

**BREAKFAST FOR SEMINAR PARTICIPANTS**

6:45–7:30 AM

**EXHIBIT HOURS**

9:00 AM–4:00 PM

**BEVERAGE BREAKS**

9:00–9:45 AM

2:45–3:30 PM

**LUNCH IN THE EXHIBIT HALL**

1:15–2:00 PM

**BREAKFAST SEMINARS**

7:30–9:30 AM

*Fee:* \$100 each, includes breakfast**201****Quality and Efficiency Measures in an Action Plan***Moderator:*

Mark E. Linskey, MD

*Panelists:*

Robert E. Harbaugh, MD, FACS; Stacey Lambeth; Daniel K. Resnick, MD; Alan M. Scarrow, MD, JD

This seminar will focus on the current professional liability crisis, including a history of reform measures that have worked and those that have not. Methods to reduce exposure to professional liability claims will be discussed, as well as ways physicians can limit personal liability. Participants can use these strategies to develop an action plan for their practice.

*Learning Objectives:*

After completing this educational activity, participants should be able to:

- Describe the differences between process and efficiency measures
- Explain the make-up and role of the AMAPCPI, the NQF and the AQA in developing, approving and implementing quality measures as well as the degree of physician input and influence on this process
- Discuss the legislative background and current structure of the CMS PQRI initiative

**202****Open vs. Endoscopic Approaches to the Anterior Skull Base***Moderator:*

William T. Couldwell, MD, PhD

*Panelists:*

Ossama Al-Mefty, MD; Fred Gentili, MD; Atul Goel, MD; Sandeep M. Kunwar, MD; Theodore H. Schwartz, MD

This seminar will review the pathologic conditions affecting the anterior cranial base and surgical strategies employed for extradural, intradural and combined compartment lesions. Panelists will discuss steps in avoidance and management of complications, demonstrate specialized (expert) surgical approaches and indicate the appropriate application of emerging technology to anterior cranial base problems.

*Learning Objectives:*

After completing this educational activity, participants should be able to:

- Describe the various approaches to the anterior skull base
- List pathologies that would indicate use of an anterior skull base approach
- Explain various approaches to the anterior skull base
- List the advantages of using the endoscope for anterior skull base approaches

**203****Cerebral Neuromonitoring***Moderator:*

R. Loch Macdonald, MD, PhD

*Panelists:*

Odette Althea Harris, MD, MPH; Gary K. Steinberg, MD, PhD; Shirley I. Stiver, MD, PhD

This seminar will review the use of various cerebral neuromonitoring techniques for use in patients undergoing neurosurgical procedures and care in the neurosurgical intensive care unit.

*Learning Objectives:*

After completing this educational activity, participants should be able to:

- Discuss applications of electrophysiology, functional mapping, ICP monitoring, CBF measurements, TCD and tissue chemical analysis for patients undergoing cranial and spinal surgery
- Identify the uses for different cerebral and

spinal neuromonitoring techniques for surgical and ICU patients

- Discuss application of electrophysiology, ICP monitoring, CBF measurements, TCD and tissue chemical analysis for patients in the neurosurgical intensive care unit

**204****R&F****Emerging Concepts in Stem Cell Biology and Cell Based Therapies***Moderator:*

John A. Boockvar, MD

*Panelists:*

Alfredo Quinones-Hinojosa, MD; Nathan R. Selden, MD, PhD; Viviane S. Tabar, MD

*This clinic is free to Residents, Fellows and Medical Students.*

The breakfast seminar will introduce participants to the basic biology of stem cells in the Central Nervous System (CNS). The seminar will focus on stem cell biology as it relates to CNS development, neurodegenerative disease, brain tumor formation and CNS injury. The seminar will focus on the “reality vs. hype” of stem cell based therapies for CNS injury or disease.

*Learning Objectives:*

After completing this educational activity, participants should be able to:

- Discuss the basic definitions and terminology related to Stem Cell Biology and the Central Nervous System
- Summarize recent advances in the Science of Stem Cells as it relates to CNS injury or disease
- Discuss recent advances in Stem Cell based therapies for the treatment of CNS injury or disease

**205****International Opportunities in Neurosurgery***Moderator:*

Merwyn Bagan, MD, MPH

*Panelists:*

Jack P. Rock, MD; Gail L. Rosseau, MD; David I. Sandberg, MD; Benjamin C. Warf, MD

This seminar will highlight past, present and future efforts of the Foundation for International Education in Neurological Surgery (FIENS), an organization dedicated to fostering neurosurgical education and training

in developing countries. Current volunteer activities at FIENS sites around the world will be provided and information on how to become a FIENS volunteer (for both attending and resident neurosurgeons) will be discussed.

#### **Learning Objectives:**

After completing this educational activity, participants should be able to:

- Discuss the current educational and material needs of neurosurgical training programs in the developing world
- Explain how to become an international neurosurgical volunteer

## 206

### **Epilepsy: New Surgical Treatment and Management Approaches**

#### **Moderator:**

Dennis D. Spencer, MD

#### **Panelists:**

Nicholas M. Barbaro, MD; Frederick A. Boop, MD, FACS; Aaron A. Cohen-Gadol, MD; Gerald A. Grant, MD; Guy M. McKhann II, MD

This seminar will examine the preoperative evaluation for surgery and emphasize the changing descriptive of the epileptogenic and how this may alter new surgical therapies.

#### **Learning Objectives:**

After completing this educational activity, participants should be able to:

- Describe the common preoperative evaluations for surgery
- Describe what each evaluation provides
- Recognize how surgical approaches are made based on these evaluations

## 207

### **R&F N&PE**

### **Coil vs. Clip for Intracranial Aneurysms**

#### **Moderator:**

B. Gregory Thompson Jr., MD

#### **Panelists:**

Felipe C. Albuquerque, MD; C. Michael Cawley, MD, FACS; Adel M. Malek, MD, PhD; Charles J. Prestigiacomo, MD, FACS

*This clinic is free to Residents, Fellows and Medical Students.*

This seminar will highlight the current controversies surrounding the optional management of ruptured and unruptured intracranial aneurysms. Experts in the field will present their perspectives, experience and ideas for future study.

#### **Learning Objectives:**

After completing this educational activity, participants should be able to:

- Analyze individual patients and make more informed treatment recommendations
- Evaluate available data and determine their significance for ruptured and unruptured intracranial aneurysms
- Assess treatment failures in intracranial aneurysms
- Assemble strategies for salvage of intracranial aneurysms

## 208

### **Peripheral Nerve Entrapment Syndromes**

#### **Moderator:**

Eric L. Zager, MD

#### **Panelists:**

Allan J. Belzberg, MD; Robert J. Spinner, MD, FACS; Lynda Jun-san Yang, MD, PhD

This seminar will discuss the evaluation and management of peripheral nerve entrapment syndromes.

#### **Learning Objectives:**

After completing this educational activity, participants should be able to:

- Describe the clinical presentation and diagnostic evaluation of the various entrapment syndromes
- Discuss the conservative and surgical management options of peripheral nerve entrapment syndromes

## 209

### **Complications and Complex Spinal Surgery: Lessons Learned**

#### **Moderator:**

Volker K. H. Sonntag, MD

#### **Panelists:**

Ziya L. Gokaslan, MD, FACS; Regis W. Haid Jr., MD; Paul C. McCormick, MD; Stephen L. Ondra, MD

This seminar will utilize distinctive presentation and panel discussion of cases to analyze complications associated with complex spine surgery. An emphasis will be placed on complication avoidance and management.

#### **Learning Objectives:**

After completing this educational activity, participants should be able to:

- Analyze the causes of surgical complications in the spine

- Formulate strategies to avoid and manage spine surgery complications and apply these principles to one's practice

## 210

### **Spondylolisthesis: Controversies in Management**

#### **Moderator:**

Charles L. Branch Jr., MD

#### **Panelists:**

Peter Douglas Angevine, MD; Langston T. Holly, MD; John E. O'Toole, MD; Michael Y. Wang, MD

A complete discussion of spondylolisthesis with emphasis on degenerative spondylolisthesis including treatment and treatment failures will be the focus of this seminar.

#### **Learning Objectives:**

After completing this educational activity, participants should be able to:

- Recognize different types of spondylolisthesis
- Review current treatment options of degenerative spondylolisthesis
- Recognize future or potential implications of treatment options for degenerative spondylolisthesis

## 211

### **Cervical Spondylotic Myelopathy**

#### **Moderator:**

Robert F. Heary, MD

#### **Panelists:**

Richard G. Fessler, MD, PhD; Michael G. Kaiser, MD; Iain H. Kalfas, MD; Brian R. Subach, MD, FACS

This seminar will look at how cervical myelopathy can be caused by disc herniation, hard bone spurring, congenital stenosis, OPLL and subluxations. In addition, there can be instability and deformity. Multiple cases will be presented and the participants, followed by the panel, will go over treatment options and guidelines.

#### **Learning Objectives:**

After completing this educational activity, participants should be able to:

- Identify the various pathologies in myelopathy
- Distinguish the treatment (operative) options for cervical spondylotic myelopathy

- Review operative success/failure rates in cervical spoldyloitic myelopathy

**212****Update in Psychosurgery****Moderator:**

G. Rees Cosgrove, MD, FRCS(C)

**Panelists:**

Aviva Abosch, MD, PhD; Paul S. Larson, MD; Parag G. Patil, MD, PhD

This seminar will address the issues of surgery for psychiatric illness. Indications for surgery and the therapeutic results for different procedures will be discussed.

**Learning Objectives:**

After completing this educational activity, participants should be able to:

- Discuss neurobiological basis of psychiatric disorders
- Discuss currently available surgical treatments
- Discuss indications of psychosurgery
- Discuss current results for psychosurgical procedures

**213****Vertebral Column Tumors****Moderator:**

Mark H. Bilsky, MD

**Panelists:**

Peter C. Gerszten, MD, MPH; Ehud Mendel, MD, FACS; Laurence D. Rhines, MD; Phillip A. Tibbs, MD

This seminar is intended to provide an overall review of management of both primary and metastatic spinal tumors. This would include cervical evaluation of patients, as well as various surgical resection/reconstruction technologies and state-of-the-art radiation therapy options.

**Learning Objectives:**

After completing this educational activity, participants should be able to:

- Discuss the current literature on the management of both primary and metastatic spinal tumors
- Evaluate various medical and surgical treatment options including stereotactic radiosurgery
- Identify patients who are most suitable for vertebroplasty and kyphoplasty

**214****N&PE****Integrating Mid-Level Practitioners into Your Practice****Moderator:**

Twyila Lay, NP, MS

**Panelists:**

Moustapha Abou-Samra, MD; Dean Barone, PA-C, MPAS; Carl B. Heilman, MD

This seminar will discuss how to integrate a mid-level practitioner into your practice from an administrative and financial standpoint.

**Learning Objectives:**

After completing this educational activity, participants should be able to:

- Discuss the value a PA or NP can bring to your practice
- Discuss administrative incorporation of PAs and NPs into private and academic practice
- Describe reimbursement issues with use of a mid-level practitioner

**215****Total Lumbar Disc Arthroplasty****Moderator:**

Edward C. Benzel, MD

**Panelists:**

M. Samy Abdou, MD; Fred H. Geisler, MD, PhD; Bruce E. Mathern, MD; Charles S. Theofilos, MD, PA

Biomechanics of lumbar spine comparing fusion with an artificial disc will be presented along with patient selection. Indications for total lumbar arthroplasty and complication avoidance and management will also be presented.

**Learning Objectives:**

After completing this educational activity, participants should be able to:

- Compare differences between biomechanics of fusion and artificial disc
- Discuss instantaneous axis of rotation of lumbar spine
- Explain surgical insertion techniques for artificial lumbar discs
- State degree of restoration of function and lodosis with artificial disc
- Discuss material aspects of artificial disc for wear, debris and longevity

**216****R&F****Evidence Based Medicine in Evaluating Clinical Trials****Moderator:**

Stephen J. Haines, MD

**Panelists:**

Frederick G. Barker II, MD, FACS; Hugh J. L. Garton, MD, MHSc; Abhaya Vivek Kulkarni, MD, FRCS; Christopher Daniel Roark, MD; Timothy C. Ryken, MD

*This clinic is free to Residents, Fellows and Medical Students.*

Experts in clinical trials and outcome studies will review the most appropriate techniques of investigation for important clinical questions. The focus will be to provide practicing neurosurgeons with tools to identify studies of high quality and apply their findings in ways that will improve their practice of neurosurgery.

**Learning Objectives:**

After completing this educational activity, participants should be able to:

- Identify the basic types of clinical research questions
- Identify the best research designs to answer specific types of research questions
- Describe a method to identify the highest quality published clinical research studies

**217****R&F****Surgical Approaches to the Lateral Skull Base****Moderator:**

Jeffrey J. Olson, MD

**Panelists:**

Jeffrey N. Bruce, MD, FACS; John G. Golfinos, MD; Takeshi Kawase, MD; Chandranath Sen, MD

*This clinic is free to Residents, Fellows and Medical Students.*

This seminar will address both commonly used and unusual surgical approaches to the lateral skull base and how to avoid complications.

**Learning Objectives:**

After completing this educational activity, participants should be able to:

- Discuss the pathologic processes best addressed by lateral skull base surgical approaches

- Discuss the strengths and weakness of a lateral skull base approach for a given pathologic process
- Describe the technical aspects of standard and unusual lateral skull base approaches
- Identify the most common complications to the lateral skull base and steps to take before, during and after surgery to avoid them

## 218

### Models for Successful Neurosurgical Practice

#### Moderator:

Clarence B. Watridge, MD, FACS

#### Panelists:

Paul Joseph Camarata, MD; Joseph S. Cheng, MD, MS; Warren R. Selman, MD

Building a booming and successful neurosurgical practice in this day and age is no simple task. Experts in community, academic and international neurosurgical practices will present the keys to building a successful practice while achieving quality patient care.

#### Learning Objectives:

After completing this educational activity, participants should be able to:

- Explain the benefits of neurosurgical practice to hospital partnerships
- Discuss various reimbursement methodologies for partnerships
- Explain the complexities of payer contracting
- Recognize the value of an academic affiliation to neurosurgical practice
- Explain the benefits of ancillary services to patients and practice

## 219

### Meet the Press

**Note: Only AANS Members can register for this seminar.**

#### Moderator:

Patricia Ann Clark

Are You Camera-Ready? The chances of today's medical leaders getting through their careers without talking to reporters are slim to none. This session offers extensive practical tips and ideas you can put to immediate use. You will learn how to act and look in front of the camera, how to put together your media message and—most importantly—how to deliver your message successfully.

#### Learning Objectives:

After completing this educational activity, participants should be able to:

- Conduct a successful media interview
- Describe how to communicate the neurosurgery story effectively
- Develop a Message Box to use in media interviews

## 220

### Neurosurgical Decision Making in the Elderly

#### Moderator:

Deborah L. Benzil, MD

#### Panelists:

Peter David Le Roux, MD; Linda L. Sternau, MD; Stephen E. Sullivan, MD

*This clinic is free to Residents, Fellows and Medical Students.*

One of the most significant demographic changes in the United States today is the aging of the population. As Americans live longer, incidence and prevalence of many neurosurgical diseases will change. Many questions will arise about surgical intervention and decision making in this population. This course will address many important aspects of surgical decision making in the elderly patient. Attention will be given to explaining physiological changes which impact anesthesia and to appreciating special surgical considerations for a spectrum of diseases including spinal deformity, aneurysms and trauma. Content will also be directed toward surgical treatment of diseases unique to the elderly such as dementia and NPH.

#### Learning Objectives:

After completing this educational activity, participants should be able to:

- Explain physiological changes that occur in the elderly and how they impact anesthesia for neurosurgical intervention
- Review special surgical considerations and potential alternatives for a spectrum of neurosurgical diseases including spinal deformity, aneurysms and trauma in the geriatric population
- Discuss new opportunities for and potential growth of neurosurgical treatments for the fastest growing population in the US, those over the age of 60

## R&F N&PE

## 221

### So You've Been Sued: What Now?

#### Moderator:

Stanley W. Fronczak, MD, JD, FACS

#### Panelists:

Michael Anthony Chabraja, Esq.; Wendy Jones, RN, MSN; John A. Kusske, MD; Charles R. Watts, MD, PhD

The process of receiving and responding to a malpractice lawsuit will be discussed.

#### Learning Objectives:

After completing this educational activity, participants should be able to:

- Describe the steps in the process of a malpractice lawsuit
- Explain what to expect and how to respond when a formal complaint is received
- Explain the techniques for handling a discovery deposition
- Describe typical emotional responses to a lawsuit and how to maintain control of personal reactions and the process of defense
- Describe courtroom experience and how to testify before a jury

## 222

### Beginning Your Academic Career: Answers to Your Questions

#### Director:

John A. Jane Sr., MD, PhD

#### Panelists:

H. Hunt Batjer, MD, FACS; Mitchel S. Berger, MD, FACS; Ralph G. Dacey Jr., MD

*This clinic is free to Residents, Fellows and Medical Students.*

An open forum for residents and faculty in academic programs seeking advice on how to advance their careers. Faculty will include prominent heads of academic programs. Audience question format is oral or written.

#### Learning Objectives:

After completing this educational activity, participants should be able to:

- Explain future trends in academia
- Discuss career management in academia with experts
- Discuss the future of academic medicine

## 223 **R&F**

### Independent Medical Evaluation and Determination of Impairment in Neurosurgical Practice

#### Moderator:

Russell L. Travis, MD

#### Panelists:

David C. Randolph, MD; Trang Randolph; James B. Talmage, MD

*This clinic is free to Residents, Fellows and Medical Students.*

The determination of impairment and independent medical evaluations are important aspects of neurosurgical practice. This introductory program will provide a brief overview of the determination of impairment and contemporary evaluation and assessment concepts and their use in conjunction with evidence based medical practices.

#### Learning Objectives:

- After completing this educational activity, participants should be able to:
- Review the process of determination of impairment
  - Apply the basic skills of disability evaluation and determine the next steps to building a disability evaluation practice
  - Identify three common sources of evidence based medicine practice guidelines
  - Identify an acceptable medical-legal report and the potential risks/pitfalls of report writing

## 224 **R&F**

### Neuromodulation for Residents

#### Moderator:

Christopher J. Winfree, MD

#### Panelists:

George T. Mandybur, MD; Alon Y. Mogilner, MD, PhD; Julie Georgia Pilitsis, MD, PhD; Joshua M. Rosenow, MD; Jason M. Schwalb, MD; Konstantin V. Slavin, MD

*This clinic is free to Residents, Fellows and Medical Students.*

This course is designed to stimulate interest in the field of neurosurgical pain management. This course will provide participants with detailed instruction in both the theory and application of a variety of neurostimulation techniques, including spinal cord stimulation, spinal nerve root stimulation, cranial nerve stimulation, motor cortex stimulation, and deep brain stimulation.

#### Learning Objectives:

- After completing this educational activity, participants should be able to:
- Explain the rationale for the use of neurostimulation, the types of painful conditions amenable to these techniques, and the limitations in their use
  - Discuss the proper patient selection to optimize beneficial outcomes when using these treatment strategies
  - Discuss the basic operative techniques as well as operative nuances when using implantable devices

## 225 **N&PE R&F**

### Evaluation of the Child with a CSF Shunt

#### Moderator:

Joseph H. Piatt Jr., MD

#### Panelists:

Bermans J. Iskandar, MD; John R. W. Kestle, MD; Harold Louis Rekate, MD

*This clinic is free to Residents, Fellows and Medical Students.*

This seminar is intended for surgeons in general neurosurgical practice who follow and evaluate children with hydrocephalus and CSF shunts.

#### Learning Objectives:

- After completing this educational activity, participants should be able to:
- Conduct a focused history and examination of the child with a CSF shunt
  - Plan a sensitive, specific and efficient diagnostic evaluation of symptoms compatible with CSF shunt failure
  - Perform critical assessment of brain imaging studies in children with CSF shunts
  - Select appropriate dispositions of children with shunts visiting the emergency department and recognize evolving, critical situations that require aggressive management

## 226

### Occupational Hazards: Dodging Bullets, Radiation and Disease

#### Moderator:

Ann R. Stroink, MD

#### Panelists:

Kevin T. Foley, MD; Stephen H. Johnson, MD; Joseph Charles Maroon, MD; Stephen L. Ondra, MD

This breakfast seminar will focus on the incidence, management and practical, preventive strategies neurosurgeons can employ to minimize occupational hazards related to the practice of neurosurgery. Additionally, participants will acquire tools and ideas to create effective communication strategies, policies and procedures related to occupational hazards in the operating room.

#### Learning Objectives:

- After completing this educational activity, participants should be able to:
- Delineate common disorders associated with radiation exposure and employ methods to minimize risks to self and staff
  - Create effective communication tools applicable to policies and procedures that address neurosurgical occupational hazards
  - Discuss the occupational hazards associated with noise, bovie smoke, infectious diseases and the physical challenges associated with lengthy neurosurgical procedures
  - Outline the concerns of the sustainability of the neurosurgical workforce as it relates to evolving professional pressures including medical liability, extended work hours and emergency room coverage

## PLENARY SESSION II

### 9:45 AM–1:00 PM

#### Moderator:

Troy M. Tippet, MD; Vincent C. Traynelis, MD

## 800 9:45–9:59 AM

### Fluorescence-Guided Tumor Resection: Correlation between Local Fluorescence and MRI-Enhancement

#### Authors:

David W. Roberts, MD; Pablo Valdes, BA (Lebanon, NH); Alex Hartov, PhD (Hanover, NH); Frederic Lebland, PhD (Lebanon, NH); Kathryn Fontaine, BS (Hanover, NH); Scott Lollis, MD; Scott Lollis, MD; Brent Harris, MD; Keith D. Paulsen, PhD (Lebanon, NH)

#### Discussant:

Raymond Sawaya, MD

**801** 10:00–10:14 AM**Does Size Matter? A Volumetric Analysis of Craniectomy Size and its Relationship to Outcomes in Patients with Traumatic Brain Injury and Diffuse Cerebral Edema****Authors:**

Jayant Jagannathan, MD; David O. Okonkwo, MD, PhD; John A. Jane Sr., MD, PhD (Charlottesville, VA)

**Discussant:**

M. Sean Grady, MD

**802** 10:15–10:29 AM**Multilevel Discectomy Versus Cervical Corpectomy: Comparison of Risk-Adjusted Complication Rates****Authors:**

Chirag G. Patil, MD, MS; Shivanand P. Lad, MD, PhD; Chris Ho, BS; Maxwell Boakye, MD (Stanford, CA)

**Discussant:**

Mark N. Hadley, MD, FACS

**803** 10:30–10:44 AM**Long Term Follow-Up of Cortical Stimulation to Treat Major Depressive Disorder****Authors:**

Emad N. Eskandar, MD (Boston, MA); Brian Kopell, MD (Milwaukee, WI); Douglas Kondziolka, MD (Pittsburgh, PA)

**Discussant:**

Ali R. Rezaei, MD

**804** 10:45–10:59 AM**Pediatric Patients with Low Neurological Status/Fixed Pupils and AVM Hemorrhage: An Outcome Analysis****Authors:**

Ashutosh Singhal, MD, FRCS; Tara Adirim, BSC; D. Douglas Cochrane, MD, FRCS; Paul Steinbok, FRCS (Canada, Vancouver)

**Discussant:**

Timothy B. Mapstone, MD

**VAN WAGENEN FELLOW PRESENTATION**

11:00–11:03 AM

**Introduction By:**

James R. Bean, MD

**Recipient:**

Michael C. Park, MD, PhD

**VAN WAGENEN LECTURE**

11:04–11:33 AM

**Introduction By:**

James R. Bean, MD

**Speaker:**

Anders Bjorklund, MD

**THEODORE KURZE LECTURE****Advancing Discovery & Translational Research Through Chemical Genomics**

11:34 AM–12:09 PM

**Introduction By:**

James R. Bean, MD

**Speaker:**

John C. Reed, MD, PhD

**DISTINGUISHED SERVICE AWARD**

12:10–12:14 PM

**Presented By:**

James R. Bean, MD

**Mrs. Rhonda Hassenbusch to receive in memoriam of Samuel J. Hassenbusch, MD, PhD****PRESIDENTIAL ADDRESS**

12:15–1:00 PM

**Introduction By:**

A. John Popp, MD

**Speaker:**

James R. Bean, MD

**501** **N&PE****Endovascular Management of Ischemic and Hemorrhagic Stroke**

2:00–5:00 PM

**Fee:** \$100**Moderator:**

Adnan H. Siddiqui, MD, PhD

**Speaker:**

Bernard R. Bendok, MD; Peng Roc Chen, MD; Kai U. Frerichs, MD; Elad I. Levy, MD; Kenneth M. Liebman, MD; Laura Mason, ANP-C; Erol Veznedaroglu, MD

**AANS/CNS SECTION ON TUMORS I**  
**2:45–5:30 PM****Moderators:**

Mark H. Bilsky, MD; William T. Curry Jr., MD

**SYMPOSIUM: CURRENT TOPICS IN EXTRAMEDULLARY SPINAL TUMORS**

2:45–2:59 PM

**Intradural Extramedullary Spinal Tumors: Pathologic and Surgical Pearls****Speaker:**

Paul C. McCormick, MD

3:00–3:14 PM

**Use of Radiation for Extramedullary Extradural Tumors****Speaker:**

Peter C. Gerszten, MD, MPH

3:15–3:30 PM

**Surgical Options for Extramedullary Extradural Tumors****Speaker:**

Ziya L. Gokaslan, MD, FACS

3:31–3:44 PM

**PANEL DISCUSSION**

3:45–3:50 PM

**TUMOR BUSINESS MEETING**

3:51–4:00 PM

**AWARDS PRESENTATION****Presented By:**

Gene H. Barnett, MD, FACS

4:01–4:20 PM

**FARBER AWARD****Introduction By:**

Gene H. Barnett, MD, FACS

**Recipient:**

Peter B. Dirks, MD

**833** 4:21–4:30 PM**Ronald Bittner Award**  
**Multi-Institutional Validation of the UCSF Low Grade Glioma Prognostic Scoring System****Authors:**

Edward Chang, MD; Aaron Clark, MD, PhD (San Francisco, CA); Randy Jensen, MD, PhD (Salt Lake City, UT); Mark Bernstein, MD; Abhijit Guha, MD; Giorgio Carrabba, MD; Debabrata Mukhopadhyay, MD (Canada, Toronto); Won Kim, MS; Linda Liao, MD, PhD (Los Angeles, CA); Susan Chang, MD; Justin Smith, MD, PhD; Mitchel Berger, MD; Michael McDermott, MD (San Francisco, CA)

**834** 4:31–4:40 PM**Genetic Alterations Associated with Shorter Progression Free Survival in Patients with Oligodendroglial Tumors***Author:*

Claudia C. Faria, MD (Portugal, Lisbon)

**835** 4:41–4:50 PM**Outcome of the Patients with Brainstem Metastases Treated with Stereotactic Radiosurgery***Authors:*

Mustafa A. Hatiboglu, MD; Eric L. Chang, MD; Dima Suki, PhD; Raymond Sawaya, MD; Jeffrey Weinberg, MD (Houston, TX)

**836** 4:51–5:00 PM**Combined Physiological Targeting for Stereotactic Biopsies in Tumors after Combined Anti-Angiogenesis Treatment***Authors:*

Clark C. Chen, MD, PhD; Alicija Zientara; Anand Mahadevan, MD; Ekkehard Kasper, MD, PhD; Peter C. Warnke, MD (Boston, MA)

**837** 5:01–5:10 PM**Stryker Neuro-Oncology Award Differential Response of Normal Neural and Tumor-Derived Stem-Like Cells to Ionizing Radiation***Authors:*

Andrew B. Foy, MD; Hong Ye, BS; Cynthia Wetmore, MD, PhD (Rochester, MN)

**838** 5:11–5:20 PM**WINS Louise Eisenhardt Award EGFR Activation Suppresses the Expression of the Catalytic Subunit of PP2A in Human Glioblastoma Multiforme***Authors:*

Jennifer A. Moliterno, MD (New Haven, CT); Robel T. Beyene, BA; Xiaofei Hu, BS; Demirkan B. Gursel, PhD; Brian M. Howard, BS; John A. Boockvar, MD (New York, NY)

**839** 5:21–5:30 PM**Impact of Cytogenetic Abnormalities on the Management of Skull Base Chordoma***Authors:*

Kaith Almefty, BS; Svetlana Pravdenkova, MD, PhD; Jeffrey Sawyer, PhD; Ossama Al-Mefty, MD (Little Rock, AR)

5:30–7:00 PM

**YOUNG MEMBERS RECEPTION**

San Diego Marriott Hotel and Marina

**AANS/CNS SECTION ON PAIN****2:45–5:30 PM***Moderators:*

Joshua M. Rosenow, MD; Konstantin V. Slavin, MD

**813** 2:45–2:56 PM**William Sweet Award Mechanical Allodynia and Gait Asymmetry Accompany Autoimmune Reactivity Following Dorsal Root Ganglion Injury***Authors:*

Mohammed F. Shamji, MD, PhD (Canada, Ottawa); Kyle D. Allen, PhD; Stephen So, BS; Liufang Jing, MS; Samuel B. Adams, MD (Durham, NC); Reinhard Schuh (Austria, Vienna); Janet Huebner, MS; Virginia B. Kraus, MD, PhD; Allan H. Friedman, MD; Lori A. Setton, PhD; William J. Richardson, MD (Durham, NC)

**814** 2:57–3:08 PM**Bioengineered Injectable Anticytokine Nanotherapeutics to Antagonize Inflammation in Dorsal Root Ganglion Explant Cultures***Authors:*

Mohammed F. Shamji, MD, PhD (Canada, Ottawa); Liufang Jing, MS; Jun Chen, PhD; Priscilla Hwang, BS; Odelia Ghodsizadeh, BS; Allan H. Friedman, MD; William J. Richardson, MD; Lori A. Setton, PhD (Durham, NC)

**815** 3:09–3:20 PM**Surgical Management of Trigeminal Neuralgia Patients Who Have Failed Three or More Prior Operations***Author:*

Bruce E. Pollock, MD; Kathy J. Stien, RN (Rochester, MN)

**816** 3:21–3:32 PM**Microvascular Decompression for Trigeminal Neuralgia Following Radiosurgery***Author:*

Joseph C. Chen, MD, PhD (Los Angeles, CA)

**817** 3:33–3:44 PM**A Meta-Analysis of Four Studies on the Safety and Efficacy of a Conventional Implantable Pulse Generator (IPG) for the Management of Chronic Pain of the Trunk and Limbs***Authors:*

Konstantin Slavin, MD (Chicago, IL); Cheryl Monroe, MS (Plano, TX)

**818** 3:45–3:56 PM**Systematic Acute Postoperative Pain Therapy after Neurosurgical Procedures, Appraisal of 914 patients***Authors:*

Aram A. Bani, MD; Bahram Hashemi, MD (Germany)

**819** 3:57–4:08 PM**Treatment of Post-Herpetic Neuralgia with Intrathecal Narcotic Administration***Authors:*

Andrew J. Fabiano, MD; Carolyn Doyle, FNP; Robert J. Plunkett, MD (Buffalo, NY)

**4TH ANNUAL JOHN LOESER LECTURE**

4:09–4:53 PM

*Speaker:*

Frederick A. Lenz, MD, PhD

**SYMPOSIUM: STRESS INDUCED ANALGESIA: CAN WE HIJACK ADAPTATION?**

4:54–5:30 PM

*Speaker:*

Nathan R. Selden, MD, PhD

**AANS SECTION ON HISTORY****2:45–5:30 PM****In Memoriam: Setti S. Rengachary, MD***Moderators:*

Larry V. Carson, MD, MBA; Mark C. Preul, MD

**SYMPOSIUM: THE SCIENCE AND PHILOSOPHY OF THE CEREBRAL VENTRICLES**

2:45–4:00 PM

*Speaker:*

Mark C. Preul, MD

3:00–3:15 PM

**Speaker:**

Charles J. Prestigiacomo, MD, FACS

3:16–3:55 PM

**Speaker:**

Larry Swanson, PhD

3:56–4:00 PM

**Discussion****PRESENTATION OF THE VESALIUS AWARD**

4:01–4:05 PM

**805**

4:06–4:15 PM

**Vesalius Award****Eduard Pernkopf and His Atlas 20 Years After the Last Printing: A Special Interest in Neuroanatomy and Reflection for Neurosurgery****Authors:**

Ulises Garcia, MD (Phoenix, AZ); Michael Pretterklieber, MD; Wolfgang K. Pfisterer (Vienna); Robert F. Spetzler, MD; Volker KH Sonntag, MD; Mark C. Preul, MD (Phoenix, AZ)

**806**

4:16–4:25 PM

**A Disciple of Neurosurgery: The Surgical Career of Sir Percy Sargent (1873-1933)****Authors:**

Chris A. Sloffter, MD, MBA (Grand Rapids, MI); William C. Hanigan, MD, PhD (Jackson, MS)

**807**

4:26–4:35 PM

**Cushing and Cutler: Successor to the Throne****Authors:**

Jeffrey E. Catrambone, MD (Newark, NJ); Tayyab Malik, BS (Montclair, NJ); Charles J. Prestigiacomo, MD; Peter W. Carmel, MD (Newark, NJ)

**808**

4:36–4:45 PM

**Ceneritious Nerve Vesicles and Ganglion Globules: Did Robert Bentley Todd Anticipate the Neuron Doctrine?****Authors:**

Darrin J. Lee, BS; Kiran F. Rajneesh, MD, MS (Irvine, CA); Edward H. Reynolds, MD (United Kingdom, London); Devin K. Binder, MD, PhD (Irvine, CA)

**809**

4:46–4:54 PM

**Spinal Vascular Malformations—History of the Diagnosis and Treatment from the First Description in 1883 to Embolization in 2008****Authors:**

Gaurav Gupta, MD; Chirag Gandhi, MD; Charles J. Prestigiacomo, MD, FACS (Newark, NJ)

**810**

4:55–5:04 PM

**The Evolution of Neurosurgical Treatment for Non-Accidental Head Injury in Children****Authors:**

Cormac O. Maher, MD (Ann Arbor, MI); Aaron A. Cohen-Gadol, MD (Indianapolis, IN); Wajid Al-Holou, BS (Ann Arbor, MI)

**811**

5:05–5:14 PM

**A Marriage of Minds-The Penfield-Jasper Collaboration and Birth of Temporal Lobe Epilepsy Surgery****Authors:**

Edward M. Marchan, MD; Ashwini D. Sharan, MD (Philadelphia, PA)

**812**

5:15–5:24 PM

**The Differential Diagnosis of Stupor and Coma: Eighteenth Century Understandings****Authors:**

William C. Bergman, MD; Robert E. Lieberman, MD (San Jose, CA); Raymond A. Schulz, MSc (San Mateo, CA)

**QUESTION AND ANSWER**

5:25–5:30 PM

**AANS/CNS SECTION ON PERIPHERAL NERVE  
2:45–5:30 PM****Moderators:**Allen H. Maniker, MD  
Robert J. Spinner, MD, FACS**KLINE LECTURE**

2:45–3:35 PM

**Introduction By:**

Allen H. Maniker, MD

**Speaker:**

Hans-Peter Richter, MD

**QUESTION AND ANSWER**

3:36–3:45 PM

3:46–5:00 PM

**Panel Session: The Great Masqueraders in Peripheral Nerve Surgery:**

- Parasthesias in the Hand
- Footdrop
- Parasthesias in the Thigh
- Shoulder Weakness
- Incidental Soft Tissue Mass on MRI
- Painful Mass

**Speakers:**

Allan J. Belzberg, MD; Allen H. Maniker, MD; Rajiv Midha, MD, MS, FRCS; Robert J. Spinner, MD, FACS; Robert L. Tiel, MD; Lynda Jun-san Yang, MD, PhD; Eric L. Zager, MD

**828**

5:01–5:06 PM

**Surgical Treatment of Intrinsic Tumors of the Sciatic Nerve****Authors:**

Ryan S. Kitagawa, MD; John M. Slopis, MD; Sudhakar Tummala, MD; Ian E. McCutcheon, MD (Houston, TX)

**829**

5:07–5:12 PM

**Contribution of Donor Class MHC II Molecules in Nerve Allograft Rejection****Authors:**

Wilson Z. Ray, MD; Nancy Solowski, MD; Esther Marie Papp, BS; Rahul Kasukurthi, BS; Amy M. Moore, MD; Thomas Tung, MD; Susan E. Mackinnon, MD (St Louis, MO)

**830**

5:13–5:18 PM

**Retrospective Analysis of the Overall Effectiveness of Endoscopic Thoracic Sympathectomies for Treatment of Hyperhidrosis****Authors:**

Markus Bookland, MD; Nicholas Zaorsky, BS; Andreas Lamelas, BS; Jeff Morris, BS; Tamara Jette, BS; Jack Jallo, MD, PhD (Philadelphia, PA)

**831**

5:19–5:24 PM

**Carpal Tunnel Syndrome: Modified Minimal Invasive Surgical Technique****Authors:**

Jiao-Chiao Yang, MD, MBA; Swei-Ming Lin, MD (Kaohsiung, Taiwan)

**832** 5:25–5:30 PM**Endoscopic Decompression of the Ulnar Nerve at the Elbow****Authors:**

Joachim M. Oertel, DR; Doerthe Keiner, MD; Michael R. Gaab, MD, PhD (Hannover, Germany)

**AANS/CNS SECTION ON PEDIATRICS**  
**2:45–5:30 PM**
**Moderator:**

John Ragheb, MD, FACS

**Shulman Award Presentation**

2:45–2:56 PM

**Hydrocephalus Award Presentation**

2:57–3:08 PM

**Matson Lecture**

3:09–3:49 PM

**Speaker:**

John A. Jane Sr., MD, PhD

**Abstract Presentations and Commentators**

3:50–5:24 PM

**Commentators:**

A. Leland Albright, MD, Arnold H. Menezes, MD, Howard L. Weiner, MD, John C. Wellons III, MD

**820** 3:50–3:57 PM**Biportal Thoracoscopic Sympathectomy for Hyperhidrosis in Adolescents****Authors:**

Scott D. Wait, MD; Brendan D. Killory, MD (Phoenix, AZ); Gregory P. Lekovic, MD, PhD (Los Angeles, CA); Curtis A. Dickman, MD (Phoenix, AZ)

**Commentator:** 3:58–3:59 PM

**821** 4:00–4:07 PM**Biomarkers for Moyamoya****Authors:**

Edward R. Smith, MD; David Zurakowski, PhD; R. Michael Scott, MD; Marsha A. Moses, PhD (Boston, MA)

**Commentator:** 4:08–4:09 PM

**822** 4:10–4:17 PM**ICP Monitoring in 30 Shunted Hydrocephalus Patients: Results and Interventions****Authors:**

Greg Olavarria, MD; Jogi Pattisapu, MD; Chris Gegg, MD (Orlando, FL)

**Commentator:** 4:18–4:19 PM

**823** 4:20–4:27 PM**Safety and Efficacy of Neuroendovascular Procedures in Children****Author:**

Hamad Farhat (Miami, FL)

**Commentator:** 4:28–4:29 PM

**824** 4:30–4:37 PM**rhBMP-2 in Pediatric Posterior Spinal Fusions: Safety Profile and Efficacy in the Early Post-Operative Period****Authors:**

Daniel K. Fahim, MD; William E. Whitehead, MD; Daniel J. Curry, MD; Thomas G. Luerssen, MD; Andrew Jea, MD (Houston, TX)

**Commentator:** 4:38–4:39 PM

**825** 4:40–4:47 PM**Ventricles Dilate Acutely in Response to One Time Injection of Hyperosmotic Dextran****Authors:**

Satish Krishnamurthy, MD (Troy, MI); Jie Li, MD (Detroit, MI); James Pat McAllister II, PhD (Salt Lake City, UT)

**Commentator:** 4:48–4:49 PM

**826** 4:50–5:57 PM**AANS Medical Student Summer Research Fellowship Defining the Effects of TSC2 Knockdown on the Developmental Pathogenesis of Cortical Tubers: In Vitro and In Vivo Approaches****Authors:**

Whitney E. Parker, Ksenia Orlova, Gregory Heuer, MD, PhD, Lori Atkinson, Jason Yoon, Marianna Baybis, Gordon H. Baltuch, MD, PhD, Peter B. Crino, MD, PhD (Philadelphia, PA)

**Commentator:** 4:58–4:59 PM

**827** 5:00–5:07 PM**Globus Pallidus Internus DBS in Pediatric Patients with Generalized Primary Dystonia: Long-Term Efficacy and Safety****Authors:**

Jan H. Mehrkens, MD; Ingo Borggäfe, MD; Florian Heinen, MD; Kai Boetzel, MD (Germany, Munich)

**Commentator:** 5:08–5:09 PM

**SYMPOSIUM**

5:10–5:30 PM

**Overview of Upcoming Webinar on Arachnoid Cysts****Speakers:**

Sarah J. Gaskill, MD, FACS;

Mark D. Krieger, MD

**AANS/CSNS SOCIOECONOMIC SESSION**  
**2:45–5:45 PM**
**Moderators:**

Gary M. Bloomgarden, MD

Michael Patrick Steinmetz, MD

**SYMPOSIUM**

2:45–4:05 PM

**Neurosurgical Practice Outcomes Reporting-Getting Started**

**Purpose:** To inform neurosurgeons on the current state of Practice Outcomes Reporting and its role in MOC and value-based medical practice

**Introduction**

2:45–2:46 PM

**AANS/CNS Role in Creating the Infrastructure for Neurosurgical Outcomes Reporting**

2:47–2:56 PM

**Speaker:**

James R. Bean, MD

**Politics, Finances, and Patient Care – The Political Landscape**

2:57–3:14 PM

**Speaker:**

Troy M. Tippet, MD

**Quality Activities Affecting Neurosurgery CMS, Payors, and MOC**

3:15–3:32 PM

**Speaker:**

Rachel F. Groman