell; A. Kaye; J. Landeiro; L. M. Michael II;
A. Nanda; M. Niemela; D. Prevedello; V. Seifert

**007 Basics of Spinal Stabilization — Advanced
Practice Providers/Medical Students/Residents**

Location: 304ABC

V. Chang; K. Das; A. Demetriades; V. Hillard; L. Holly;
S. Khairi; N. Patel; K. Than

*Supported by an educational grant from DePuy Synthes, part of the
Johnson & Johnson family of companies.*

SATURDAY, APRIL 22

008 Update on the Management of Spine and Spinal Cord Injury

Location: 306AB

A. El Shawarby; M. Fehlings; J. Harrop; D. Hoh; W. B. Jacobs;
J. LaFuente; N. Theodore; C. Thome

009 Emerging Technologies in Spine Surgery

Location: 408A

J. Chapman; J. Cheng; D. Drazin; P. Grunert; J. P. Johnson;
R. Oskouian; B. Roitberg; N. Theodore; M. Wang

9:45-10:45 a.m.

Practical Clinic Morning Beverage Break

12-1 p.m.

Practical Clinic Lunch*

Location: 151

** 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 at the Compass Café in the South Lobby

1-4 p.m.

Neurosurgeon-scientist Career Development Course

Location: 309

S. Amin-Hanjani; B. Carter; E. Chiocca; D. Limbrick Jr.; G. Zipfel

1-5 p.m.

Leadership Development Course — Mid Career

Non-CME Event

Location: 407

A. Abosch; H. Batjer; M. Berger; J. Bruce; W. Couldwell; R. Fessler;
R. Harbaugh; N. Martin; P. McCormick; F. Meyer; R. Narayan;
D. Quest; J. Robertson; S. Timmons

1-5 p.m.

Afternoon Practical Clinics

010 Spinal Alignment: Cervical to Pelvis...What EVERY Surgeon Needs to Know; With Case Discussions

Location: 501ABC

D. Coric; R. Haid Jr.; A. Kanter; P. Mummaneni; P. Park; E. Potts; C. Shaffrey; J. Smith; V. Traynelis; J. Uribe

011 Comprehensive Interventional Facial Pain Management

Location: Red Exhibit Hall G **CANCELLED** Center;

K. Burchiel; J. Miller; B. Pollock; J. Rosenow; R. Sekula Jr.; A. Viswanathan

012 Rhoton Lecture Series: 3-D Anatomy and Approaches to the Supratentorial Area and Anterior Skull Base

Location: 152/153

E. de Oliveira; J. Fernandez-Miranda; P. Rubino; J. Sorenson

013 Brain Mapping and Awake Mapping Techniques

Location: 304ABC

N. Barbaro; G. Barnett; H. Duffau; K. Fountas; J. Gonzalez-Martinez; G. Grant; G. McKhann; N. Sanai; U. Ture; F. Vale

014 Neurosurgical Care of Athletes — Concussion, Spine, Peripheral Nerve and Return-to-play

Location: 306AB

J. Maroon; M. Oppenlander; A. Sills; R. Spinner

015 Update on Spinal Radiosurgery

Location: 402, **CANCELLED**

L. Angelov; M. Sheehan; J. Weaver; K. Yao

SATURDAY, APRIL 22

016 Microsurgical Management of Intracranial Aneurysms: Site-specific Surgical Anatomy, Operation Intervention and Complication Management

Location: 515A

D. Barrow; R. Dacey Jr.; A. Day; S. Giannotta; Y. Mao; P. Pandey; R. Replogle; B. Welch

2:30-3:30 p.m.

Practical Clinic Afternoon Beverage Break

6-8 p.m.

Advanced Practice Providers: Preventive Care — Planning Strategies for Your Long Term Retirement Goals

Non-CME Event

Location: Triple 8 China – 800 W. Olympic Blvd.

M. Langlois; C. Matthews; D. Naftzger

Ticket Required: \$75

No Transportation Provided

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IN-PERSON

onPeak Desk

Desk Location: South Lobby,
Los Angeles Convention Center

Friday, 4/21: 5–7 p.m.
Saturday, 4/22: 8 a.m.–5 p.m.
Sunday, 4/23: 8 a.m.–6 p.m.
Monday, 4/24: 8 a.m.–4 p.m.
Tuesday, 4/25: 8 a.m.–4 p.m.
Wednesday, 4/26: 8 a.m.–3:30 p.m.

ONLINE

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American
Association of
Neurological
Surgeons

SUNDAY, APRIL 23

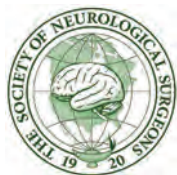
6:30 a.m.-6 p.m.

AANS Registration

Location: South Lobby

7 a.m.-4:30 p.m.

Society of Neurological Surgeons (SNS) Chief Resident Course



Location: 407

D. Benzil; R. Byrne; A. Cohen-Gadol; W. Couldwell; S. Fronczak; M. Link; J. Liu; J. Ratliff; J. Rosman; M. Shah; E. Smith; A. Stroink

Supported by Stryker.

7 a.m.-5 p.m.

Speaker Ready Room

Non-CME Event

Location: 409A

7:30a.m.-4:30 p.m.

All-day Practical Clinics

017 CPT Coding Update with ICD-10 for Neurosurgeons: Coding Concepts by Case Example

Location: 409B

P. Angevine; M. Caron; J. Cheng; A. Dsai; R. Johnson; K. Pollock; J. Ratliff; C. Schirmer; S. Simon; K. Swartz; L. Tumialan

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

Location: 150BC

P. Anderson; N. Brooks; D. Dirisio; D. Hoh; D. Josiah; A. Krishnaney; K. Petronis; S. Rajpal; S. Schmoller; J. Shin; M. Steinmetz; A. Strayer; S. Tharin; G. Trost; E. Tsai

SUNDAY, APRIL 23

7:30 a.m.-4:30 p.m.

International Symposium

Location: 502AB



SPINE SESSION

Moderators: M. Hadley; P. Hitchon; N. Theodore

7:30-7:35 a.m.

Introduction

P. Hitchon; J. Morcos; A. Nanda

7:36-7:51 a.m.

Thoracic Disc Herniation

(eg. Approaches, Advantages, Risks, Etc.)

A. Demetriades

7:52-8:07 a.m.

The Role of the Neurosurgeon in Scoliosis and Deformity

J. LaFuente

8:08-8:23 a.m.

Long Term Outcome of Surgery for Spondylodiscitis in a Recent Cohort of 282 Patients: Risk Factors and Patient Characteristics

B. Meyer

8:24-8:39 a.m.

Complications, Clinical and Radiological Outcome of Pedicle Subtraction Osteotomies

C. Thome

8:40-8:55 a.m.

New Developments in CSF Physiology

M. Vukic

8:56-9:11 a.m.

MIS Spinal Surgery

A. El Shawarby

9:12-9:27 a.m.

Correction of Severe Cranio-Vertebral Junction Deformity, Atlanto-Axial Dislocation and Basilar Invagination Through a Posterior Only Approach — The DCER Principle

P. Chandra

9:28-9:43 a.m.

Spinal AVM/AVF

S. Yamaguchi

9:44-9:59 a.m.

Beverage Break

9:59-10:23 a.m.

Spine Panel/Case Discussions

CEREBROVASCULAR SESSION

Moderators: M. Baskaya; F. Charbel; J. Morcos

10:24-10:39 a.m.

Microsurgery of Complex Aneurysms

B. Misra

10:40-10:55 a.m.

Treatment Strategies for Giant Aneurysm

Y. Tu

10:56-11:11 a.m.

**Distal Outflow Occlusion: a Measure of Last Resort
in Complex Intracranial Aneurysms**

L. Regli

11:12-11:27 a.m.

**Strategies for Preventing Secondary Brain Injury
After Subarachnoid Hemorrhage**

P. Vajkoczy

11:28-11:43 a.m.

**Characteristics, Treatment and Long-term
Prognosis of Pediatric Aneurysm Patients**

M. Niemela

11:44-11:59 a.m.

AVM Surgery Without Embolization

M. Morgan

12-12:15 p.m.

Surgery for Cerebral AVMs: Lessons in Technique

K. Hongo

SUNDAY, APRIL 23

12:16-12:31 p.m.

Challenges in the Treatment of Cranial DAVFs

F. Goncalves-Llanos

12:32-1:17 p.m.

Lunch Break

Concessions will be available to purchase in the Compass Café in the South Lobby

1:18-1:44 p.m.

Cerebrovascular Panel/Case Discussions

TUMOR SESSION

Moderators: L. Liau; A. Nanda

1:45-1:58 p.m.

Early Maximal Safe Resection in Diffuse Low-grade Glioma: Role of Neuroplasticity and Brain Connections

H. Duffau

1:59-2:12 p.m.

Insular Gliomas: Two Potential Threats — MCA Branch Injury and Fiber Tract Disruption: Guidelines to Maximal Safe Resection

K. Turel

2:13-2:26 p.m.

Microsurgical Removal of Precentral Gyrus Tumors

U. Ture

2:27-2:40 p.m.

Molecular and Imaging Biomarkers in Neuro-oncology: Impact for Neurosurgical Management

J. Tonn

2:41-2:54 p.m.

Endoscopic Endonasal Treatment of Meningioma's

P. Cappabianca

2:55-3:08 p.m.

Aggressive Surgery of Craniopharyngiomas Based on an Anatomical Sub-classification

K. Ohata

3:09-3:22 p.m.

Approaches to Unusual Posterior Fossa Lesions

I. Omerhodzic

3:23-3:36 p.m.

Acoustic Neuroma: Hearing Preservation

A. Kaye

3:37-3:50 p.m.

Auditory Midbrain Implants for Hearing Restoration in Neurofibromatosis II Patients

A. Samii

3:51-4:05 p.m.

Beverage Break

4:06-4:30 p.m.

Tumor Panel/Case Discussions

SUNDAY, APRIL 23

7:30 a.m.-4:30 p.m.

Advanced Practice Providers Plenary Session

Location: 404AB

Moderators: M. Langlois; C. Matthews

7:30-7:44 a.m.

Welcome

F. Boop

7:45-8:35 a.m.

Cerebrovascular Trauma

A. Amar

8:36-9:16 a.m.

Pediatric Spinal Dysraphism

I. Tarasiewicz

9:17-9:32 a.m.

Beverage Break

9:33-10:31 a.m.

Spinal Orthoses: Considerations and Controversies

K. Shultz

10:32-11:30 a.m.

Infectious Disease Principles for the Neurosurgical Provider

D. Wong

11:31 a.m.-12:30 p.m.

Lunch Break

Concessions will be available to purchase in the Compass Café
in the South Lobby

12:31-1:21 p.m.

Novel Innovations in Brain Tumor Surgery and Precision Medicine

S. Kalkanis

1:22-2:07 p.m.

Functional Neurosurgery

S. Ojemann

2:08-2:28 p.m.

Beverage Break

2:29-2:59 p.m.

NP Management of Cranial Post-Operative Complications

D. Lally-Goss

3-3:30 p.m.

Outpatient Dilemmas - Complications in the Postsurgical Spine Patient

K. Kilbourn

3:31-3:40 p.m.

645 Enhanced Preoperative Prediction of Discharge Disposition for Neurosurgical Patients

N. Sharma

3:41-3:50 p.m.

501 A Different Look: Increased Charge Requirement of Spinal Cord Stimulators

E. Green

3:51-4 p.m.

969 Triage Patterns of Traumatic Subarachnoid Hemorrhage: Is Referral to a Tertiary Care Center Necessary?

M. Gates

4:01-4:10 p.m.

503 In the United States, Lack of Parent/Caregiver Compliance Interferes with the Pediatric Neurosurgery Patient Care Sequence

H. James

4:11-4:20 p.m.

504 A Single Center Experience of Patient Outcomes and Length of Stay Following Endoscopic Assisted, Neuronavigation Guided Evacuation of Intracerebral Hemorrhage using the Apollo Aspiration System

R. Ryan

4:21-4:30 p.m.

695 Moyamoya Disease and Pregnancy: A Single Institutional Experience in the USA

R. Qaiser

SUNDAY, APRIL 23

7:30-11:30 a.m.

Morning Practical Clinics

020 Endoscopic Lumbar Spinal Surgery: Cadaveric Hands-on Course

Location: Red Surgical Lab in AANS Learning Center; Exhibit Hall G

C. Hofstetter; D. Laich; W. Taylor; A. Telfeian; M. Wang; P. Witt

021 Rhoton Lecture Series: 3-D Anatomy and Approaches to the Posterior Fossa and Posterior Skull Base

Location: 152/153

E. de Oliveira; J. Fernandez-Miranda; P. Gardner;

P. Rubino; J. Sorenson

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

Location: 301AB

M. Berger; S. Chang; P. Fecci; S. Kalkanis; N. Sanai;

J. Sheehan; A. Sloan; C. Watts; J. Weinberg

023 How to Launch a Career in Tumor Neurosurgery

Location: 308AB

M. Aghi; F. Barker; G. Barkhoudarian; C. Bettegowda;

D. Cahill; S. Chang; W. Curry Jr.; C. Farrell; S. Kalkanis;

R. Komotar; J. Kuo; L. Liao; J. Moliterno Gunel; J. Sheehan;

M. Vogelbaum

024 Negotiating Strategies in Neurosurgery

Location: 306AB

E. Dyer; M. Grady; L. Michael; T. Payner; J. Slotkin

025 Laser Thermocoagulation — How, When and Why

Location: 402AB

V. Chiang; J. Jagid; M. Schulder; J. Willie

026 Deep Brain Stimulation: Update and New Directions

Location: 408A

A. Abosch; E. Air; C. Halpern; P. House; M. Kaplitt; B. Kopell; P. Larson; N. Pouratian; J. Rosenow; S. Sheth; D. Whiting

027 Goodman Oral Board Review

Location: 406AB

J. Harrop; R. Komotar; T. Leipzig; A. Levi; R. Spinner

9:15-10:15 a.m.

Practical Clinic Morning Beverage Break

11:30 a.m.-12:30 p.m.

Practical Clinic Lunch*

Location: 151

* For medical attendees participating in an all-day Practical Clinic or in a morning AND afternoon Practical Clinic only.

Concessions will be available for purchase in the Compass Café in the South Lobby.

12-4:30 p.m.

Afternoon Practical Clinics

028 State-of-the-art: Cranial Endoscopy

Location: Blue Surgical Lab in the AANS Learning Center; Exhibit Hall G

K. Chaichana; **CANCELLED**; D. Guillaume; T. Herrada-Pineda; R. Iyer; Y. Jeelani; S. Manjila; H. Schroeder; T. Vogel

029 How to Tackle Difficult Cranial Cases: A Step-by-step 3-D Case-based Presentation

Location: 152/153

F. Goncalves-Llanos; K. Hongo; M. Lawton; J. Morcos; B. Thompson Jr.; H. van Loveren

030 Update on Tumors for the General Neurosurgeon II: Skull Base, Pediatric and Spine Tumors

Location: 301AB

M. Aghi; S. Bhatia; I. Dunn; Z. Gokaslan; J. Landeiro; M. Link; I. Pollack; T. Schwartz; J. Shin

SUNDAY, APRIL 23

031 Neurotrauma and Neurocritical Care for the Practicing Neurosurgeon: MOC Review and Update

Location: 303AB

P. Ball; P. Hutchinson; J. Medow; D. Michael; D. Okonkwo;
P. Raksin; P. Villanueva

032 Practical and Technical Aspects of Transsphenoidal Surgery

Location: 306AB

D. Banerji; G. Barkhoudarian; D. Baskin; J. Grotenhuis;
J. Jane Jr.; E. Laws Jr.; J. Liu; I. McCutcheon

033 Alternatives to Transpedicular Approaches to Achieving Arthrodesis

Location: 408A

E. Benzel; C. Branch Jr.; B. Frankel; N. Malhotra; M. Steinmetz;
J. Voyadzis

034 Peripheral Nerve Injuries, Entrapments and Tumors: Examination and Evaluation

Location: 406AB

A. Hanna; M. Hebert-Blouin; L. Jacques; R. Midha; V. Prabhu;
L. Rasulic; R. Spinner; E. Zager

035 Cranio-cervical and C1C2 Stabilization Techniques, Surgical Approaches

Location: 501ABC

R. Anderson; D. Brockmeyer; A. Dailey; H. Deutsch; W. Gluf;
A. Goel; T. Hankinson; M. Kaiser; J. LaFuente; D. Resnick;
C. Sansur; C. Thome

12:30-4:30 p.m.

Leadership Development Course — Senior Residents

Non-CME Event

Location: 309

F. Barker II; E. Benzel; E. Bisson; C. Branch Jr.; J. Cheng;
Z. Ghogawala; A. Quinones-Hinojosa; G. Rao; W. Ray; M. Schmidt;
N. Selden; K. Tomei

2-3 p.m.

Practical Clinic Afternoon Beverage Break

1-4:30 p.m.

Young Neurosurgeons Research Forum

Location: 411

Moderators: R. Heros; M. Ivan; J. Johnson; K. Than

1-1:02 p.m.

Introduction of Osler Lecture

M. Ivan

1:03-1:30 p.m.

Osler Lecture

Mentorship and Ethics

R. Heros

1:31-1:40 p.m.

Medical Student Summer Research

Fellowship Award

Iron Nanoparticle Contrast Enhanced Microwave Tomography for Emergent Stroke: A Pilot Study

J. Hudson

1:41-1:50 p.m.

506 Prospective Study of the Use of Intraoperative Neuromonitoring in Determining Post-Operative Energy Requirements and Physiologic Midline in Spinal Cord Stimulation

C. Collison

1:51-2 p.m.

507 History of Bone Morphogenetic Protein (BMP) and its Application in Spine Surgery

L. Chieng

2:01-2:10 p.m.

508 Brain repair and neural network remodeling by hematopoietic growth factors in subacute phase of traumatic brain injury in animal model

G. Toshkezi



Features
NREF-funded
Author

SUNDAY, APRIL 23

2:11-2:20 p.m.

509 Palliative Care and Communication Training in Neurosurgery Residency

S. Miranda

2:21-2:30 p.m.

510 The Long-Term Outcomes of Octogenarians with Aneurysmal Subarachnoid Hemorrhage: A National Minimum Data Set Analysis

H. Dasenbrock

2:31-2:40 p.m.

511 Diminishing returns in successive thrombectomy attempts for revascularization in acute ischemic stroke

J. Kosty

2:41-2:50 p.m.

512 A Quantitative Analysis of Craniopharyngioma Cyst Expansion during and after Radiation Therapy and Surgical Implications

K. Lamiman

2:51-3 p.m.

513 T2-Weighted MRI is Superior to Other Sequences to Determine Intratumoral Heterogeneity in DIPG

S. Farber

3:01-3:10 p.m.

Beverage Break

3:11-3:20 p.m.

514 Investigating IGF2BP1 as an Oncogenic Driver in Infant Ependymoma

V. Mahadev

3:21-3:30 p.m.

515 Phase I Trial of Laser Interstitial Thermal Therapy Treatment for Cerebral Radiation Necrosis

R. Rammo

3:31-3:40 p.m.

516 Pedicle Screw Placement Accuracy with Ultra-Low Radiation Imaging — a randomized controlled trial

G. Nayar

3:41-3:50 p.m.

517 Effect of Segmental Lordotic Angle after a Single Level Interbody Fusion on Lumbar Lordosis and Development of Adjacent Level Disease

T. Urakov

3:51-4 p.m.

518 Expandable vs Static Inter-body Grafts Reduce Operative Time, Improve Lordosis and Accelerate Return to Work after Fusion for Lumbar Stenosis and Spondylolisthesis

V. Rossi

4:01-4:10 p.m.

519 Using Telomere Length to Help Determine Amygdala Function for potential use in the Setting of Mesial Temporal Sclerosis

J. Jennings

4:11-4:20 p.m.

520 Military Neurosurgery Socioeconomic Data; Benefits, Challenges, and Opportunities

R. Menger

4:21-4:30 p.m.

Presentation of Quest Award Winners

Introduced By: M. Ivan

SUNDAY, APRIL 23

5-6:30 p.m.

AANS Opening Ceremonies

Location: Exhibit Hall K

Moderator: S. Gupta

5-5:05 p.m.

Welcome

F. Boop

5:06-5:08 p.m.

Introduction

S. Gupta

5:09-5:16 p.m.

P. Farmer

5:17-5:24 p.m.

W. Johnson

5:25-5:32 p.m.

M. Haglund

5:33-5:40 p.m.

V. Kerry

5:41-6:19 p.m.

Round Table Discussion

6:19-6:30 p.m.

J. Johnston



7-9 p.m.

AANS Opening Reception.

Location: Microsoft Square at L.A. LIVE

Microsoft Square at L.A. LIVE is a 5 minute walk from the Los Angeles Convention Center.

Bussing will be provided from the following official AANS Hotels from 6:30-9:30 p.m.:

Doubletree by Hilton Hotel Los Angeles Downtown
Hilton Checkers Los Angeles
Millennium Biltmore Hotel Los Angeles
Omni Los Angeles Hotel at California Plaza
Sheraton Grand Los Angeles
The L.A. Hotel Downtown
The Westin Bonaventure Hotel & Suites, Los Angeles
LEVEL Furnished Living
The Los Angeles Athletic Club
Hotel Indigo Los Angeles Downtown

The following hotels are within walking distance:

JW Marriott Los Angeles L.A. LIVE
Courtyard Los Angeles L.A. LIVE
Luxe City Center Hotel
Residence Inn Los Angeles L.A. LIVE
Ritz-Carlton Los Angeles

Ticket required: \$250

One ticket is included in attendees, spouse and guest registrations.

Microsoft Square at L.A. LIVE Policies

- Smoking (including electronic cigarettes) is not permitted anywhere on the campus.
- Everyone entering a private event space is subject to metal detector screening, visual inspection and a bag inspection.
- This campus is not responsible for any unattended, lost or stolen items.
- No markers, pens or spray paint.
- No large backpacks.
- No large purses or bags (anything over 14" x 14")

Guests who choose not to adhere to these provisions will be subject to ejection. Venue Management reserves the right to approve, adjust or enforce any policy at their discretion.

Hosted Immediately Prior to the
2018 AANS Annual Scientific Meeting



SECOND INTERNATIONAL BRAIN MAPPING COURSE

**A Masters Course
Held in Conjunction With the
AANS and NREF**

April 26–27, 2018, New Orleans

The American Association of Neurological Surgeons (AANS) in collaboration with the Neurosurgery Research & Education Foundation (NREF) invites you to attend the *Second International Brain Mapping Course*, hosted the two days immediately prior to the 2018 AANS Annual Scientific Meeting in New Orleans.

Led by a faculty from major brain mapping centers in Europe, North America and Asia, the *Second International Brain Mapping Course* presents advances, advantages and practical issues in contemporary pre-operative and intra-operative brain mapping applications in brain tumor and functional neurosurgery.

Course Directors

Mitchel S. Berger, MD, FAANS, University of California, San Francisco (UCSF)

Richard W. Byrne, MD, FAANS, Rush University, Chicago

Hugues Duffau, MD, Hôpital Gui de Chauliac



American
Association of
Neurological
Surgeons



MONDAY, APRIL 24

6:30 a.m.-4 p.m.

AANS Registration

Location: South Lobby

6:30 a.m.-5 p.m.

Speaker Ready Room

Location: 409A

7-9 a.m.

Breakfast Seminars

Ticket Required: \$100

Candidate and Medical Student Ticket: \$65

Breakfast will be available in the room of the session for Breakfast Seminar attendees.

101 Practice Pearls for the Outpatient Neurosurgical Advanced Practice Provider

Location: 301AB

K. Kilbourn; M. Langlois; C. Matthews; D. Purviance;
S. Stratford; T. Wilson

102 Skating to Where the Puck Will Be: Strategies for Neurosurgery Practices and Programs to Compete in Health Care's Future

Location: 402AB

D. Coric; J. Ecklund; R. Friedlander; D. Kim; J. Ratliff; K. Swartz

103 Surgical Approaches to the Lateral Skull Base

Location: 501BC

J. Ciporen; J. Golfinos; J. Olson; L. Poulsgaard; H. van Loveren;
W. Vandergrift III

104 Challenging Spinal Cases: Pearls and Pitfalls

Location: 411

Y. Caglar; A. Demetriades; A. El Shawarby; A. Falavigna; D. Hoh;
F. Jian

105 Cervical Spondylotic Myelopathy

Location: 304AB

R. Heary; M. Kaiser; I. Kalfas; J. LaFuente; P. Mummaneni;
H. Nakagawa

106 Anticoagulation for the Neurosurgeon and Hemostasis in Neurosurgery

Location: 406AB

M. Aziz-Sultan; M. Baskaya; A. Krisht; E. Peterson; B. Tranmer

107 Return-to-play After Sports Injury I: Concussion

Location: 404AB

J. Bailes Jr.; D. Gonda; M. Krieger; J. Maroon; M. Proctor;
A. Sills

108 If I Could Do That Case Over Again: Discussion of Complications of Cranial Surgery

Location: 507

O. Bozinov; P. Camarata; T. Joerg-Christian; P. Nakaji; M. Pamir

109 Resective Strategies for Epilepsy

Location: 304C

S. Bhatia; G. Grant; B. O'Neill; M. Sather; N. Tandon

110 Open vs. Endoscopic Approaches to the Anterior Skull Base

Location: 150A

O. Al-Mefty; C. David; F. Gentili; T. Schwartz; C. Sen; J. Steno

111 Peripheral Nerve Entrapment Syndromes

Location: 501A

A. Belzberg; L. Jacques; L. Rasulic; E. Zager

112 Adult Low-grade Gliomas

Location: 309

D. Cahill; S. Chang; A. Kaye; L. Liau; U. Ture; M. Westphal

113 Complication Management and Avoidance in Vascular Neurosurgery

Location: 410

C. Alleyne Jr.; S. Amin-Hanjani; N. Bambakidis; L. Kim;
C. Loftus; R. Rosenwasser

114 Fluorescence Technologies in Tumor Neurosurgery: Present and Future Directions

Location: 303AB

K. Aziz; A. Cohen-Gadol; C. Hadjipanayis; I. Nakano; A. Raabe;
N. Sanai

115 European Traditions in Neurosurgery: Origins, Differences, Similarities, Parallels, and Interplay with American Neurosurgery

Location: 506

T. Dagi; S. Greenblatt; C. Prestigiacomo; M. Preul; B. Skeie;
M. Zerah

116 Neurosurgery Resident Wellness

Location: 407

K. Fargen; R. Jones; B. Kennedy; A. Spiotta; R. Turner IV;
N. Vyas

117 CSNS — Adapting Your Practice for 2017 and Beyond

Location: 409B

S. Eden; B. Nahed; M. Radomski; J. Ratliff; J. Rosman; A. Stroink

118 Multidisciplinary Management of Brain Metastases

Location: 505

CANCELLED

M. Ahluwalia; A. Asher; M. Ivan; F. Lang Jr.; T. Ryken; V. Tabar

119 Advanced Lateral Transpoas MIS Techniques: Expanding LLIF Indications

Location: 306AB

D. Chou; A. Kanter; J. Liu; J. O'Toole; C. Prusmack; J. Uribe

120 Emerging Indications in Neuromodulation Surgery

Location: 150BC

K. Foote; C. Halpern; A. Lozano; A. Machado; S. Sheth

9 a.m.-4:15 p.m.

AANS Exhibit Hall and Learning Center

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

Presented this year for the first time is the AANS Learning Center. Located near the AANS Resource Center, it 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 research from your peers.

Location: Exhibit Hall GHJ

9-9:45 a.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

MONDAY, APRIL 24

9:35 a.m.-1 p.m.

Plenary Session I

Location: Exhibit Hall K

Moderators: A. Abosch; H. Batjer

9:35-9:44 a.m.

Historical Film: The History of Hollywood — Narrated by M. Krieger

Non-CME Event

9:45-9:46 a.m.

Video Presentation: Support Neurosurgery Through NREF

Non-CME Event

9:47-9:48 a.m.

Welcome

A. Abosch

9:49-9:51 a.m.

Introduction of the Hunt Wilson Lecture

F. Boop

9:52-10:26 a.m.

Hunt Wilson Lecture

Non-CME Event

S. Khan

10:27-10:37 a.m.

600 Four-year Cost Analysis for the Spinal Laminectomy versus Instrumented Pedicle Screw (SLIP) Trial

V. Ravindra

10:38-10:39 a.m.

Assessment of the Trial Design/Level of Evidence

R. Harbaugh

10:40-10:42 a.m.

Discussant

C. Shaffrey

10:43-10:53 a.m.

Mahaley Clinical Award

601 Olig2 as a novel target for IDH1mutant tumors

M. Garrett

10:54-10:55 a.m.

Assessment of the Trial Design/Level of Evidence

R. Harbaugh

10:56-10:58 a.m.

Discussant

C. Bettegowda

10:59-11:09 a.m.

602 The utility of platelet function testing prior to Pipeline Embolization Device placement for the treatment of intracranial aneurysms: A multicenter cohort study

C. Griessenauer

11:10-11:11 a.m.

Assessment of the Trial Design/Level of Evidence

R. Harbaugh

11:12-11:14 a.m.

Discussant

A. Arthur

11:15-11:25 a.m.

Vesalius Award

603 Cheating Death: A Neurosurgical History of Human Resuscitation, Reanimation, and the Pursuit of Immortality

M. Bohl

11:26-11:28 a.m.

Discussant

F. Barker

11:29-11:31 a.m.

Introduction of Theodore Kurze Lecture

F. Boop

11:32 a.m.-12:12 p.m.

Theodore Kurze Lecture

D. Agus

12:13-12:14 p.m.

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

J. Morcos

MONDAY, APRIL 24

12:15-12:17 p.m.

AANS Cushing Award for Technical Excellence and Innovation in Neurosurgery

F. Charbel

12:18-12:19 p.m.

Introduction of Distinguished Service Award

F. Boop

12:20-12:23 p.m.

Distinguished Service Award

V. Sonntag

12:24-12:28 p.m.

Introduction of AANS President

K. Arnautovic

12:29-1 p.m.

AANS Presidential Address

F. Boop

1-1:01 p.m.

Introduction of Lunch-and-learn Seminars

A. Abosch

12:45-2:15 p.m.

Lunch in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

1:10-1:55 p.m.

Lunch-and-learn Seminars

Non-CME Events

How Expandable Technology Has Changed My Practice

Location: 306AB

N. Theodore

Presented by Globus Medical

Skull Base Microsurgery in the Era of Endoscopy

Location: 303AB

D. Prevedello

Presented by Codman Neuro

PRESTIGE LP™ Cervical Disc Adjacent Two-Level Arthroplasty: Design Rationale, Surgical Technique, and 7-Year Data

Location: 304AB

T. Traynelis

Presented by Medtronic

Advanced Techniques in Achieving Integrated Spinal Alignment

Location: 309

R. Haid Jr.; C. Shaffrey; J. Uribe

Presented by NuVasive, Inc.

Tritanium®: A Novel Highly Porous Titanium Alloy for Interbody Fusion Procedures

Location: 301AB

M. McGirt

Presented by Stryker

Novalis Circle Symposium: Technology Developments for Primary Brain Tumors

Location: 150BC

Presented by Brainlab

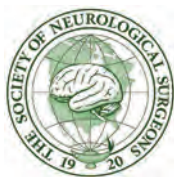
MONDAY, APRIL 24

1:10-2 p.m.

Neurosurgery “In Press”: Latest Results of Clinical Trials in Neurosurgery and Allied Fields

Location: 501BC

A. Abosch; S. Amin-Hanjani; F. Barker; D. Cahil;
Z. Ghogawala; U. Samadani



1:15-2:45 p.m.

Advanced Practice Providers Luncheon

Location: Platinum Ballroom Salon AB; JW Marriott

M. Langlois; C. Matthews

More Than Self-care: Strategies for Understanding and Addressing the Impact of Compassion Fatigue on Neurosurgical Practice

E. Godena

Ticket Required \$25

2-3:30 p.m.

3-D Session

Operative Nuances I: Handling Difficult Intraoperative Moments

Location: 152/153

A. Cohen-Gadol; W. Couldwell; J. Fernandez-Miranda

SCIENTIFIC SESSION

SCIENTIFIC SESSION I: TUMOR

Location: 408AB

Moderators: W. Curry Jr.; D. Orringer



2-2:04 p.m.

Introduction of the Ronald L. Bittner Lecture

S. Kalkanis

2:05-2:39 p.m.

Ronald L. Bittner Lecture

R. Lonser

2:40-2:49 p.m.

Stryker Neuro-oncology Award

632 Discovery of A Novel Integrin/Tyrosine Kinase Complex That Drives Brain Metastases

A. Jahangiri

2:50-2:59 p.m.

Preuss Award

637 Detection of wtEGFR Amplification and EGFRvIII Mutation in CSF-Derived Extracellular Vesicles of High-Grade Glioma Patients

J. Figueroa

3-3:09 p.m.

643 In Situ Tumor Vaccination Against Melanoma Prevents Intracranial Growth of Melanoma Cells

J. Kuo



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3:10-3:19 p.m.

648 Nanoclinic in the Brain. Nanoconjugates for MRI Virtual Biopsy and Treatment of Brain Metastatic Tumors

V. Ljubimov

3:20-3:29 p.m.

American Brain Tumor Association Young Investigator Award

655 Desmoplastic infantile ganglioglioma/astrocytoma

A. Wang

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:10 p.m.

662 Multimodal Characterization of Supratentorial Gliomas: Relationship Among Morphological, Metabolic and Molecular features

M. Riva

4:11-4:20 p.m.

668 MRI FLAIR Hyperintensity in Labyrinth is a Predictive Biomarker for Hearing Loss in Neurofibromatosis Type 2 Patients with Small Vestibular Schwannoma

R. Walker III

MONDAY, APRIL 24

4:21-4:30 p.m.

674 Expression of PDL-1 on Pituitary Adenomas:
A Role for Immunotherapy

A. Elsamadicy

4:31-4:40 p.m.

680 Optimizing Near-Infrared Optical Contrast
Via “Second-Window ICG” for Glioma with both
Intracranial Murine Model and Human Clinical Trial

R. Zeh

4:41-4:50 p.m.

685 Improvement of Frontline Therapy for GBM by
Targeting the DNA Damage Response.

A. Cohen-Gadol

4:51-5 p.m.

691 NF2 Disruption by Genomic Rearrangements
drives a Subset of Radiation-induced meningiomas

S. Suppiah

5:01-5:10 p.m.

697 Individual variation in the ventral and dorsal
language pathways: implications for insular tumor
resection

G. Banks

5:11-5:20 p.m.

704 Combination Immunotherapy With
Whole Tumor Cell Vaccination and OX40
Stimulation Overcomes Tumor-Associated
Immunosuppression and Prolongs Survival
In Mice with Intracranial Glioma

W. Curry Jr.



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5:21-5:30 p.m.

Ronald L. Bittner Award on Brain Tumor Research
711 Multisector Whole-exome Sequencing of
Glioblastoma Reveals Profound Intratumoral
Diversity: Implications for Precision Medicine

A. Vellimana, Presented by A. Kim

SCIENTIFIC SESSION

SCIENTIFIC SESSION II: SPINE



Location: 403AB

Moderators: P. Park; M. Steinmetz

Supported by an educational grant from DePuy Synthes, part of the Johnson & Johnson family of companies.

2-2:05 p.m.

606 Current MIS Techniques Fail to Optimize Spinopelvic Parameters in Patients with High Pelvic Incidence

R. Fessler

2:06-2:11 p.m.

Sanford J. Larson, MD, PhD Award

610 Optical Topographic Imaging for Intra-Operative Three-Dimensional Navigation in the Cervical Spine: Accuracy Validation and Initial Clinical Feasibility

D. Guha

2:12-2:17 p.m.

Brian D. Silber Award

615 Laser Thermotherapy for Spinal Metastatic Disease provides Comparable Local Control, Reduced Morbidity and Shorter Delay to Systemic Therapy Compared to Open Surgery

R. Everson

2:18-2:23 p.m.

Stewart B. Dunsker, MD Award

617 Assessment of Sagittal Balance Following TLIF — Are We Kyphosing the Lumbar Spine?

K. Madhavan

2:24-2:29 p.m.

622 Prediction of 30-Day Morbidity and Mortality Following Resection of Epidural Tumors of the Lumbar Spine in 300 Patients: An ACS NSQIP Analysis

C. Sarkiss



MONDAY, APRIL 24

2:30-2:35 p.m.

625 Treatment of Chronic Low Back Pain via Ablation of the Basivertebral Nerve: Results of a Multicenter, Randomized, Double Blinded, Sham Controlled FDA IDE Trial (SMART Trial)

B. Meyer

2:36-2:41 p.m.

628 Potential of human nucleus pulposis like cells derived from human umbilical cord to treat degenerative disc disease

M. Perez-Cruet

2:42-2:47 p.m.

633 Comparison of the Long Term Results of One-Level vs Two-level Cervical Total Disc Replacement vs Anterior Cervical Discectomy and Fusion

J. McConnell

2:48-2:53 p.m.

634 Combinatorial Surgical and Neuroprotective Therapy for Cervical Spondylotic Myelopathy Results in Improved Neurological Function: from Preclinical Proof of Concept to a Phase III Randomized Controlled Trial

M. Fehlings

2:54-2:59 p.m.

638 Lumbar Spine Surgical Site Infection Prevention with a Systematized Peri-operative Protocol: A Propensity Matched Multidepartmental Multiyear Retrospective Cohort Study

V. Yanamadala

3-3:05 p.m.

640 A Comparison of the Nationwide Inpatient Sample and the MarketScan Databases for Trends and Outcomes of Spine Surgery in Octogenarians

D. Drazin

3:06-3:11 p.m.

644 Treatment of Unstable Thoracolumbar Junction Fractures: Short-Segment Pedicle Fixation with Inclusion of the Fracture Level versus Long-Segment Instrumentation

M. Iacoangeli

3:12-3:17 p.m.

649 Comparison of 1 vs. 2 year Oswestry Disability Index Outcomes in Lumbar Spine Surgery from a Prospective Registry

A. Sivaganesan

3:18-3:23 p.m.

650 EVOLVE: A Prospective Multicenter Evaluation of Outcomes following Kyphoplasty for Vertebral Compression Fractures

J. Amburgy

3:24-3:29 p.m.

656 Lumbar Fusion for Symptomatic Mechanical Disc Collapse without Stenosis Improves Pain, Disability, and Quality of life: Rethinking the debate on degenerative disc disease (DDD)

S. Chotai



3:30-3:54 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

3:55-4:24 p.m.

Sonntag Lecture

The Importance of Alignment in Degenerative Cervical Disc Disease

V. Traynelis

4:25-4:30 p.m.

676 Toll-like Receptor 9 Antagonism Inhibits Spinal Cord Astrocyte Proliferation and Migration

L. Li

MONDAY, APRIL 24

4:31-4:36 p.m.

677 Anterior Cranio-Vertebral Junction Lesions: Can Endoscopy Expand the Indications for Surgery or Improve the Standard Technique?

M. Iacoangeli

4:37-4:42 p.m.

682 Frail Patients Achieve Greater Health Related Quality of Life Improvement Following Adult Spinal Deformity Surgery

E. Miller

4:43-4:48 p.m.

686 Efficacy of Intraoperative Epidural Triamcinolone Application in Lumbar Microdiscectomy: a Matched-control Study

H. Joswig

4:49-4:54 p.m.

688 The effect of smoking status on instrumentation success after rhBMP-2 supplemented lumbar fusion constructs

M. Bydon

4:55-5 p.m.

693 Motorcycle Helmets and Cervical Spine Injuries: A Five Year Experience at a Level One Trauma Center

P. Page

5:01-5:06 p.m.

696 A Novel Tool for Deformity Surgery Planning: Determining the Magnitude of Lordotic Correction Required to Achieve a Desired Sagittal Vertical Axis

E. Goldschmidt

5:07-5:12 p.m.

700 Outpatient versus inpatient ACDF: a population-level analysis of outcomes and cost

A. Pendharkar

5:13-5:18 p.m.

705 Does Myelopathy or Alignment Improvement Drive Acute Post-Operative Outcomes in Cervical Deformity Patients?

P. Passias

5:19-5:24 p.m.

708 Laminoplasty vs. Laminectomy-fusion For the Treatment of Cervical Myelopathy: Preliminary Data from the CSM-Study Comparing Cervical Sagittal Alignment and Clinical Outcomes

V. Ravindra

5:25-5:30 p.m.

713 Genetic Predisposition to Lumbar Disk Herniation in Pediatric Patients

C. Goodwin



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SCIENTIFIC SESSION

SCIENTIFIC SESSION III: STEREOTACTIC AND FUNCTIONAL SURGERY



Location: 406AB

Moderators: R. Gross; S. Sheth

2-2:09 p.m.

Philip L. Gildenberg, MD Resident Award
607 Caudate Stimulation Enhances Human Associative Learning

S. Bick

2:10-2:19 p.m.

612 Contextual Differences in Motor Cortical Neural Firing Patterns When Controlling Multiple Effector Devices Using an Intracortical Brain-computer Interface (iBCI)

V. Chavakula

2:20-2:29 p.m.

619 Survival and integration of human stem cell-derived cerebral organoids in rat secondary visual cortex

H. Chen



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2:30-2:39 p.m.

626 Modulating Large-Scale Epileptic Networks by SEEG Guided-Laser Ablations

L. Ross

2:40-2:49 p.m.

631 A Distinct dorsolateral pre-motor essential language site

N. Tandon

MONDAY, APRIL 24

2:50-2:59 p.m.

635 Characterization of synchronization between globus pallidus neurons and motor cortex in Parkinson's disease

D. Wang

3-3:09 p.m.

641 Connectivity Disturbances of the Brainstem Ascending Reticular Activating System in Epilepsy and Implications for Surgical Therapy

D. Englot

3:10-3:19 p.m.

646 Connectivity-based parcellation of the anterior limb of the internal capsule: targeting applications in psychiatric neurosurgery

P. Nanda

3:20-3:29 p.m.

653 High Resolution Micro-ECoG Studies of Human Sensorimotor Cortex during Finger Movements

C. Kuo

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:10 p.m.

660 Intraoperative Provocation Delineates Nucleus Accumbens Subregions in DBS Surgery for OCD

K. Miller

4:11-4:20 p.m.

666 Real-time MRI-guided delivery of AAV2-AADC gene therapy for Parkinson's Disease: Infusion strategies and their impact on coverage of the putamen

P. Larson

4:21-4:30 p.m.

673 Evaluation of brain tumor regrowth in relation to motor areas — a multimodal approach

S. Krieg

4:31-4:40 p.m.

678 A novel tractography-based targeting method for focused ultrasound thalamotomy: Clinical outcomes

V. Krishna

4:41-4:49 p.m.

683 Hold that thought: Human subthalamic nucleus beta oscillations are coherent with lateral cortex during working memory inhibition.

B. Zavala

4:50-4:58 p.m.

689 Noninvasive neuromodulation and thalamic mapping with low intensity focused ultrasound

R. Dallapiazza

4:59-5:02 p.m.

694 Insights from Sham Surgery: Observer Bias and Placebo Response in Essential Tremor and Parkinson's Disease

A. Bond

5:03-5:06 p.m.

698 Beta Oscillations and Bicoherence of Local Field Potentials in the Human Parkinson's Disease OFF State Recorded During Deep Brain Stimulation

R.Kochanski

5:07-5:10 p.m.

701 Mammillary Body Changes After Laser Interstitial Thermal Therapy of the Mesial Temporal Lobe

S. Grewal

5:11-5:14 p.m.

703 Limbic Leucotomy for Severe Self-injurious Behavior: Long Term Follow-up of 2 Cases

E. Chen

5:15-5:18 p.m.

706 Stereotactic Radiosurgery for Spetzler-Martin Grade IV and V Arteriovenous Malformations: An International Multicenter Study

M. Patibandla

MONDAY, APRIL 24

5:19-5:22 p.m.

709 Acute clinical effects of stimulation in a patient with Nucleus Accumbens DBS — Insights from a structural connectivity study

V. Krishna

5:23-5:26 p.m.

712 Brief Electrical Stimulation to the Human Amygdala Enhances Recognition Memory for Neutral Images

C. Inman

5:27-5:30 p.m.

714 Hippocampal RNA Expression Varies According to Seizure Outcome and Seizure Frequency following Anterior Temporal Lobectomy with Amygdalohippocampectomy

R. Bina

SCIENTIFIC SESSION

SCIENTIFIC SESSION IV: PEDIATRICS



Location: 404AB

Moderators: S. Gaskill; T. Hankinson

2-2:03 p.m.

605 Radiographic outcomes in patients with Chiari Type 1 malformation and increased pB-C2 distance without fusion

T. Minasian

2:04-2:07 p.m.

609 Vancomycin And Tobramycin Powder Use In Intrathecal Baclofen Pump Implantation: Reducing Surgical Site Infections

A. Jamshidi

2:08-2:11 p.m.

Question and Answer Session

2:12-2:15 p.m.

614 Stimulated Raman scattering microscopy provides histopathologic images for accurate intraoperative diagnosis of pediatric brain tumors

T. Hollon

2:16-2:19 p.m.

616 Alterations in Cerebral Ventricle Size Over Time in Children with Congenital Heart Disease

L. Ackerman



2:20-2:23 p.m.

Question and Answer Session

2:24-2:27 p.m.

621 Moderate-Grade Intraventricular Haemorrhage activates Cell Division in the Neonatal Mouse Subventricular one.

W. Dawes

2:28-2:31 p.m.

623 Unplanned Readmission after Craniotomy for Tumor: A National Surgical Quality Improvement Program-Pediatric Analysis

H. Dasenbrock

2:32-2:35 p.m.

Question and Answer Session

2:36-2:38 p.m.

Award Announcement: Schulman and Hydrocephalus Awards

S. Gaskill

2:39-2:42 p.m.

Introduction of Matson Lecture

S. Gaskill

2:43-3:29 p.m.

**Donald D. Matson Lecture
Perception of Quality**

A. Marlin

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:04 p.m.

659 Perioperative Antibiotic Use In Vagus Nerve Stimulator Implantation — A Clinical Series

J. Raskin

MONDAY, APRIL 24

4:05-4:08 p.m.

663 Early Apparent Diffusion Coefficient Changes in Normal-Appearing Brain in Pediatric Moyamoya Disease

J. Quon

4:09-4:12 p.m.

Question and Answer Session

4:13-4:16 p.m.

669 Psychiatric Disorders in Children with Chiari Malformation Type I: Prevalence and Risk Factors

D. Frim

4:17-4:20 p.m.

670 Oberlin Neurotization Improves Early Supination Compared to Nerve Graft Repair in Neonatal Brachial Plexus Palsy

K. Chang

4:21-4:24 p.m.

Question and Answer Session

4:25-5 p.m.

What I Have Seen

W. Oakes

5:01-5:11 p.m.

Face-off: Cystic Craniopharyngioma: Intracystic Therapy

D. Fulkerson

5:12-5:22 p.m.

Face-off: Cystic Craniopharyngioma: Resection

L. Baird

5:23-5:30 p.m.

Question and Answer Session

**SCIENTIFIC SESSION V:
CEREBROVASCULAR**



Location: 502AB

Moderators: B. Jankowitz; H. Woo

Supported by an educational grant from Codman Neuro, part of the Johnson & Johnson family of companies.

2-2:09 p.m.

DePuy Synthes Award

604 White Blood Cell Count and Neutrophil-lymphocyte Ratio Improve Prediction of Delayed Cerebral Ischemia in Good-grade Subarachnoid Hemorrhage.

F. Al-Mufti

2:10-2:19 p.m.

611 Reduction in Mortality & Morbidity after Subarachnoid Hemorrhage between 2002-2011: A Nationwide Inpatient Sample Analysis

H. Dasenbrock

2:20-2:29 p.m.

618 Seizure Response after Radiosurgery for Cerebral Arteriovenous Malformations

A. Niranjana

2:30-2:39 p.m.

624 Dissociation of Early and Delayed Cerebral Infarction after Aneurysmal Subarachnoid Hemorrhage

O. Ayling

2:40-2:49 p.m.

629 The Benefit of Radiosurgery for ARUBA-Eligible AVMs: A Practical Analysis Over an Appropriate Follow-Up Period

D. Tonetti

2:50-2:51 p.m.

Introduction of the Yasargil Lecture

K. Cockroft

2:52-3:19 p.m.

Yasargil Lecture

Stroke: The Next Horizon in Medicine — The Game has Changed!

L. Hopkins

MONDAY, APRIL 24

3:20 - 3:29 p.m.

651 Predicting Thromboembolism after Pipeline Embolization: The Importance of Assay Selection in the Interpretation of Pre-Procedural Dual Antiplatelet Inhibition

A. Malek

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:10 p.m.

658 A Pilot Study on the Safety and Efficacy of Stenting Superior Sagittal Sinus Stenosis and a New Angiographic Naming System

T. Buell

4:11-4:20 p.m.

664 Predictors of Hospital-Associated Complications Prolonging ICU Stay in Low-Grade aSAH Patients

N. Mouchtouris

4:21-4:30 p.m.

671 Transcranial Doppler Emboli Monitoring Prevents Stroke after Deployment of Flow Diverting Stents: Single Center Results from 108 Aneurysm Cases

N. Jaleel

4:31-5 p.m.

Innovation: from concept to clinical relevance — lessons learned

F. Charbel

5:01-5:10 p.m.

695 Moyamoya Disease and Pregnancy: A Single Institutional Experience in the USA

R. Qaiser

5:11-5:20 p.m.

702 Small Aneurysms Account for Majority and Increasing Percentage of Aneurysmal Subarachnoid Hemorrhage: a 25-Year Study

M. Bender

5:21-5:30 p.m.

710 Neurodegenerative CSF-biomarkers
Tau and Amyloid Beta Predict Neurological,
Neuropsychological, and Quality of Life Outcomes
after Aneurysmal Subarachnoid Hemorrhage

H. Joswig

SCIENTIFIC SESSION

SCIENTIFIC SESSION VI: NEUROTRAUMA



Location: 411

Moderators: S. Hoffer; P. Raksin

Supported by an educational grant from Codman Neuro, part of the Johnson & Johnson family of companies.

2-2:09 p.m.

608 A Comparison of Digital Subtraction
Angiography and CT Angiography for the Diagnosis
of Penetrating Cerebrovascular Injury

W. Ares

2:10-2:19 p.m.

613 Health Care Disparities in Traumatic Brain
Injury: The Effect of Insurance on Severity of
Presentation

P. Kerezoudis

2:20-2:29 p.m.

620 Predicting Prognosis of Chronic Subdural
Haematoma Patients — A New Scoring System

C. Kwon

2:30-2:39 p.m.

627 Clinical Correlates of Quantitative Cerebral
Blood Flow using Xe-CT after Decompressive
Craniectomy in Traumatic Brain injury

A. Vedantam

2:40-2:49 p.m.

630 Vascular foramina of the odontoid process:
Application to better understanding type II odontoid
fractures

F. Alonso

2:50-2:59 p.m.

636 Operative vs Non-operative Management of
Civilian Gunshot Wounds to the Spine

P. McCunniff

MONDAY, APRIL 24

3-3:09 p.m.

642 Analysis of High-Frequency PbtO₂ Measures: Insights into the Treatment Threshold from “Big Data”

R. Hirschi

3:10-3:19 p.m.

647 The Utility of Preoperative Laboratory Values in Patients Undergoing Craniotomy for Subdural Hematoma

N. Lakomkin

3:20-3:29 p.m.

654 Interhemispheric Subdural Hygromas Predict Shunt-Dependent Hydrocephalus after Decompressive Craniectomy for Traumatic Brain Injury

A. Vedantam

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:10 p.m.

661 Neurological Recovery in Patients with Favorable Outcomes after Severe Traumatic Brain Injury: Implications for Decisions on Withdrawal of Care in Patients with Severe TBI

A. Vedantam

4:11-4:20 p.m.

667 Examination of the Current Role of Closed Reduction in the Management of Cervical Fracture-Dislocations

M. Branche

4:21-4:30 p.m.

672 Risk of Head and Neck Trauma in Patients with Parkinson’s Disease: A Nationwide Population-Based Study

W. Lo

4:31-4:40 p.m.

679 Flow, Liver, Flow: The Interplay of Liver Disease and Coagulopathy in Chronic Subdural Hematoma

J. Gernsback

4:41-4:50 p.m.

684 Carbamylated Erythropoietin (CEPO) Promotes Neuroplasticity after Traumatic Brain Injury in Rats

A. Mahmood

4:51-5 p.m.

690 Electrical Modulation of the Trigeminal Nerve as a Novel Resuscitation Strategy for Acute Blood Loss

A. Chiluwal

5-5:30 p.m.

Miller Lecture

Guidelines for Head Injury Management: How Can We Proceed?

F. Servadei

SCIENTIFIC SESSION

SCIENTIFIC SESSION VII: SOCIOECONOMIC



Location: 402AB

Moderators: M. Babu; G. Murad

2-2:28 p.m.

J. Hinsdale

2:29-2:57 p.m.

B. Haynes

2:58-3:08 p.m.

AANS International Travel Scholarship

639 Minimally expensive Neurosurgery. State of the art at the public hospital of a developing country

E. Carrasco

3:09-3:19 p.m.

645 Enhanced Preoperative Prediction of Discharge Disposition for Neurosurgical Patients

N. Malhotra



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MONDAY, APRIL 24

3:20-3:30 p.m.

Young Neurosurgeons Abstract Award

652 Factors Associated with Burnout Among Neurosurgical Residents: A National Survey Study

F. Attenello

3:31-3:59 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4-4:10 p.m.

657 Validation of Frailty for Preoperative Risk Assessment in Neurosurgical Oncology Patients Using a National Registry

B. Youngerman

4:11-4:21 p.m.

Byron Cone Pevehouse Young Neurosurgeons Award

665 Transition-to-Practice Curriculum in Graduate Medical Education

M. Gephart

4:22-4:32 p.m.

675 Effect of an immersive preoperative virtual reality experience on patient reported outcomes: a Randomized Controlled Trial

K. Bekelis

4:33-4:43 p.m.

681 Effects of Employment Status on Surgical Effectiveness, 30-Day Readmission and Patient Reported Outcomes

O. Adogwa

4:44-4:54 p.m.

687 Postoperative Emergency Department Utilization After 7,294 Cranial Neurosurgery Procedures at a Tertiary Neuroscience Center

D. Hardesty

4:55-5:05 p.m.

692 Impact of Gender Disparities on Short- and Long-Term Patient Reported Satisfaction and Outcome Measures After Elective Spine Surgery: A Single Institutional Study of 384 Patients

A. Elsamadicy

5:06-5:16 p.m.

699 Managing Concurrent Surgery: An Analysis of 1018 Neurosurgical and Spine Cases

J. Guan

5:17-5:27 p.m.

Louise Eisenhardt Travel Scholarship
707 Tracking Career Paths of Women in Neurosurgery

J. Renfrow

5:28-5:30 p.m.

Question and Answer Session

6:30-8:30 p.m.

Dinner Symposia

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

Location: Drago Centro – 525 S. Flower Street

D. Chou; D. Hoh; P. Mummaneni; P. Park; M. Wang

Ticket Required: \$195

No transportation provided

Supported by an educational grant from DePuy Synthes, part of the Johnson & Johnson family of companies.

MONDAY, APRIL 24

Advanced Practice Providers (APPs): Advances in Wound Closure: Improving Patient Outcomes with New Products and Techniques

Location: Rosa Mexicano – 800 W. Olympic Boulevard

Moderators: M. Langlois; C. Matthews

Ticket Required: \$85

No transportation provided

Supported by an educational grant from Ethicon.

Navigating the Basics and Innovations of Wound Healing

V. Capasso

Surgical Microscopy: New Techniques and Technologies

Location: Fleming's – 800 W. Olympic Boulevard

C. Charalampaki; W. Couldwell; C. David; J. Morcos

Ticket Required \$195

No transportation provided

Supported by an educational grant from Leica Microsystems.

6:30-8 p.m.

NREF Donor Reception

Location: Olympic 3 Ballroom; JW Marriott

By invitation only

6:30-9:30 p.m.

AANS Section on the History of Neurological Surgery Annual Dinner

Location: Cicada Restaurant and Club – 617 S. Olive Street

Setti S. Rengachary, MD Memorial Lecture

M. Zerah

Ticket Required \$150

No transportation provided

8-9:30 p.m.

AANS International Reception

Location: GRAMMY Museum and Target Terrace – 800 W. Olympic Boulevard

All Attendees/Guests Must Reserve a Ticket in Advance.

**Ticket Required: Complimentary for International Attendees
\$25 for U.S. or Canadian Attendees**

No transportation provided

TUESDAY, APRIL 25

6:30 a.m.-4 p.m.

AANS Registration

Location: South Lobby

6:30 a.m.-5 p.m.

Speaker Ready Room

Location: 409A

7-9 a.m.

Breakfast Seminars

Ticket Required: \$100

Candidate and Medical Student Ticket: \$65

Breakfast will be available in the room of the session for Breakfast Seminar attendees.

201 So I Want to Write a Neurosurgical Manuscript and Make Sure it Gets Published.

Location: 402AB

E. Benzel; T. Mathiesen; A. Nanda; N. Oyesiku; J. Rutka

202 Return-to-play After Sports Injury II: Spine Injury

Location: 301AB

D. Brockmeyer; M. Groff; D. Lu; C. Notarianni; S. Prasad

203 Chiari Malformations: Diagnosis, Treatments and Failures

Location: 150BC

U. Batzdorf; D. Brockmeyer; G. Guinto-Balanzar; M. Iantosca; D. Limbrick Jr.; K. Muraszko

204 Intracranial Endoscopy

Location: 304C

A. Cohen; J. Drake; D. Jimenez; H. Schroeder; A. Wang

205 Management of Acute Spinal Cord Injury

Location: 406AB

R. Anderson; M. Fehlings; G. Hawryluk; F. Jian; A. Levi; E. Tsai

206 Pituitary Tumors

Location: 505

M. Aghi; D. Banerji; L. Cavallo; W. Couldwell; D. Prevedello; A. Suri

207 New Innovations in Epilepsy Surgery

Location: 304AB

D. Adelson; N. Barbaro; P. Chandra; R. Gross; J. Willie

208 Endovascular vs. Microsurgical Techniques for the Optimal Treatment of Intracranial Aneurysms

Location: 501BC

R. Armonda; A. Arthur; M. Baskaya; M. Bruneau; C. Cawley; J. Laidlaw

209 Cavernous Malformation: Current Controversies in Management

Location: 409B

M. Gunel; K. Hongo; A. Krisht; M. Lawton; R. Scott; G. Steinberg

210 Minimally Invasive Spinal Neurosurgery: Indications, Techniques and Complications

Location: 404AB

C. Branch Jr.; R. Fessler; K. Foley; D. Hart; P. Park; L. Tumialan

211 Remove, Radiate or Just Observe: Acoustic Tumors

Location: 407

P. Camarata; M. Link; S. Nair; J. Regis; A. Samii; M. Schwartz

212 Controversies in the Management of Intracerebral Hematomas

Location: 411

I. Awad; E. Connolly Jr.; N. Martin; I. Ng; R. Thompson

213 Contemporary Management for Adult Hydrocephalus

Location: 410

M. Johnson; M. Juhler; P. Klinge; M. Luciano; G. McKhann II; M. Vukic; J. White

214 Contemporary Management of Spinal Fractures

Location: 150A

S. Casha; B. Meyer; C. Sansur; N. Theodore; C. Thome; G. Trost

215 Attaining a Solid Fusion: Evidence Review and Suggestions for Success

Location: 303AB

P. Angevine; R. Fessler; K. Fu; A. Levi; M. Oppenlander

216 Functional Mapping of the Cerebral Cortex: Advantages and Limitations

Location: 501A

W. Boling; R. Byrne; E. Chang; I. Germano; D. Silbergeld

217 Malignant Brain Tumors: State-of-the-art Treatment

Location: 306AB

G. Dunn; P. Fecci; M. Ivan; L. Liau; C. Watts; G. Woodworth

218 Measuring Outcomes and Safety in Neurosurgery

Location: 507

A. Asher; A. Boulos; M. Bydon; J. Knightly; J. Slotkin

219 Global Neurosurgery

Location: 309

R. Dempsey; B. Green; M. Haglund; P. Nakaji; J. Rock

220 Management of Cranial Incidental Imaging Findings

Location: 506

S. Amin-Hanjani; S. Haines; T. Joerg-Christian; S. Kuroda; C. Maher; M. Niemela

9 a.m.-4:15 p.m.

AANS Exhibit Hall and Learning Center

Location: Exhibit Hall GHJ

9 a.m.-9:45 a.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

TUESDAY, APRIL 25

9:35 a.m.-1 p.m.

Plenary Session II

Location: Exhibit Hall K

Moderators: F. Boop; J. Morcos

9:35-9:44 a.m.

Historical Film: Neurosurgeons in the Movies — Narrated by F. Boop

Non-CME Event

9:45-9:47 a.m.

Introduction of the Schneider Lecture

A. Abosch

9:48-10:26 a.m.

Richard C. Schneider Lecture

Bioelectronic Medicine: Implantable Devices to Replace Drugs

K. Tracey

10:27-10:35 a.m.

Late Breaking Abstract

842 Prospective Randomized 10-Year Trial Results from BRYAN Cervical Disc Arthroplasty versus Anterior Cervical Fusion

A. Levi

10:36-10:44 a.m.

Late Breaking Abstract

843 Deep Brain Stimulation for Hypertension: A Proof-of-Concept Study in Five Patients

J. Miller



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10:45-10:53 a.m.

Best International Abstract Award

800 A Pilot Study of Deep Brain Stimulation in Treatment Resistant Schizophrenia

L. Salgado Lopez

10:54-10:55 a.m.

Assessment of the Trial Design/Level of Evidence

F. Barker

10:56-10:58 a.m.

Discussant

S. Sheth

10:59-11:01 a.m.

Introduction of International Lifetime Recognition Award

C. Loftus

11:02-11:04 a.m.

International Lifetime Recognition Award

J. Grotenhuis

11:05-11:15 a.m.

AANS Featured Speaker

J. Grotenhuis

11:16-11:24 a.m.

801 Southwestern Aneurysm Severity Index (SASI) for Predicting Outcomes in Unruptured Intracranial Aneurysms treated with Microsurgery

V. Ban

11:25-11:26 a.m.

Assessment of the Trial Design/Level of Evidence

F. Barker

11:27-11:29 a.m.

Discussant

F. Charbel

11:30-11:32 a.m.

NREF Update

F. Boop

11:33-11:41 a.m.

ThinkFirst Injury Prevention Award

802 Internal Jugular Vein Compression: A Novel approach to mitigate blast induced hearing injury

B. Sindelar

11:42-11:43 a.m.

Assessment of the Trial Design/Level of Evidence

F. Barker

TUESDAY, APRIL 25

11:44-11:46 a.m.

Discussant

S. Timmons

11:47-11:50 a.m.

CNS Update

A. Scarrow

11:51-11:53 a.m.

Introduction of Cushing Medalist

J. Morcos

11:54-11:56 a.m.

Cushing Medalist

R. Spetzler

11:57-11:59 a.m.

Introduction of Cushing Orator

F. Boop

12-1 p.m.

Cushing Oration

Non-CME Event

M. Whitman

1:01-1:02 p.m.

Introduction of Lunch-and-learn Seminars

A. Abosch

1-2 p.m.

Lunch in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

1:10-1:55 p.m.

Lunch-and-learn Seminars

Non-CME Events

What is the Next Evolution of Multi-Modality Imaging and Robotics in Neurosurgery?

Location: 306AB

J. Bederson; C. Hadjipanayis; M. Lawton; P. Nakaji

Presented by Carl Zeiss Meditec, Inc.

Spinal Cord Stimulation — High Dose? Low Dose? Apply the Right Dose for the Right Patient

Location: 304AB

A. El-Naggar; S. Falowski

Presented by Medtronic

The New Direction for Deep Brain Stimulation: How Directional Lead Design Can Impact Clinical Practice

Location: 303AB

B. Kopell; P. Larson; J. Vesper

Presented by Abbott

Minimally Invasive Sacroiliac Joint Fusion, Radiofrequency Denervation and Conservative Management for Sacroiliac Joint Pain: Six Year Comparative Study

Location: 301AB

V. Vanaclocha

Presented by SI-BONE, Inc.

Deep Brain Stimulation: Combining Speed and Precision

Location: 309

Presented by Siemens Healthineers

1:15-2:45 p.m.

Young Neurosurgeons Luncheon

Location: Platinum Ballroom Salon FGH; JW Marriott

Concussion: Perfect Storm

R. Ellenbogen

Ticket Required: \$10

2-3:30 p.m.

3-D Session

Operative Nuances II:

How to Stay out of Trouble During Microsurgery

Location: 152/153

A. Cohen-Gadol; M. Lawton; C. Maher; R. Spetzler

SECTION SESSION

AANS SECTION ON THE HISTORY OF NEUROLOGICAL SURGERY



Location: 402AB

Moderators: C. Prestigiacomo; M. Preul

2-2:40 p.m.

Horsley History Lecture

**From Prometheus to Apollo — Phantasmatic
Imagery in Neurosurgery**

M. Zerah

2:41-2:56 p.m.

Question and Answer Session

2:47-3:07 p.m.

**803 Brachial Plexus Injury and the Road to World
War I**

Z. Hubbard

3:08-3:18 p.m.

**804 From Hippocrates to Shunts and
Neuroendoscopy: the History of Hydrocephalus
and its Treatment**

A. Amr

3:19-3:29 p.m.

**805 Niccolò Massa (1485–1569), a Renowned
Anatomist of Medical Renaissance in Sixteenth
Century and Discovery of Cerebrospinal Fluid
in Brain**

S. Bir

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:11 p.m.

**806 Charles E. Locke Jr. (1895-1929): Ohio's First
Neurosurgeon**

P. Soni

4:12-4:22 p.m.

809 Winston Churchill: The Effect of his Health on his Leadership and of his Leadership on his Health

G. Rosseau

4:23-4:33 p.m.

811 The First Successful Primary Brain Tumor Removal: “An Idea Whose Time Has Come”

T. Maiti

4:34-4:44 p.m.

815 Neurosurgery-ENT hand shake in the 20th century: Catalyst for the Modern Day Skull Base Evolution

J. Thakur

4:45-4:55 p.m.

820 Extraordinary Measures: Harvey Cushing’s Early Struggle with Patient Mortality and End-of-Life Care

C. Pendleton

4:56-5:06 p.m.

825 Origins of “HHH” Therapy for SAH Vasospasm: Thoralf M. Sundt Jr., MD

K. Gassie

5:07-5:17 p.m.

830 The Leg Injury of Philip II of Macedon with a Focus on Peripheral Nerve Injuries and Contemporary Treatment

N. Brandmeir

5:18-5:30 p.m.

Question and Answer Session

SECTION SESSION

AANS/CNS SECTION ON PAIN



Location: 406AB

Moderator: J. Schwalb

2-2:34 p.m.

John Loeser Lecture

Peripheral Nerve Stimulation: History, Present and Future

K. Slavin

2:35-2:39 p.m.

Question and Answer Session

2:40-2:56 p.m.

Dorsal Column Stimulation

S. Nagel

2:57-3:13 p.m.

Dorsal Root Ganglion Stimulation

E. Petersen

3:14-3:29 p.m.

Deep Brain Stimulation

A. Machado

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:15 p.m.

Motor Cortex Stimulation

C. Hamani

4:16-4:30 p.m.

Debate With all Speakers

4:31 - 4:40 p.m.

William H. Sweet Young Investigator Award

813 Misdiagnosis is a Prevalent Cause of Inappropriate Lumbar Spine Surgery

V. Yanamadala, MD

4:41-4:50 p.m.

817 Prospective comparison of long-term pain relief rates after first-time microvascular decompression and stereotactic radiosurgery for trigeminal neuralgia

D. Wang

4:51-5 p.m.

822 Prediction of Clinical Outcomes after Transforaminal Lumbar Interbody Fusions Based on Preoperative Opioid Use

A. Villavicencio

5:01-5:04 p.m.

841 The Effects of Anterior Cingulotomy on Pain, Cognition and Sensory Pathway

G. Wang

5:05-5:08 p.m.

828 Spinal Cord Stimulation (SCS) Infection Rate and Incremental Annual Expenditures: Results from a US Payer Database

S. Falowski

5:09-5:12 p.m.

831 Adverse Events, Readmission, & Reoperation after Microvascular Decompression: A National Surgical Quality Improvement Program Analysis

H. Dasenbrock

5:13-5:16 p.m.

834 Mice with experimental autoimmune encephalomyelitis manifest increased pain: role of plasma membrane calcium ATPase 2

E. Mirabelli

5:17-5:20 p.m.

836 Ovarian Hormones Differentially Affect Pain Responsiveness in Plasma Membrane Calcium ATPase 2 (PMCA2) Heterozygous Mice

V. Khariv

TUESDAY, APRIL 25

5:21-5:24 p.m.

837 Microvascular decompression and tractotomy in cases of intractable and recurrent trigeminal neuralgia

D. Li

5:25-5:28 p.m.

840 Pain Free Survival After Sectioning of the Nervus Intermedius in Nervus Intermedius Neuralgia

K. Holste

5:29-5:30 p.m.

Question and Answer Session

SECTION SESSION

AANS/CNS SECTION ON PEDIATRIC NEUROLOGICAL SURGERY



Location: 404AB

Moderators: J. Chern; L. Governale; J. Smith

2-2:20 p.m.

Topic Review: Pediatric Radiology Update — Epilepsy

M. Nelson

2:21-2:41 p.m.

Topic Review: Pediatric Radiology Update — Oncology

B. Tamrazi

2:42-2:57 p.m.

Question and Answer Session

2:58-3:18 p.m.

QI Projects in Neurosurgery

N. Martin

3:19-3:29 p.m.

Question and Answer Session

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:11 p.m.

Face-Off: Moyamoya Disease — Direct Bypass

G. Steinberg

4:12-4:22 p.m.

Face-off: Moyamoya Disease — Indirect Bypass

R. Dauser

4:23 - 4:30 p.m.

Question and Answer Session

4:31-4:35 p.m.

812 Comparing Resting State Functional Magnetic Resonance Imaging to Invasive Electroconvulsive Stimulation Mapping in Pediatric Patients

J. Roland

4:36-4:40 p.m.

816 Percutaneous Doxycycline Treatment: A Novel Approach to Aneurysmal Bone Cysts of the Spine

D. Dornbos III

4:41-4:45 p.m.

818 Language lateralization with resting state and task-based functional MRI in pediatric epilepsy

V. Desai

4:46-4:50 p.m.

821 Correlation of fetal MRI findings with need for postnatal VP shunt placement in children born with myelomeningocele

S. Magge

4:51-4:55 p.m.

823 Quality of Life after Single Level Selective Dorsal Rhizotomy in Ambulant Children with Cerebral Palsy.

S. Wahab



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TUESDAY, APRIL 25

4:56-5 p.m.

Question and Answer Session

5:01-5:05 p.m.

826 Long-term Outcome Analysis of Children Presenting with Traumatic Brain Injury Secondary to Nonaccidental Trauma

S. Lehnert

5:06-5:10 p.m.

829 Expanding the Applications of Responsive Neurostimulation: Early Experience in Pediatric Patients

S. Ghatan

5:11-5:15 p.m.

832 Endoscopic Third Ventriculostomy in Paediatric Post Infective Hydrocephalus

D. Ochieng

5:16-5:20 p.m.

835 Reduced Cortical Mantle Size when Treated with Early Endoscopic Third Ventriculostomy in Pediatric Patients

R. Hwang

5:21-5:25 p.m.

838 Reduced Cell Attachment to Poly(2-hydroxyethyl methacrylate) — Coated Ventricular Catheters in Vitro

B. Hanak

5:26-5:30 p.m.

Question and Answer Session

SECTION SESSION

AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES – SPINE SECTION SESSION



Location: 403AB

Moderators: M. Groff; R. Haid Jr.; J. Knightly; F. Marca

Supported by an educational grant from DePuy Synthes, part of the Johnson & Johnson family of companies.

2-2:12 p.m.

**Sagittal Balance: Critical for the Success of
Short Segment Fusions**

M. Wang

2:13-2:25 p.m.

**Sagittal Balance: Importance is Over-rated in
Short Segment Fusions**

W. Welch

2:26-2:38 p.m.

**Minimally Invasive Vs. Open TLIF —
What Drives the Choice of Approach?**

P. Mummaneni

2:39-2:51 p.m.

**Improving Sagittal Balance from the Lateral
Approach — Is This Possible Without Release of
the Anterior Longitudinal Ligament?**

J. Uribe

2:52-3:04 p.m.

**Expandable vs Static TLIF Spacers and Sagittal
Balance — Is it Worth the Added Cost?**

D. Coric

3:05-3:17 p.m.

**1-2 level ALIF and Sagittal Balance —
Technical Nuances**

T. Koski

3:18-3:33 p.m.

Question and Answer Session

3:34-3:59 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

TUESDAY, APRIL 25

4-4:12 p.m.

Geriatric Odontoid Fracture: Posterior Fixation

S. Prasad

4:13-4:25 p.m.

Geriatric Odontoid Fracture: Anterior Fixation

A. Dailey

4:26-4:38 p.m.

Treatment of Midcervical Fractures in the Elderly

S. Dhall

4:39-4:51 p.m.

Treatment of Cervicothoracic Fractures in the Elderly: Lessons Learned

C. Shaffrey

4:52-5:04 p.m.

Geriatric Cervical Spondylotic Myelopathy: Anterior Approach

I. Kalfas

5:05-5:17 p.m.

Geriatric Cervical Spondylotic Myelopathy: Posterior Approach

M. Fehlings

5:18-5:30 p.m.

Question and Answer Session

SECTION SESSION

**AANS/CNS SECTION ON TUMORS I
PERIOPERATIVE BRAIN TUMOR
MANAGEMENT AND ITS IMPACT ON QOL**



Location: 408AB

Moderator: S. Hervey-Jumper; S. Kalkanis

2-2:04 p.m.

Introduction

S. Hervey-Jumper

2:05-2:21 p.m.

Quality of Life Consideration for Adult Brain Tumor Management: Current Knowledge and Future Directions

T. Armstrong

2:22-2:38 p.m.

Intraoperative Brain Mapping and Functional Outcome Assessments

R. Byrne

2:39-2:55 p.m.

Language Function After Perioperative Mapping and Tumor Resection

E. Chang

2:56-3:12 p.m.

Novel and Emerging Central Nervous System Imaging Modalities

C. Piron

3:13-3:29 p.m.

QOL measures in Brain Tumor Management: What's the Value?

A. Asher

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

4:01-4:10 p.m.

Journal of Neuro-oncology Award sponsored by Kluwer Academic Publishers

807 Seizure outcome after surgical resection of insular glioma

D. Wang

4:11-4:20 p.m.

808 Long-term follow-up data from 123 patients with recurrent high grade glioma from three Phase 1 trials of Toca 511 and Toca FC: Update and justification for a Phase 2/3 trial

M. Aghi

4:21-4:30 p.m.

BrainLab Neurosurgery Award

810 Plasticity of motor representations in patients with brain lesions: a navigated TMS study

S. Krieg

4:31-4:40 p.m.

814 Intra-tumoral Infusion of DNATRIX's Oncolytic Adenovirus DNX-2401 Using Alcyone's Micro-fabricated Cannula

D. Singh

4:41-4:50 p.m.

819 Targeted Nanoparticle-based Vehicle for Delivery of Small Molecule Inhibitors to Primary and Metastatic Brain Tumors

R. Juthani

4:51-5 p.m.

824 Surgical Outcome of Adult Hemispheric Glioblastoma is Determined by the Molecular-Subset: An Analysis of 142 Patients.

K. Ozduman

5:01-5:10 p.m.

827 Atypical Pituitary Adenoma: a Clinicopathologic Case Series

M. Rutkowski

5:11-5:20 p.m.

833 Nanobioconjugate for targeting of laminin-411-Notch signaling alters glioma microenvironment for tumor growth suppression

J. Ljubimova

5:21-5:30 p.m.

Leksell Radiosurgery Award

839 Early versus Late Gamma Knife radiosurgery following transsphenoidal surgery for nonfunctioning pituitary macroadenomas: a matched multi-center cohort study

J. Sheehan

2-5:30 p.m.

Advancements in Neurotrauma Care

Location: 501BC

S. Bulic; E. Kiehna; M. Langlois; C. Matthews;
C. Schirmer; J. Shin; J. Ullman

Supported by an educational grant from Codman Neuro, part of the Johnson & Johnson family of companies.

Ticket Required \$100

3:30-4 p.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

6:30-8:30 p.m.

Dinner Symposia

Career Advancement to Health System Leadership

Location: The Palm – 1100 S. Flower Street

G. Barnett; M. Lester; K. Muraszko; S. Taylor; E. Zusman

Ticket Required \$195

No transportation provided

Supported by an educational grant from Rosman Research.

New Solutions for Aneurysm Treatment

Location: Faith & Flower – 705 W. 9th Street

A. Arthur; M. Aziz-Sultan; D. Hoit; C. McDougall; H. Woo

Ticket Required \$195

No transportation provided

20
18

AANS

ANNUAL SCIENTIFIC MEETING

SAVE THE DATE



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Neurological
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www.aans.org/AANS2018

WEDNESDAY, APRIL 26

6:30 a.m.-3:30 p.m.

AANS Registration

Location: South Lobby

6:30 a.m.-5 p.m.

Speaker Ready Room

Location: 409A

7-9 a.m.

Breakfast Seminars

Ticket Required: \$100

Candidate and Medical Student Ticket: \$65

Breakfast will be available in the room of the session for Breakfast Seminar attendees.

301 ABNS Board Preparation: What You Must Know

Location: 306AB

J. Bruce; D. Kondziolka; A. Nanda; B. Thompson Jr.

302 Surgical Treatment of Parkinson's Disease

Location: 501A

E. Air; D. Darrow; J. Jagid; J. Pilitsis; T. Sajko

303 Shoulder vs. Spine: Differentiating Shoulder and Cervical Spine Pathology

Location: 406AB

N. Brooks; J. Burke; A. Levi; M. Smith; B. Subach; T. Witham

304 Management of Vasospasm

Location: 402AB

R. Du; A. Dumont; B. Hoh; P. Le Roux; R. Macdonald; M. Sames

305 Management of Pediatric Epilepsy

Location: 407

S. Bhatia; J. Blount; D. Curry; A. Fieggan; E. Kiehna; G. Lo Russo

306 Business of Neurosurgery II: Growth and Management of Neurosurgical Practices

Location: 301AB

M. Abou-Samra; T. Payner; M. Shah; A. Stroink; E. Zusman

307 Neurosurgical Management of Intractable Pain

Location: 410

E. Air; J. Miller; A. Raslan; K. Slavin; J. Vesper

308 Stem Cell Therapeutics in Neurosurgery

Location: 411

J. Boockvar; N. Boulis; P. Dirks; A. Parr; N. Selden; G. Steinberg

309 Controversies in Cerebrovascular and Endovascular Neurosurgery

Location: 150A

K. Cockroft; F. Goncalves-Llanos; D. Langer; C. Schirmer;
E. Veznedaroglu

310 The Spectrum of Adjuvant Therapy for Brain Tumors

Location: 507

S. Chang; R. Jensen; F. Lang Jr.; I. Nakano; R. Rola; J. Sampson

311 Suprasellar and Juxtacellular Tumors: Complications and Avoidance

Location: 304AB

K. Arnautovic; K. Aziz; L. Cavallo; A. Dehdashti;
P. Theodosopoulos

312 Management of Adult Scoliosis

Location: 501BC

P. Angevine; T. Koski; F. La Marca; P. Mummaneni; D. Okonkwo;
E. Tessitore

313 New and Evolving Technologies for Minimally Invasive Lumbar Disc Surgery

Location: 150BC

C. Branch Jr.; R. Fessler; J. Mobasser; L. Tumialan; M. Wang

314 Cerebral Trauma: State-of-the-art Treatment

Location: 404AB

M. Bullock; G. Hawryluk; D. Michael; A. Rubiano; F. Servadei

315 Tumor-related Epilepsy

Location: 304C

M. Berger; R. Byrne; E. Chang; J. Politsky

316 Lumbar Spine Fusion Indications and Complications

Location: 303AB

A. Dailey; M. Finn; R. Heary; E. Massicotte; B. Meyer; J. O'Shea

317 Selecting Anterior Approaches for Cerebrovascular Surgery: From Eyebrow to OZ — Pros and Cons of Minimally Invasive Keyhole Approaches for Cerebrovascular Surgery

Location: 409B

K. Aziz; J. Delashaw Jr; A. Krisht; P. Nakaji; G. Pradilla;
L. Sekhar

318 The Use of Opioids in Neurosurgical Practice: How to be Safe, Effective and Compliant with New Prescribing Laws

Location: 309

F. Ferrante; J. Ing; J. Schwalb; C. Winfree

319 The FDA: Investigational Device Exemptions, Regulatory Process and Moving Medical Devices to Patients

Location: 505

A. Abosch; M. Bydon; R. Heary; C. Hill; C. Loftus; C. Pena;
W. Welch; X. Zheng

7:30-9 a.m.

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

Location: Platinum Ballroom Salon FG; JW Marriott

**Honoring the Louise Eisenhardt Lecturer,
Amy Cuddy, PhD**

9 a.m.-2:15 p.m.

AANS Exhibit Hall and Learning Center

Location: Exhibit Hall GHJ

9-9:45 a.m.

Beverage Break in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

WEDNESDAY, APRIL 26

9:35 a.m.-1 p.m.

Plenary Session III

Location: Exhibit Hall K

Moderators: F. Barker II; A. Valadka

9:35-9:44 a.m.

**Historical Film: Los Angeles History of
Neurosurgery — Narrated by M. Weiss**

Non-CME Event

9:45 - 9:47 a.m.

Introduction of Louise Eisenhardt Lecture

S. Wolfe

9:48-10:18 a.m.

Louise Eisenhardt Lecture

**Presence: Bringing Your Boldest Self to Your
Biggest Challenges**

A. Cuddy

10:19-10:28 a.m.

**900 What Happens to the Human Motor Endplate
after a Traumatic Nerve Injury? A Temporal Profile
of Human Motor Endplate Degradation after
Brachial Plexus Injury**

J. Chan

10:29-10:30 a.m.

Assessment of the Trial Design/Level of Evidence

J. Kestle

10:31-10:33 a.m.

Discussant

R. Spinner

10:34-10:43 a.m.

Integra Foundation Award

**901 Clinical and Molecular Features of Genomic
Subgroups in Meningioma**

M. Youngblood

10:44-10:45 a.m.

Assessment of the Trial Design/Level of Evidence

J. Kestle

10:46-10:48 a.m.

Discussant

D. Cahill

10:49-10:51 a.m.

Introduction of Rhoton Family Lecture

J. Morcos

10:52-11:22 a.m.

Rhoton Family Lecture

Memories of a Giant — Al Rhoton and Sculpting the Brain like Michelangelo

E. de Oliveira

11:23-11:32 a.m.

902 Patients with High Pelvic Tilt Achieve the Same Clinical Success as Those with Low Pelvic Tilt After Minimally Invasive Deformity Surgery

J. Uribe

11:33-11:34 a.m.

Assessment of the Trial Design/Level of Evidence

J. Kestle

11:35-11:37 a.m.

Discussant

R. Heary

11:38-11:47 a.m.

903 First 50 Fetal In-Utero Microsurgical Myelomeningocele Repairs: Critical Comparison of Neurosurgical and Maternal Outcomes to The MOMS Trial.

S. Elbabaa

11:48-11:49 a.m.

Assessment of the Trial Design/Level of Evidence

J. Kestle

11:50-11:52 a.m.

Discussant

M. Handler

WEDNESDAY, APRIL 26

11:53-11:55 a.m.

Introduction of Humanitarian Award

F. Boop

11:56-11:59 a.m.

Humanitarian Award

J. Ragheb

12-12:02 p.m.

Introduction of Van Wagenen Lecture

S. Haines

12:03-12:23 p.m.

Van Wagenen Lecture

From Reactive Gliosis to Neural Repair

M. Goetz

12:24-12:33 p.m.

Robert Florin Award

917 Overlapping Surgeries are not Associated with Worse Patient Outcomes: Retrospective Multivariate Analysis of 14,872 Neurosurgical Cases Performed at a Single Institution

M. Bohl

12:34-12:35p.m.

Assessment of the Trial Design/Level of Evidence

J. Kestle

12:36-12:38 p.m.

Discussant

R. Harbaugh

12:39-12:48 p.m.

925 Ventral capsular / ventral striatal deep brain stimulation for the affective sphere of neuropathic pain: a first-in-human prospective, randomized double-blinded placebo-controlled trial

A. Machado

12:49-12:50 p.m.

Assessment of the Trial Design/Level of Evidence

J. Kestle

12:51-12:53 p.m.

Discussant

J. Pilitsis

12:54-12:56 p.m.

Introduction of Incoming AANS President

F. Boop

12:57-1 p.m.

2017/2018 AANS President

A. Valadka

RAPID FIRE SESSIONS

12-1 p.m.

**NEW! Rapid Fire Abstract Session:
Tumor And Cerebrovascular**

Location: 409B

Moderators: A. Arthur; A. Kim; A. Wang



12-12:03 p.m.

**973 Loss of subcortical language pathways
correlates with surgery-related aphasia in brain
tumor patients: an investigation via rTMS-based
DTI fiber tracking**

S. Ille

12:04-12:07 p.m.

**907 Bone Marrow Response as a Potential
Biomarker of Outcomes in Glioblastoma Patients**

E. Vaios

12:08-12:11 p.m.

**909 Impact of Exosomes on Radiation Resistance
and Cellular Proliferation in Cancer**

O. Mrowczynski

12:45-2 p.m.

Lunch in the AANS Exhibit Hall

Location: Exhibit Hall GHJ

12:12-12:15 p.m.

911 Near Infrared Fluorescent Guided Brain Tumor Surgery – Human Clinical Trial Results

J. Lee

12:16-12:19 p.m.

913 The Morbidity Profile of Transsylvian vs. Transcortical Approaches to Pure Insular Gliomas

C. Przybylowski

12:20-12:23 p.m.

915 Radiographic parameterization of the subventricular zone distance reveals associations with survival and gene expression in glioblastoma

T. Steed

12:24-12:27 p.m.

918 Role of a p53 polymorphism in the development of nonfunctional pituitary adenomas

A. Jahangiri

12:28-12:31 p.m.

920 Analysis of tumor and microenvironment in IDH1-mutant gliomas using single cell transcriptome analysis

A. Venteicher



Features
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12:32-12:35 p.m.

921 Calpain Inhibition Improves Brain White Matter Damage in a Mouse Model of Subarachnoid Hemorrhage

R. Macdonald



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12:36-12:39 p.m.

923 Microsurgical and Endovascular Aneurysm Training in a Chicken Thigh and Leg Pulsatile Model

O. Tanweer

12:40-12:43 p.m.

926 Robotically-Assisted Cerebral Angiography and Intracranial Intervention: Initial Experience with the Magellan Catheter System

C. Carroll

12:44-12:47 p.m.

928 Natural History of Patients with Hemorrhagic Moyamoya Disease: A Long-term Follow-up study

X. Liu

12:48-12:51 p.m.

929 Alpha7 Nicotinic Acetylcholine Receptor Stimulation Attenuates Neuroinflammation in Murine Intracerebral Hemorrhage

P. Krafft

12:52-12:55 p.m.

931 Applications of the Apollo Detachable Tip Microcatheter for Endovascular Embolization of Arteriovenous Malformations and Arteriovenous Fistulas: The BNI Experience

A. See

12:56-12:59 p.m.

933 Distinct Transcriptional Modules Define Cerebral Aneurysm Formation and Aneurysm Rupture

T. Azad

RAPID FIRE SESSIONS

12-1 p.m.

NEW! Rapid Fire Abstract Session: Pediatrics and Stereotactic and Functional



Location: 410

Moderators: S. Gaskill; D. Michael

12-12:03 p.m.

904 Expression of the Caspase Signalling Pathway in Chronic Subdural Haematoma Outer Membranes

K. Osuka

12:04-1:07 p.m.

906 The "Crumple Zone" Hypothesis: Association of Frontal Sinus Volume and Cerebral Injury after Craniofacial Trauma

C. Mossop

12:08-12:11 p.m.

908 Big data analysis of Neurosurgical Intensive Care Unit GCS scores reveals redundancy and suggests opportunities for improvement in NSICU GCS measurements

A. Costa

12:12-12:15 p.m.

910 ATP Induces Disruption of Tight Junction Proteins via IL-1beta-dependent MMP-9 Activation of Human Blood Brain Barrier in vitro

J. Zhang

12:16-12:19 p.m.

912 A Predictive Model Incorporating Thromboelastography that Accurately Predicts Preadmission-Aspirin Use in Traumatic Brain Injury Patients

S. Mendenhall

12:20-12:23 p.m.

914 Long-term Comorbidities Associated with Children Presenting with Traumatic Brain Injury Secondary to Nonaccidental Trauma

S. Lehnert

12:24-12:27 p.m.

916 How Enactments of Traumatic Brain Injury Laws Have Effected Concussions Suffered by High School Athletes

M. Schallmo

12:28-12:31 p.m.

919 Predictors of Mortality in Children with Concurrent Spina Bifida and Chiari II Malformation

M. McDowell

12:32-12:35 p.m.

922 Differences in the MicroCT Morphology and mRNA Expression in the Sagittal Suture of Normal and Craniosynostotic Bone

R. Vega

12:36-12:39 p.m.

924 Use of a Preoperative Bundle to Prevent Pediatric Neurosurgical Infections

H. Waseem

12:40-12:43 p.m.

927 Auditory-Cued Naming as an Optimal Paradigm for the Mapping of Human Language

C. Kadipasaoglu

12:44-12:47 p.m.

Surgical Management of Intractable Epilepsy: Nationwide Rates, Causes, Risk Factors, and Outcomes Associated With 30-day and 90-day Readmission

K. Rumalla

12:48-12:51 p.m.

930 Conceptual Processing in the Basal Temporal Language Area

K. Forseth

12:52-12:55 p.m.

932 Major Complications Following Microvascular Decompression: 6-Year Incidence and Predictive Risk Factors

N. Lakomkin

12:56-12:59 p.m.

934 Neurophysiological analysis of subthalamic deep brain stimulation for Parkinson's disease between general and local anesthesia: pattern shift of physiological signatures by anesthesia

S. Tsai

SECTION SESSION

AANS/CNS CEREBROVASCULAR SECTION



Location: 502AB

Moderators: M. Lawton; A. Thomas; R. Williamson Jr.

2-2:05 p.m.

Introduction of Donaghy Lecture

K. Cockroft

2:06-2:35 p.m.

Donaghy Lecture

The Journey of Re-Inventing Neurovascular Surgery

R. Rosenwasser

2:36-2:41 p.m.

935 Declining Complication Rates with Flow Diversion of Anterior Circulation Aneurysms after Introduction of Pipeline Flex

M. Bender

2:42-2:47 p.m.

936 Venous Thromboembolism Complications in Patients with Spontaneous Intracerebral Hemorrhage: A Multicenter Cohort Study

D. Ding

2:48-2:53 p.m.

937 The Therapeutic Challenge to Large Arteriovenous Malformations: Volume-Staged or Single-Session Gamma Knife

H. Hasegawa

2:54-2:59 p.m.

939 Bridging the Gender Gap: Pharmacokinetic Differences Underlying Thrombolysis by Aptamer Inhibition of Von Willebrand Factor

D. Dornbos III

3-3:05 p.m.

940 Angiographic Flow Index on DSA Correlates with Cerebral Flow Measured by Quantitative MRA

A. Hussein

3:06-3:11 p.m.

942 Role of brain hemostatic system in cerebrospinal fluid abnormalities following subarachnoid hemorrhage

G. Britz



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3:12-3:22 p.m.

Discussion

3:23-3:48 p.m.

Debate: Optimizing Cerebrovascular Training

F. Albuquerque; A. Day; R. Harbaugh

3:49-4:14 p.m.

BNI 3.0 — Strategic Plan for Neurosurgical Care, Teaching, and Research

M. Lawton

4:15-4:29 p.m.

Discussion

4:30-5 p.m.

Business Meeting

SECTION SESSION

AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES — PERIPHERAL NERVES SECTION



Location: 402AB

Moderators: H. Gilmer; L. Jacques; M. Mahan;

2-2:03 p.m.

Introduction of Kline Lecture

E. Zager

2:03-2:48 p.m.

Kline Lecture

Advances in Nerve Repair: Experimental and Clinical

R. Midha

2:49-3:04 p.m.

Sport Related Peripheral Nerve Injury

R. Spinner

WEDNESDAY, APRIL 26

3:05-3:10 p.m.

Commentary

E. Zager

3:11-3:26 p.m.

Update on Peripheral Nerve Regeneration

W. Ray

3:27-3:32 p.m.

Commentary

R. Midha

3:33-3:48 p.m.

Thoracic Outlet Syndrome: 20 Year Experience

A. Dubuisson

3:49-3:54 p.m.

Commentary

A. Belzberg

3:55-4:15 p.m.

Report from 2015 Kline Research Awardee:
MR Elastography of peripheral nerve

S. Capek

4:16-4:24 p.m.

955 Trends in Upper Extremity Nerve Injury using
the National Inpatient Sample Database

M. Karsy

4:25-4:33 p.m.

959 Pathologic Organization of Laminin in
Regeneration after Human Peripheral Nerve Injury

M. Karsy

4:34-4:42 p.m.

963 Anti-Apoptotic Effect of G-CSF on Spinal
 α -Motoneurons after Traumatic Nerve Lesion

D. Keiner

4:43-4:51 p.m.

967 First Human Experience with Autologous Schwann Cells to Supplement Sciatic Nerve Repair: Long-term Follow-up in Two Cases

S. Burks

4:52-5 p.m.

971 Electrical Stimulation of the spinal cord as a Therapeutic Modality to treat Amyotrophic Lateral Sclerosis

R. Greene

SECTION SESSION

AANS/CNS SECTION ON STEREOTACTIC AND FUNCTIONAL SURGERY



Location: 406AB

Moderators: J. Miller; N. Pouratian

2-2:04 p.m.

Introduction

N. Pouratian; J. Miller

2:05-2:20 p.m.

Patient Selection and Biomarkers for Deep Brain Stimulation

P. Starr

2:21-2:36 p.m.

Big Data and Neurosurgery

P. Konrad

2:37-2:52 p.m.

Advanced Imaging in Functional Neurosurgery

A. Abosch

2:53-3:08 p.m.

Advanced Imaging in Functional Neurosurgery

J. Gonzalez-Martinez

3:09-3:24 p.m.

Neurosurgical Face-off: The Future of Neuromodulation is Invasive

R. Gross

3:25-3:40 p.m.

Neurosurgical Face-off: The Future of Neuromodulation is Non-Invasive

I. Cook

3:41-3:50 p.m.

946 Single-neuron correlates of error and conflict monitoring in the human medial frontal cortex

Z. Fu

3:51-4 p.m.

948 Neuronal mechanisms of cognitive control in human prefrontal cortex

G. Banks

4:01-4:10 p.m.

950 DBS of the Bed Nucleus of Stria Terminalis (BNST) for Major Depression

R. Bittar

4:11-4:20 p.m.

953 Stereotactic Laser Amygdalohippocampotomy for Pharmacoresistant Mesial Temporal Lobe Epilepsy: One-Year Outcomes in a Large Series

M. Stern

4:21-4:30 p.m.

956 Seizure suppression by opto-chemogenetic inhibition in multiple nodes of an epileptic network with chemically-activated luminopsins

R. Gross

4:31-4:40 p.m.

960 Role of hippocampus in human memory redefined: Evidence from stereotactic laser amygdalohippocampotomy

D. Drane



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Author

4:41-4:50 p.m.

964 A Novel Technique to optimize Microelectrode Recording Accuracy in DBS surgery using Intraoperative CT

R. Kochanski

4:51-5 p.m.

968 Persistent Neuronal Activity in Medial Temporal Lobe and Medial Frontal Cortex Supports Short-Term Memory

J. Kaminski

SECTION SESSION

AANS/CNS SECTION ON NEUROTRAUMA AND CRITICAL CARE



Location: 403AB

Moderators: J. Gruen; C. Rabb

Supported by an educational grant from Codman Neuro, part of the Johnson & Johnson family of companies.

2-2:03 p.m.

Session Introduction

C. Rabb

2:04 - 2:34 p.m.

Rescuing the Injured Brain

P. Hutchinson

2:35-2:38 p.m.

2017-18 Codman Award Winner Announcement

E. Tsai

2:39-2:49 p.m.

2016 Codman Neurotrauma Research Award Presentation

D. Petrov

2:50-2:59 p.m.

938 Differentiating Traumatic Brain Injury and Post Traumatic Stress Disorder with the use of Diffusion Tensor Imaging and Volumetric Analysis

J. Jennings

3-3:09 p.m.

941 Trigeminal Nerve Stimulation as a Novel Resuscitation Therapy for Polytrauma Model of Traumatic Brain Injury Complicated by Hemorrhage Shock

A. Chiluwal

3:10-3:19 p.m.

943 Cross-Cultural Efficacy of Interactive Educational Interventions in the NeuroTrauma Setting

D. Tran

3:20-3:29 p.m.

944 Short-Term Outcomes in Head-Trauma Patients with Associated Skull Fractures

A. Asemota

3:30-3:32 p.m.

Introduction of Charles Tator Lecture

D. Michael

3:33-4 p.m.

Charles Tator Lecture

Acute Spinal Cord Injury: Monitoring From the Injury Site to Guide Management

M. Papadopoulos

Supported by an educational grant from AOSpine.

4:01-4:10 p.m.

951 Development of Augmented Reality-Based Neuro-Navigation System for use in External Ventricular Drain Placement

A. Cutler

4:11-4:20 p.m.

954 The Effects of Age Following Traumatic Brain Injury: Characteristics at Presentation and Risk Factors for Unfavorable Outcome

J. Yue

4:21-4:30 p.m.

957 Factors Predicting Inadequate Hematoma Evacuation and Recurrence in Chronic Subdural Hematoma

R. Motiei Langroudi

4:31-4:40 p.m.

961 Vitamin D Status and Three-Month Glasgow Outcome Scale Scores in Neurocritical Care Patients: A Prospective Analysis of 497 Patients

J. Guan

4:41-4:50 p.m.

965 CSF Cytokine Profile of Patients with Post-Traumatic Hydrocephalus Following Severe Traumatic Brain Injury

C. Deibert

4:51-5:00 p.m.

969 Triage Patterns of Traumatic Subarachnoid Hemorrhage: Is Referral to a Tertiary Care Center Necessary?

M. Gates

SECTION SESSION

AANS/CNS SECTION ON TUMORS II

Location: 408AB

Moderators: M. Aghi; P. Fecci



2-2:05 p.m.

Introduction

P. Fecci

2:06-2:22 p.m.

The Developing Field of Immunogenomics

G. Dunn

2:23-2:39 p.m.

Coming down the Pipeline: Emerging Advances in Immunotherapy

A. Heimberger

2:40-2:56 p.m.

Technological Interfaces: Neurosurgery and Immunotherapy

E. Leuthardt

2:57-3:13 p.m.

The Industry Perspective: Opportunities in Brain Tumor Immunotherapy

T. Davis

3:14-3:30 p.m.

Immunotherapeutic Challenges: Where are We Now and Where Do We Need to Be?

J. Sampson

3:31-3:40 p.m.

Columbia Softball Charity Award

945 Angiogenesis plays a critical role in Group 3 medulloblastoma pathogenesis

E. Thompson

3:41-3:50 p.m.

Synthes Skull Base Award

947 Folate Receptor Overexpression Can Be Visualized in Real Time During Pituitary Adenoma Endoscopic Transsphenoidal Surgery

J. Lee

3:51-4 p.m.

949 Genetic Abnormalities Correlate with Histological Subtypes of Medulloblastoma — Searching for Therapeutic Targets and Predicting Metastatic Potential

A. Amin

4:01-4:10 p.m.

952 Purification and Characterization of Primary Human Glioblastoma Astrocytes

M. Gephart

4:11-4:20 p.m.

905 Laser Ablation in Stereotactic Neurosurgery (LAISE): A Multi-Institutional Retrospective Analysis of LITT for Gliomas

A. Sloan

4:21-4:30 p.m.

958 Immune Checkpoint Protein PD-L1 Induces Glioma-Associated Regulatory T Cell Expansion

J. DiDomenico

4:31-4:40 p.m.

962 Targeted Sequencing Reveals Clinically-Actionably Mutations in Skull Base Meningiomas

T. Lazaro

4:41-4:50 p.m.

966 Downregulation of sphingosine-1-phosphate receptor type 1 mediates T-cell sequestration in bone marrow amidst glioblastoma

P. Chongsathidkiet

4:51-5 p.m.

970 Host Lymphopenia Enhances the Abundance, Activation Status, and Antitumor Efficacy of Tumor-specific T Cells Delivered Directly into the Brain

C. Suryadevara

ACKNOWLEDGEMENTS

The AANS wishes to thank the following companies for their support of the 2017 AANS Annual Scientific Meeting:

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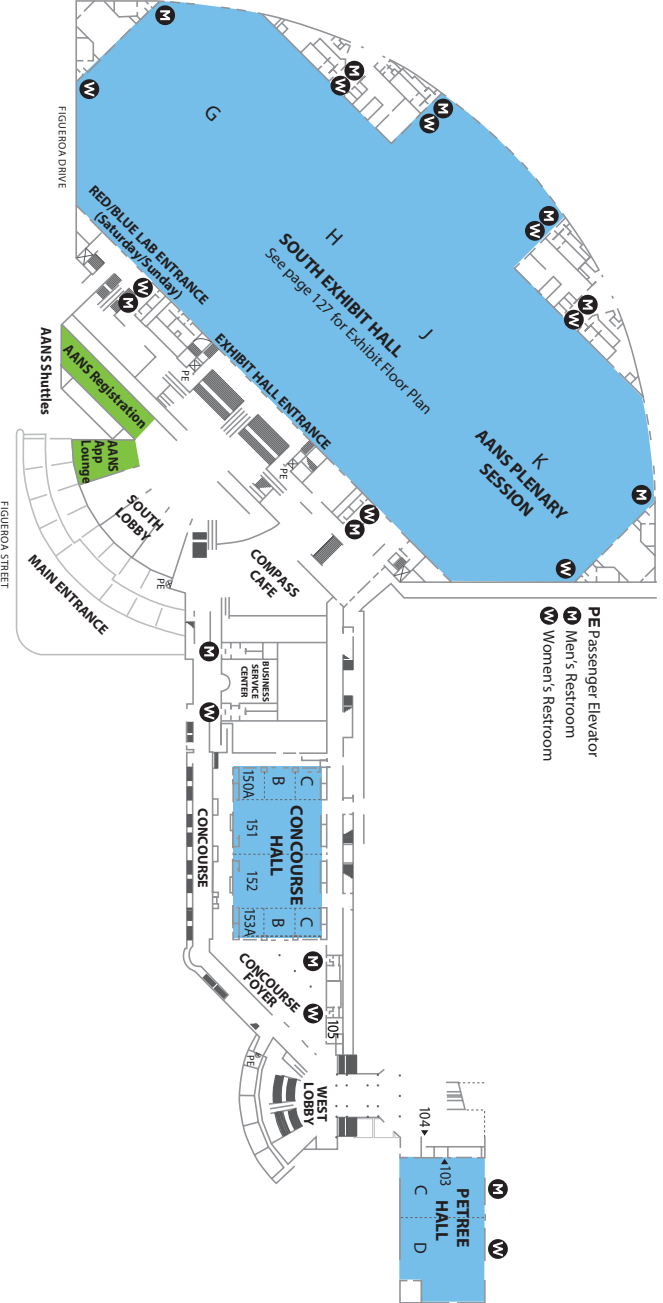
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As of March 17, 2017

LOS ANGELES CONVENTION CENTER — LEVEL ONE

Exhibit and Special Event Halls

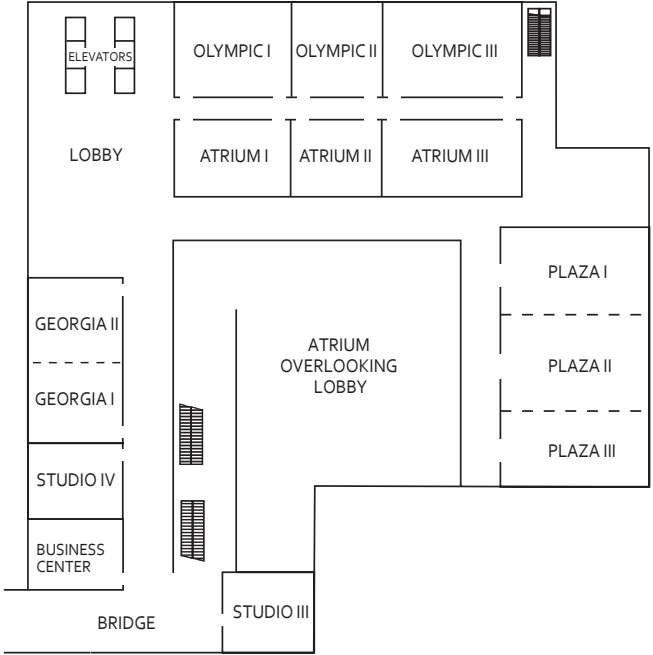


LOS ANGELES CONVENTION CENTER — LEVEL TWO

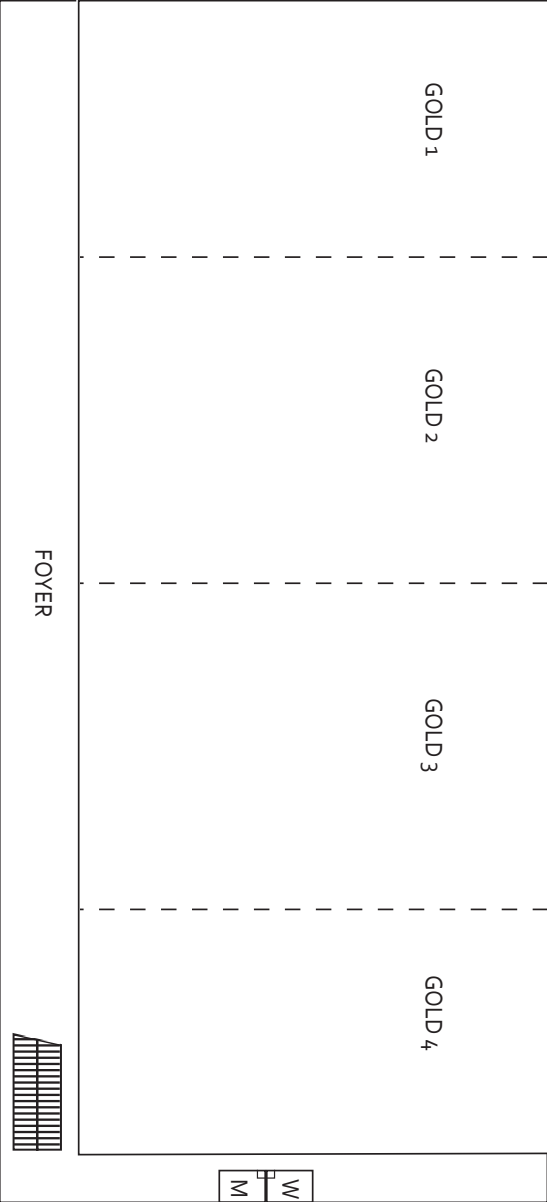
Meeting Rooms



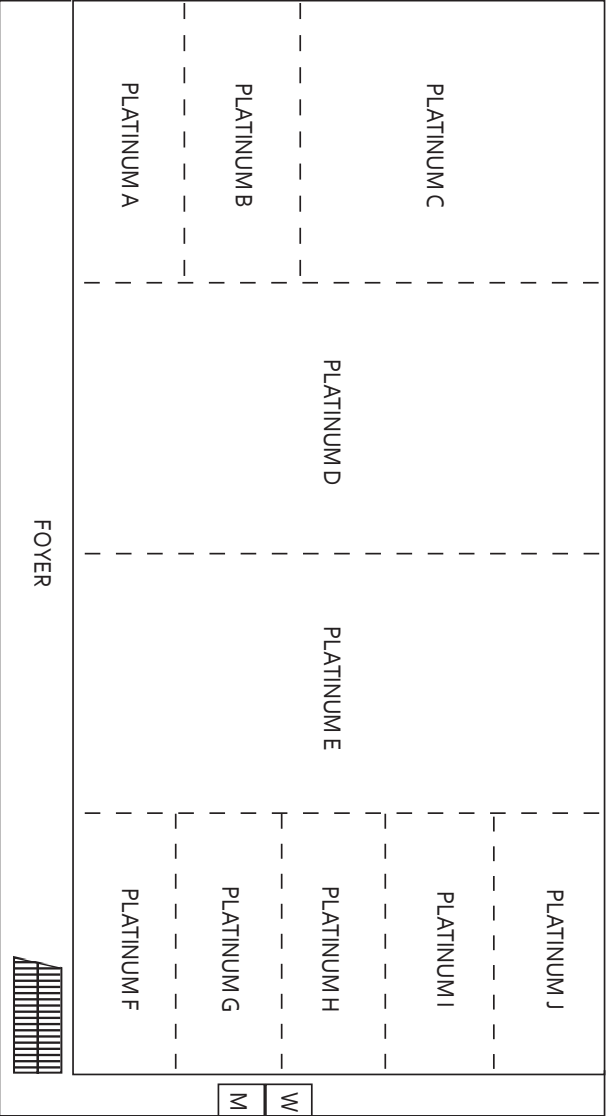
JW MARRIOTT MEETING ROOMS



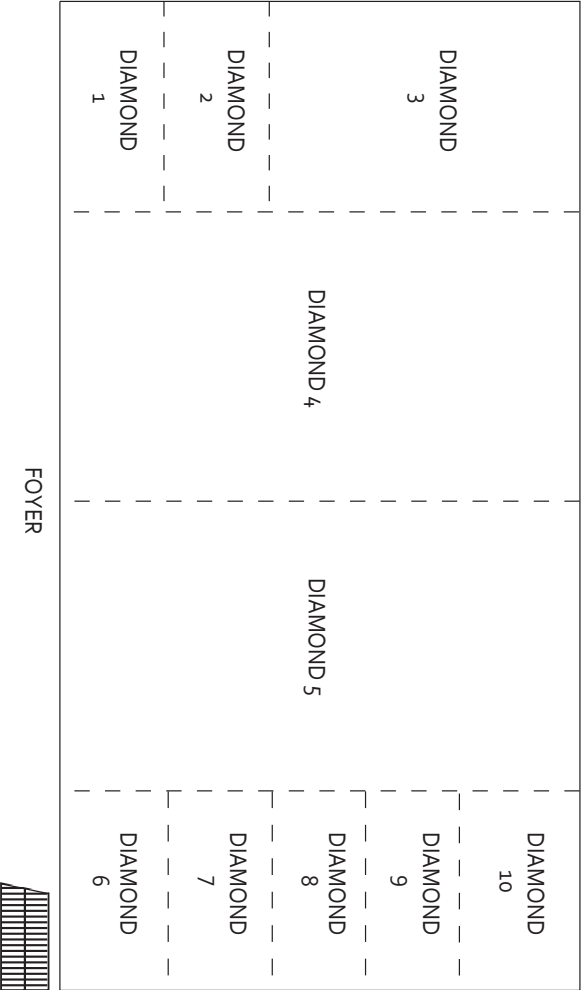
JW MARRIOTT GOLD BALLROOM



JW MARRIOTT PLATINUM BALLROOM



JW MARRIOTT DIAMOND BALLROOM



W
M

SHUTTLE SERVICES ROUTES

HOTEL	PICKUP LOCATION
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ROUTE-A > PINK

2 Hotels	2 Stops
Doubletree by Hilton Los Angeles Downtown	Curbside near front entrance
Omni Los Angeles Hotel at California Plaza	Curbside on Olive Street

ROUTE-B > GREEN

3 Hotels	2 Stops
The Westin Bonaventure Hotel & Suites, Los Angeles	Curbside on Figueroa
The LA Hotel Downtown	Use Westin stop across Figueroa
Hotel Indigo Los Angeles Downtown	Curbside on Francisco Street

ROUTE-C > BLUE

5 Hotels	3 Stops
Hilton Checkers Los Angeles	Curbside on Grand Avenue
Millennium Biltmore Hotel Los Angeles	Use Hilton stop across Grand Avenue
Sheraton Grand Los Angeles	Curbside on Hope Street
LEVEL Furnished Living	Curbside on Olive Street
The Los Angeles Athletic Club	Use LEVEL Furnished Living on Olive Street

WALKING HOTELS

5 Hotels
JW Marriott Los Angeles L.A. LIVE
LUXE City Center Hotel
Ritz-Carlton Los Angeles
Courtyard Los Angeles L.A. LIVE
Residence Inn Los Angeles L.A. LIVE

SHUTTLE SERVICES SCHEDULES

Friday, April 21	FREQUENCY
4:30-7:15 p.m.	Every 20-30 minutes
Saturday, April 22	
6:30 a.m.-5:30 p.m.	Every 20-30 minutes
Sunday, April 23	
6:30-9 a.m.	Every 10-15 minutes
9 a.m.-3:30 p.m.	Every 20-30 minutes
3:30-6:30 p.m.	Every 10-15 minutes
Monday, April 24	
6:30-9 a.m.	Every 10 minutes
9 a.m.-3:30 p.m.	Every 20-30 minutes
3:30-7 p.m.	Every 10 minutes
Tuesday, April 25	
6:30-9 a.m.	Every 10 minutes
9 a.m.-3:30 p.m.	Every 20-30 minutes
3:30-6 p.m.	Every 10 minutes
Wednesday, April 26	
6:30-9 a.m.	Every 10-15 minutes
9 a.m.-3:30 p.m.	Every 20-30 minutes
3:30-5:45 p.m.	Every 10-15 minutes
Convention Center to LAX 12:45-5:15 p.m. (Wednesday only)	Departures every 30 minutes to LAX \$15 paid by guests*

*\$15 Airport Service on Wednesday, April 26

- Reservation required by calling or visiting the shuttle desk at the Los Angeles Convention Center during daily shuttle hours – 619.921.0305/South Building-Figueroa Drive
- Service from the Los Angeles Convention Center, South Building/Figueroa Drive to LAX 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



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Booth 1222

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AANS EXHIBIT HALL AND LEARNING CENTER MAP AND INFORMATION



2017 AANS Annual Scientific Meeting Visit the Exhibits and New Learning Center — Exhibit Hall GHJ

The AANS Exhibit Hall brings together over 200 companies who offer innovative products and services to the neurosurgical space. Presented this year for the first time is the AANS Learning Center. Located near the AANS Resource Center, it 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 research from your peers.

Exhibit Hours:

Monday, April 24, 9 a.m.-4:15 p.m.
 Tuesday, April 25, 9 a.m.-4:15 p.m.
 Wednesday, April 26, 9 a.m.-2:15 p.m.

Beverage Breaks in the AANS Exhibit Hall:

Monday, April 24, 9-9:45 a.m., 3:30-4 p.m.
 Tuesday, April 25, 9-9:45 a.m., 3:30-4 p.m.
 Wednesday, April 26, 9-9:45 a.m.

Lunch in the AANS Exhibit Hall:

Monday, April 24, 1-2 p.m.
 Tuesday, April 25, 1-2 p.m.
 Wednesday, April 26, 1-2 p.m.

EXHIBITOR LIST

Company Name	Booth No.	Company Name	Booth No.	Company Name	Booth No.
7D Surgical	1349	ImmersiveTouch, Inc.	1051	Penn State Health Milton S. Hershey Medical Center	1110
AANS/CNS Sections	1039	IMRIS / Deerfield Imaging, Inc.	1926	Penumbra Inc.	1539
AANS E-posters	1029	Inion, Inc.	1116	Peter Latic US Inc.	2227
AANS Online Career Center	1038	InSightec Ltd.	1149	PMT Corporation	1814
Abbott (formerly St. Jude Medical)	2110	Integra LifeSciences	2101	Pro Med Instruments, Inc.	1639
ACIGI Relaxation/Fujiroki	1552	Integrity Implants	1130	Providence Health & Services	1952
Ad-Tech Medical Instrument Corporation	1922	Intraoperative Neurophysiological Monitoring Solutions	1055	Providence Medical Technology	1852
Aesculap Inc.	1801	INVENIO IMAGING INC.	1124	QED Medical	1104
Alcyone Lifesciences Inc.	2055	InVivo Therapeutics Corporation	2216	QOD	1038
Allmeds	1444	IRRAS	1148	RAUMEDIC, Inc.	1647
Alpha Omega	1714	IsoRay Medical, Inc.	1209	Reinvent Biologics	2222
Alphatec Spine, Inc.	1650	Jackson & Coker	1249	Relievent Medsystems, Inc.	1750
AMEDICA Corporation	2215	Jeil Medical	1454	Renovis Surgical Technologies, Inc.	1652
Amendia, Inc.	2146	Jewel Precision	1754	Richard Wolf Medical Instruments Corporation	1947
American Association of Neurological Surgeons	1038	joimax Inc.	1348	Rose Micro Solutions LLC	1323, 2239
American Board of Neurological Surgery	1038	Journal of Neurosurgery	1038	RosmanSearch, Inc.	1304
Anchor Orthopedics XT Inc.	1948	K2M Inc.	1813	RTI Surgical	1151
Apex Medical, Inc.	1718	Kaiser Permanente	2245	Samsung	1838
Arbor Pharmaceuticals, LLC	1316 & 1413	Karger Publishers	1219	Scanlan International, Inc.	1100
Arkis BioSciences	2047	KARL STORZ Endoscopy-America, Inc.	1827	SheerVision, Inc.	1109
ASAHI INTECC USA, Inc.	1553	Kinamed, Inc.	1132	Shukla Medical	2217
ASSI - Accurate Surgical	1422	Kirwan Surgical Products LLC	1617	ShuntCheck Inc.	1645
Astura Medical	2150	KLS - Martin L.P.	1923	SI-BONE, Inc.	1419
Avera	1057	Kogent Surgical, LLC	1213	Siemens Medical Solutions USA	1139
Barrier Technologies, LLC	1845	Koros USA, Inc.	2011	Solco	1117
Baylor Scott & White Health	1049	LeBonheur Children's Hospital	1045	Sontec Instruments	1201
BFW, Inc.	1745	Leica Microsystems	1939	Sony Electronics, Inc.	1846
Bio2 Medical, Inc.	2255	LeMaitre Vascular, Inc.	2219	Sophysa USA Inc.	1938
BioD, LLC	1554	Life Instrument Corporation	1300	Southern Spine, LLC	1756
Bioplate Inc.	1112	Lisi-Medical Jeropa	1556	Spinal Support Solutions	1140
Bioventus LLC	1545	Mallinckrodt Pharmaceuticals	2225	SpineGuard, Inc.	2211
BK Ultrasound	2115	Mayo Clinic	1853	Spineology Inc	1128
BOSS Instruments Ltd.	1200	Mazor Robotics	1423	SpineSearch	1107
Boston Scientific Neuromodulation	2123	Medical Education & Research Institute	1518	Spine Wave Inc.	1412
Brainlab	2128	Medical Practice Solutions, LLC	1102	Staff Care	1041
Buxton BioMedical, Inc.	2223	Medprin Biotech L.L.C.	1447	STEUTE Meditech, Inc.	1144
CAE Healthcare	1551	Medtronic	1501	St. Jude Children's Research Hospital	1045
Casetabs	1848	Medtronic Mobile Lab	621	Stratasys	1753
CHARMANT USA Inc.	1142	Medyssey Spine	1119	Stryker	1301
ChoiceSpine	1101	Mercy Clinic	1847	Stryker Mobile Lab	421
CMF Medicon Surgical, Inc.	1106	MicroAire Surgical Instruments	1818	Surgical Theater, LLC	2147
Codman Neuro, part of the Johnson & Johnson family of companies	1901	MicroVention, Inc.	2205	SurgiTel/General Scientific Corporation	1918
Collagen Matrix, Inc.	1216	Mizuho America, Inc.	1527	Sutter Medical Technologies	2201
Congress of Neurological Surgeons	1747	Mizuho OSI	1431	Symmetry Surgical	1113
CoreLink Surgical	1126	Moeller Medical GmbH	1203	Synaptive Medical	1222
Cosman Medical	1207	Monteris Medical Inc.	1715	Taiwan Biomaterial Company, Ltd.	1744
CUDA Surgical	1819	Mount Sinai Health System	2212	TEAC	2203
DePuy Synthes, part of the Johnson & Johnson family of companies	1901	MRI Interventions, Inc.	1212	TeDan Surgical Innovations	1807
Designs For Vision Inc.	1615	Muth America Company	1118	The Brain Aneurysm Foundation	2229
DS Hitech, Inc.	1256	Nadia International, Inc.	1739	The Joe Niekro Foundation	1752
EANS	1043	NeuroPoint Alliance (NPA)	1038	Thieme Medical Publishers	1312
Eclipse Loupes and Products	1653	NeurosurgeryPAC	2231	ThinkFirst National Injury Prevention Foundation	2247
Elekta	2139	Neurosurgery Research and Education Foundation (NREF)	1038	Thompson MIS	1622
elligence, LLC	1849	Neurosurgical Top Gun Competition	1030	Thompson Surgical Instruments, Inc.	1523
ELSEVIER	2052	Nevro Corp.	2214	Titan Spine, LLC	2249
Enova Illumination	1651	NICO Corporation	1339	Tocagen	2048
Enovative Technologies	1345	North American Spine Society	1844	Transonic Systems, Inc.	2254
Fehling Surgical Instruments, Inc.	1944	NovaBone Products LLC	1217	UFSK-International OSYS GmbH	2117
FHC, Inc.	1318	Novocure Inc.	1114	Ultralight Optics Inc.	1122
Fiagon North America	1352	NSI Health Systems, LLC	1656	Varian Medical Systems	1839
Flagship Surgical, LLC	1248	NSK America Corp.	2152	Vertex Pharmaceuticals	1205
Globus Medical	1515	NuVasive, Inc.	1327	Visionsense Corp.	2253
Haag-Streit USA Inc.	1439	Olympus America Inc.	1355	Vittamed	2224
Hawaiian Moon	1138	Omni Atelier	1657	Weatherby Healthcare	1719
Hayes Locums	2113	Orthofix, Inc.	2155	Wellstar Health System	1741
HCA	1746	OssDsign AB	1546	Wenzel Spine, Inc	1206
Healthtec Industries	2051	OsteoMed	1823	Wolters Kluwer Health	1313
Hemedex Inc.	2218	Oxford University Press	1654	Xtant Medical	1453
Hitachi Aloka Medical Ltd.	2023	Panasonic Medical Imaging	2241	ZEISS	1625
Houston Methodist Hospital	1954	Paradigm BioDevices	1855	Zimmer Biomet	1913, 2017
Hydrocephalus Association	2053	Paradigm Spine, LLC	1317		
HyperBranch Medical Technology	2046				

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