Monday, April 16

Breakfast for Seminar Participants
6:45-7:30 AM

Breakfast Seminars
7:30-9:30 AM
(Includes breakfast)
Fee: $100 each, N&PE Fee: $70 for select courses

Exhibit Hours
9:00 AM-4:00 PM

Beverage Breaks in
the Exhibit Hall
9:00-9:45 AM
3:25-4:00 PM

Lunch Break in the Exhibit Hall
1:15-2:00 PM

New Breakfast Seminars in 2012

101 Physician Autonomy in Business Enterprises: Profits & Pitfalls
Moderator: James R. Bean, MD
Panelists: Craig Rabb, MD
Richard Arthur Roski, MD
Gail Rosseau, MD
Margaret Walker, MD
Edie E. Zusman, MD

There are strengths and limitations to various issues for physicians involved in spine specialty hospitals. This seminar will review some of the applications and ramifications of clinical effectiveness research in current practices and the likely effects in the years ahead.

Learning Objectives:
After completing this educational activity, participants should be able to:
- Assess the strengths and limitations of the various issues involved for physicians involved in spine specialty hospitals
- Identify the fundamental characteristics and pros and cons of physicians' financial involvement in spinal implant distributorships
- Explain recent socioeconomic and legal implications for physicians regarding ownership/investment decisions involving medical device suppliers and manufacturers
102 History Seminar: Harvey Cushing, ICP and the Success of Early Modern Neurosurgery

Moderator: Samuel H. Greenblatt, MD
Panelists: Mark C. Preul, MD

In the venue of a graduate-style seminar, we will explore the role of Cushing’s early laboratory research on ICP (1900-1901) and its clinical translation to successful tumor surgery at Johns Hopkins. Materials to be read before the meeting will be sent to the participants weeks ahead. They will include an extensive paper on this subject by Dr. Greenblatt and some of Cushing’s papers on which Greenblatt’s argument is based. In effect, the audience will be the panel, whose assignment will be to evaluate the evidence for Greenblatt’s thesis.

Note: Please do not sign up for this course if you will not be able to thoroughly read and ponder the assigned material before the meeting. A quick skim on the plane to Miami will not be sufficient.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Explain what Cushing discovered about experimental ICP and its control in Europe in 1900-1901
• Explain Cushing’s early application of his knowledge of ICP to trauma cases
• Explain how Cushing translated his knowledge to elective tumor cases
• Explain why Cushing’s knowledge of ICP was crucial to the success and professionalization of neurosurgery

103 Management of Cerebrovascular and Endovascular Complications: A Case Based Approach

Moderator: Charles J. Prestigiacomo, MD
Panelists: Brian Hoh, MD Felipe Albuquerque, MD J.D. Mocco, MD B. Gregory Thompson, MD

Maximizing patient outcomes in cerebrovascular and endovascular neurosurgery requires meticulous attention to detail and a comprehensive understanding of complication avoidance and complication management. Designed as a truly interactive session, this seminar will explore advanced techniques in complication avoidance and management through specific, case-based presentations. Panelists and audience participants will be expected to discuss management alternatives to specific events. A summary of lessons learned, guiding principles and specific nuances will be presented at the conclusion of the session.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Discuss complication avoidance and management techniques in the treatment of aneurysms
• Discuss complication avoidance and management techniques in the treatment of AVMs
• Discuss complication avoidance and management techniques in the treatment of carotid disease

104 ABNS Board Preparation: What You Must Know

Moderator: Daniel Louis Barrow, MD
Panelists: William T. Couldwell, MD, PhD Nelson M. Oyesiku, MD, PhD Craig Andrew Van Der Veer, MD

The panelists will describe the certification process from residency to certification. Emphasis will be placed on strategies to prepare for the oral ABNS examination.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Discuss requirements for board certification
• Prepare for the ABNS oral examination

105 Multidisciplinary Management of Cerebral AVMs

Moderator: Neil A. Martin, MD
Panelists: Aaron S. Dumont, MD David M. Hasan, MD Bruce E. Pollock, MD Gary K. Steinberg, MD, PhD

This will be a comprehensive discussion of the multidisciplinary management of complex cerebral AVMs. The perspective of neurosurgeons, radiosurgeons and interventionists will be presented.
**Learning Objectives:**
After completing this educational activity, participants should be able to:
- Discuss indications for treatment of patients with AVMs
- Describe the role of radiosurgeons and interventionists in the treatment of patients with AVMs

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### 107 Foraminal and Far Lateral Lumbar Disc Herniations

**Moderator:**
John A. Jane Sr., MD, PhD

**Panelists:**
Benoit Goulet, MD
Patrick W. Hitchon, MD
Noel I. Perin, MD
Paul D. Sawin, MD

The clinical and imaging characteristics of foraminal and far lateral lumbar disc herniations, as well as the surgical anatomy, will be presented. The various surgical approaches paramedian, transmuscular and endoscopic will be described, and the indications will be discussed.

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### 106 Suprasellar and Juxtasellar Tumors: Complications & Avoidance

**Moderator:**
Michael W. McDermott, MD

**Panelists:**
Khaled M. Aziz, MD, PhD
Sebastien Froelich, MD
Theodore H. Schwartz, MD
Harry R. van Loveren, MD
Michael William Weaver, MD

This seminar will concentrate on explaining the approaches and indications for surgical therapy of lesions in the suprasellar region in adults and children. Appropriate preoperative evaluation and surgical decision-making will be discussed. Innovative surgical techniques will be presented. Management of the most common lesions arising in this area will be discussed.

**Learning Objectives:**
After completing this educational activity, participants should be able to:
- Review the options for surgical approaches to suprasellar and juxtasellar tumors
- Explain the options for cranial approaches to this region
- Describe the anatomy of the endoscopic transphenoidal approach
- Describe other treatment options for common suprasellar and juxtasellar pathologies

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### 108 Lumbar Interbody Fusion: Direct Lateral Retroperitoneal Transpsoas Fusion

**Moderator:**
Regis W. Haid Jr., MD

**Panelists:**
John C. Liu, MD
John E. O'Toole, MD
Luiz Pimenta, MD, PhD
Juan Santiago Uribe, MD

This seminar will describe conditions amenable to lumbar interbody fusion (LIF) and basic surgical approaches, instrumentation and complications of lumbar interbody fusion.

**Learning Objectives:**
After completing this educational activity, participants should be able to:
- Describe the indications for lumbar interbody fusion and the appropriate investigations to consider in the workup of patients
- Explain the advantages and disadvantages of various lumbar interbody fusion techniques, including minimally invasive options.
- Explain approaches to minimize complications
- Discuss the relevant approach anatomy related to LIF surgery
- Discuss the latest technical advances related to LIF surgery

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### 109 Surgical Treatment of Parkinson's Disease

**Moderator:**
Philip A. Starr, MD, PhD

**Panelists:**
Sam Eljamel, MD
Robert R. Goodman, MD, PhD
Steven G. Ojemann, MD
Julie G. Pilitsis, MD, PhD

Participants will discuss current surgical targets for Parkinson’s disease, including a variety of technical approaches and complications.

**Learning Objectives:**
After completing this educational activity, participants should be able to:
- Identify potential brain targets for deep brain stimulation in Parkinson’s disease
- Discuss technical alternatives in placement of DBS electrodes
- Review complications of DBS for Parkinson’s disease
110  
Current and Future Treatments for Pediatric Hydrocephalus

Moderator:  
Mark G. Luciano, MD, PhD

Panelists:  
Daniel H. Fulkerson, MD  
Abhaya Vivek Kulkarni, MD  
Joseph R. Madsen, MD  
David I. Sandberg, MD

This seminar will review the physiology of hydrocephalus, and how new shunt systems and sensor technology are likely to change our way of treating patients. The dynamic aspects of CSF flow and pressure gradients will be discussed, as well as what pressure sensors reveal about the causes of patient symptoms and how a shunting system might be made using physiological data.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Identify CSF dynamics and how it changes with hydrocephalus
• Distinguish the relationship between clinical symptoms and CSF pressure measurements
• Recognize how this new approach might lead to a better shunt system based on physiological measurements

112  
Management of Vasospasm

Moderator:  
Peter David Le Roux, MD

Panelists:  
Robert E. Breeze, MD  
Rose Du, MD, PhD  
Aaron S. Dumont, MD  
R. Loch Macdonald, MD, PhD

This course is designed to stimulate interest in the field of neurosurgical pain management. It 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

113  
Management of Adult Scoliosis

Moderator:  
Christopher I. Shaffrey, MD

Panelists:  
Peter Douglas Angevine, MD  
Robert F. Heary, MD  
Tyler Robert Koski, MD  
Brian A. O’Shaughnessy, MD  
Daniel M. Sciubba, MD

This seminar will discuss the strategies, evaluation, and management of adult spinal deformity. Special emphasis will be placed on the association of spinal deformity with conditions commonly treated by neurosurgeons.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Discuss natural history of idiopathic and degenerative scoliosis in adults
• Detail appropriate clinical and radiographic evaluation of adult spinal deformity
• Determine nonoperative and operative treatment options for adult deformity
• Identify patient related factors that compromise surgical treatment
• Discuss treatment strategies, including use of anterior approaches, osteotomies, spinopelvic fixation and osteobiological agents

114  
Intramedullary Spinal Cord Tumors

Moderator:  
Lawrence F. Borges, MD

Panelists:  
Jacques Brotchi, MD, PhD  
George I. Jallo, MD  
Russell R. Lonser, MD

This seminar will focus on the clinical evaluation and the current surgical management of intramedullary tumors of the spinal cord.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Evaluate methods and strategies to reduce peri-operative complications
• Identify operative techniques to optimize safe achievement of optimal outcomes
115 Building a Comprehensive Spine Center
Moderator: E. Hunter Dyer, MD
Panelists: Randolph C. Bishop, MD
Mark D. D’Alise, MD
James J. Lynch, MD
Nathan E. Simmons, MD

This seminar will instruct participants on how to develop a multidisciplinary spine center within their hospital and community setting.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Recognize the core components to build an effective spine center
• Discuss interventional options and design treatment protocols for spine
• Apply strategies for developing an effective spine program in your practice

116 Neurosurgical Management of Intractable Pain
Moderator: Philip L. Gildenberg, MD, PhD
Panelists: Robert M. Levy, MD, PhD
Konstantin V. Slavin, MD
Michael S. Turner, MD

This seminar will review indications, techniques and outcomes of contemporary neurosurgical procedures for the treatment of intractable pain. Attention will be directed toward practical applications of therapies that can be used in a general neurosurgical practice.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Compare the relative roles of non-invasive and invasive therapies for pain treatment
• Contrast the common indications for stimulation and drug delivery therapies for pain management
• Describe outcomes of neuromodulation therapies for pain management

117 Low-Grade Gliomas
Moderator: Mitchel S. Berger, MD
Panelists: Hugues Duffau, MD
Mark Edwin Shaffrey, MD
Manfred Westphal, MD, PhD
Jeffrey H. Wisoff, MD

This seminar will provide an update on current evaluation and management of low-grade gliomas. The panel will address the variety of tumors and compare outcomes from different treatment strategies.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Describe the range of pathologies included in low-grade gliomas
• Distinguish between different management strategies for low-grade gliomas

118 Challenging Spinal Cases: Pearls and Pitfalls
Moderator: Edward C. Benzel, MD
Panelists: Haynes Louis Harkey III, MD
R. Patrick Jacob, MD
J. Patrick Johnson, MD
Dennis G. Vollmer, MD

This seminar is designed to present challenging “real life” spine cases that experienced faculty encountered and to allow discussion of these cases.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Discuss how experienced surgeons overcome decision-making obstacles
• Explain the nuances of the clinical decision-making process

119 Cerebral Trauma State-of-the-Art Treatment
Moderator: Alex B. Valadka, MD
Panelists: Austin R. Colohan, MD
Joshua Eric Medow, MD
David O. Okonkwo, MD, PhD

This seminar will review current and future treatment options for patients with traumatic brain injury.
Learning Objectives:
After completing this educational activity, participants should be able to:
• Discuss optimal management strategies for patients with traumatic brain injury
• Describe therapies that may become clinically available in the near future

120 The Spectrum of Adjuvant Therapy for Brain Tumors
Moderator: Frederick F. Lang Jr., MD
Panelists: Jeffrey N. Bruce, MD Randy Lynn Jensen, MD, PhD James M. Markert Jr., MD Andrew Thomas Parsa, MD, PhD

This seminar will provide a state-of-the-art review of the different adjuvant treatment options available for patients with malignant brain tumors. It will review current standards-of-care and then explore newer treatment options, including targeted therapies, intratumoral strategies, immunotherapeutic approaches and viral therapies.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Describe current standards of care for adjuvant therapy of malignant gliomas
• Describe current scientific advances and newly developed adjuvant therapies for malignant gliomas
• Discuss current problems with the design of effective therapies and recommend appropriate treatment options
• Design the best treatment programs based on current data for patients with brain tumors

121 New and Evolving Technologies for Minimally Invasive Lumbar Disc Surgery
Moderator: Richard G. Fessler, MD, PhD
Panelists: Charles L. Branch Jr., MD Dean Chou, MD Larry T. Khoo, MD Jean-Pierre Mobasser, MD Michael K. Rosner, MD

This seminar will present and evaluate new technologies for treating pathologies of the lumbar disc.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Evaluate the safety and effectiveness of new lumbar disc technologies
• Describe current indications for use of new lumbar disc technologies

122 Controversies in Cerebrovascular and Endovascular Neurosurgery
Moderator: Erol Veznedaroglu, MD
Panelists: Michael T. Lawton, MD Elad I. Levy, MD Christopher S. Ogilvy, MD Andrew J. Ringer, MD B. Gregory Thompson Jr., MD

The introduction and acceptance of endovascular therapies for cerebrovascular disorders has revolutionized the treatment for cerebrovascular disease. With more cerebrovascular neurosurgeons becoming trained in both techniques, the treatment paradigms are changing and often controversial. This seminar will examine the different treatment modalities for carotid artery disease, intracerebral aneurysms and arteriovenous malformations. The panelists will present data and their own personal treatment methods to support their particular position. Each panelist will present their actual treatment paradigms and be asked to support it.

Learning Objectives:
After completing this educational activity, participants should be able to:
• Define the indications of either carotid endartectomy or carotid angioplasty and stenting for extracranial carotid artery stenosis
• Describe the treatment options as well as benefits and pitfalls of giant intracranial aneurysms
• Name the patient population that will benefit from open versus endovascular treatment of giant aneurysms
• Describe the indications for the most effective treatment of small arteriovenous malformations and the role of preoperative embolization
• Use evidence-based medicine in conjunction with current practice to determine which patients will benefit most from endovascular therapies or traditional open surgeries

123 If I Could Do That Case Over Again: Discussion of Complications of Spine Surgery
Moderator: William E. Krauss, MD
Panelists: Michelle J. Clarke, MD Ehud Mendel, MD Eric J. Woodard, MD

Experienced neurosurgeons of various spine specialties will discuss complications and how they would avoid them next time.
Learning Objectives:
After completing this educational activity, participants should be able to:
• Discuss complications in cases of minimally invasive spine, fusions and deformity corrections
• Utilize techniques to avoid complications in cases of minimally invasive spine, fusions and deformity corrections

Plenary Session I
9:45 AM-1:15 PM
Moderators
Carl B. Heilman, MD
P. David Adelson, MD

Welcome
9:45-9:50 AM
Speaker
Carl B. Heilman, MD

Rhoton Family Lecture
Advances in Surgical Resection of Primary Spinal Tumors
9:51-10:14 AM
Introduced by
Christopher E. Wolfla, MD
Speaker
Ziya L. Gokaslan, MD

Theodore Kurze Lecture
11:00-11:44 AM
Introduced by
Michael Brian Sisti, MD
Speaker
Brian Greene, PhD

NATIONAL BRAIN TUMOR SOCIETY MAHALEY AWARD
600
A Prospective Randomized Trial of Seizure Prophylaxis in Patients Undergoing Surgery for Supratentorial Intraparenchymal Tumors
10:15-10:29 AM
Authors
Frederick F. Lang Jr., MD; Adam Wu; Victoria Trinh; Dima Suki; Kenneth Hess; Jeffrey Weinberg; Ian McCutcheon; Sujit Prabhu; Amy Heimberger; Raymond Sawaya (Houston, TX)

INTERNATIONAL ABSTRACT AWARD
601
The Natural Course of Unruptured Cerebral Aneurysms: Natural Course Analysis of the Unruptured Cerebral Aneurysm Study in Japan
10:30-10:44 AM
Authors
Akio Morita, MD, PhD; Akira Teramoto (Shinagawa-ku, Japan)

PHILLIP L. GILDENBERG MD RESIDENT AWARD
602
Reward Prediction Encoded by Single-Neuron Responses in the Human Nucleus Accumbens
10:45-10:59 AM
Authors
Sameer A. Sheth, MD, PhD; Shaun Patel, BS; Matthew Mian, BSE; Emad Eskandar, MD (Boston, MA)

Theodore Kurze Lecture
11:00-11:44 AM
Introduced by
Michael Brian Sisti, MD
Speaker
Brian Greene, PhD

603
Lumbar Spinal Fusion Plus Laminectomy is Superior to Laminectomy Alone for Grade I Degenerative Spondylolisthesis: SLIP Study Results
11:45-12:09 AM
Authors
Zoher Ghogawala, MD; Edward Benzel; William Butler; James Dziura; Subu Magge; Jean-Valery Coumans; J. Fred Harrington; Volker Sonntag; Fred Barker (Greenwich, CT)

Distinguished Service Award Recipient
12:15-12:18 PM
Introduced by
Paul C. McCormick, MD
Recipient
James R. Bean, MD

AANS International Lifetime Recognition Award
12:19-12:22 PM
Introduced by
Jacques J. Morcos, MD
Recipient
Leonidas Quintana, MD

Presidential Address
12:23-1:15 PM
Introduced by
Donald O. Quest, MD
Speaker
Paul C. McCormick, MD

Optional Sessions
N&E COURSE
126
Mid-level Practitioner Luncheon
1:00-2:45 PM
Fee: $25
See page 82 for more information
127 YNS Lunch Session
1:00-2:45 PM
No Fee
Moderator:
J. Bradley Bellotte, MD
Featured Speaker:
Catherine Mazzola, MD
See page 80 for more information

Scientific Session I—Tumor
2:00-5:30 PM
This session will focus on innovations in the diagnosis, management and treatment of tumor neurosurgery. Innovations developed in the last twelve months will be presented.

Ronald L. Bittner Lecture—Will There Ever be a Cure for Glioblastoma?: The Audacity of Hope
2:00-2:29 PM
Invited Speaker
Jeffrey N. Bruce, MD

606 Impact of Intraoperative Magnetic Resonance Imaging and Functional Neuronavigation on Tumor Resection and Function Preservation: A Prospective, Controlled Study in Patients with Gliomas Involving Language Cortex
2:55-3:09 PM
Authors
Jiashu Zhang; Xiaolei Chen, MD; Baining Xu, MD; Fangye Li, MD; Gang Zheng, MD; Jinning Li, MD; Xueming Ly, MD; Ting Zhang, MD (Beijing, China)

607 Visualization of 5-Aminolevulinic Acid Fluorescence in Low Grade Gliomas
3:10-3:24 PM
Authors
Laura A. Snyder, MD; Norissa Honea, MSN; Stephen Coons, MD; Stephen Chang, MD; Peter Nakaji, MD; Randall Porter, MD; Kris Smith, MD; Robert Spetzler, MD; Nader Sanai, MD (Phoenix, AZ)

608 Bevacizumab Treatment in Glioblastoma Patients Is Associated with an Increased Development of Secondary Gliosarcoma
4:01-4:15 PM
Authors
Isaac Yang, MD; Marko Spasic, BA; Frances Chow, BA; Winward Choy, BA; Leia Nghiemandh, MD; Timothy Cloughesy, MD; Linda Liu, MD, PhD; Albert Lai, MD, PhD (Los Angeles, CA)

609 The Fate of Cyst Remnants Following Endoscopic Colloid Cyst Resection
4:16-4:30 PM
Authors
Caitlin Elizabeth Hoffman, MD; Nicole Savage, BA; Mark Souweidane, MD (New York, NY)

610 Inferior Petrosal Sinus Sampling Versus Dynamic Magnetic Resonance Imaging in the Surgical Management of Cushing’s Disease
4:31-4:45 PM
Authors
Matthew Bryan Potts, MD; Jugal Shah, BS; Sandeep Kunwar, MD; Manish Aghi, MD, PhD (San Francisco, CA)

611 The Role of Radiotherapy Following Gross Total Resection of Atypical Meningiomas
4:46-5:00 PM
Authors
Ricardo Komotar, MD; J. Bryan Iorgulescu; Dhanya Anand, MBBS; Daniel Raper, MBBS; Eric Holland, MD, PhD; Philip Gutin, MD (New York, NY)

C&MS COURSE

605 IDH1 Status Determines the Survival Benefit of Surgical Resection for Malignant Astrocytomas
2:30-2:54 PM
Authors
Daniel P. Cahill, MD, PhD; Jason Beiko, MD; Vincent Cheung, MD; Dima Suki, PhD; Raymond Sawaya, MD; Sujit Prabhu, MD; Frederick Lang, MD; Kenneth Aldape, MD; Ganesh Rao, MD; Ian McCutcheon, MD (Boston, MA)

607 Visualization of 5-Aminolevulinic Acid Fluorescence in Low Grade Gliomas
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4:46-5:00 PM
Authors
Ricardo Komotar, MD; J. Bryan Iorgulescu; Dhanya Anand, MBBS; Daniel Raper, MBBS; Eric Holland, MD, PhD; Philip Gutin, MD (New York, NY)
SYNTHES SKULL BASE AWARD
613
Gamma Knife Radiosurgery of Skull Base Meningiomas
5:16-5:30 PM
Authors
Robert M. Starke, MD; Brian Williams, MD; Claire Hiles, MD; James Nguyen, BS; Mohamed Elsharkawy, MD; Jason Sheehan, MD, PhD (Charlottesville, VA)

Scientific Session II—Spine
2:00-5:30 PM
This session will focus on innovations in the diagnosis, management and treatment of spinal neurosurgery. Innovations developed in the last twelve months will be presented.

The Miami Project to Cure Paralysis—Yesterday, Today and Tomorrow
2:00-2:29 PM
Invited Speaker
Barth A. Green, MD

614
How the Assessment of Pelvic Tilt, Pelvic Incidence/Lumbar Lordosis Mismatch and Sagittal Vertical Axis Predicts Disability in Adult Spinal Deformity: A Prospective Analysis
2:30-2:54 PM
Authors
Justin S. Smith, MD, PhD; Christopher Ames, MD; Frank Schwab, MD; Shay Bess, MD; Benjamin Blondel, MD; Richard Hostin, MD; Oheneba Boachie-Adjei, MD; Douglas Burton, MD; Behrooz Akbarnia, MD; Gregory Mundiis, MD; Khaled Kebaish, MD; Robert Hart, MD; Virginie Lafage, PhD; Christopher Shaffrey, MD; Frank Schwab, MD; Christopher Ames, MD (San Francisco, CA)

Beverage Break
3:25-4:00 PM

615
Cost Per Quality-adjusted Life Year Gained of Revision Lumbar Surgery for Adjacent Segment Disease, Pseudoarthrosis, and Same-level Recurrent Stenosis: Defining the Value of Surgical Intervention
2:55-3:09 PM
Authors
Scott Parker, MD; David Shau; Stephen Mendenhall; Owoicho Adogwa; Joseph Cheng; Clinton Devin; Matthew McGirt (Nashville, TN)

616
The Impact of Positive Regional Sagittal Alignment on Outcomes in Posterior Cervical Fusion Surgery
3:10-3:24 PM
Authors
Jessica Anne Tang; Justin Scheer, BS; Justin Smith, MD, PhD; Vedat Deviren, MD; Shay Bess, MD; Robert Hart, MD; Virginia Lafage, PhD; Christopher Shaffrey, MD; Frank Schwab, MD; Christopher Ames, MD (San Francisco, CA)

617
Long-Term Outcome of Minimally Invasive Transforaminal Lumbar Interbody Fusion; 5 Years Post Op and Beyond
4:01-4:15 PM
Authors
Hamid M. Shah, MD; Kevin Foley, MD (Louisville, KY)

618
Complications Following Use of Rbhm-2 In Anterior Lumbar Interbody Fusion: An Institutional Cohort Controlled Study
4:16-4:30 PM
Authors
Daniel Lubelski; Kalil Abdullah; Amy Nowacki, PhD; Matthew Alvin; Michael Steinmetz; Edward Benzel; Thomas Mroz (University Heights, OH)

619
Objective Spinal fMRI Metrics Distinguish Complete and Incomplete Clinical Grade in Chronic Spinal Cord Injury
4:31-4:45 PM
Authors
David Cadotte, MD; Patrick Stroman, PhD; David Mikulis, MD, PhD; Rachael Bosma, BSc; Michael Fehlings, MD, PhD (Toronto, Canada)

620
Results and Complications After AxiaLIF 2 Levels. Minimum 2-year Follow-Up
4:46-5:00 PM
Authors
Luiz Pimenta, MD, PhD; Luis Marchi; Leonardo Oliveira; Rodrigo Amaral; Etevaldo Coutinho; Thiago Coutinho; Carlos Castro (Sao Paulo, Brazil)

621
Evaluation of the Thoracolumbar Injury Classification System (TLICS) in 458 Consecutively Treated Patients
5:01-5:15 PM
Authors
Joao Paulo de Almeida, MD; Andrei Joaquim, MD; Enrico Ghizoni, MD; Michel Daubs, MD; Brandon Lawrence, MD; Darrel Brodke, MD; Fernando Cendes, MD, PhD; Helder Tedeschi, MD, PhD; Alpesh Patel, MD (Campinas, Brazil)
SYNTHES SPINAL CORD INJURY RESIDENT AWARD

622
A Prediction Model for Functional Outcome after Traumatic Spinal Cord Injury
5:16-5:30 PM
Authors
Jefferson Wilson, MD; Michael Fehlings, MD, PhD; Ralph Frankowski, PhD; Robert Grossman, MD; James Harrop, MD; Christopher Shaffrey, MD; Bizhan Aarabi, MD; James Guest, MD, PhD (Toronto, Canada)

Scientific Session III—Stereotactic and Functional Surgery
2:00-5:30 PM
This session will focus on innovations in the diagnosis, management, and treatment of stereotactic and functional neurosurgery. Innovations developed in the last twelve months will be presented.

Neurosurgical Modulation of Behavioral and Cognitive Networks: An Emerging Paradigm for Scientific Discovery and Clinical Application
2:00-2:29 PM
Invited Speaker
Ali R. Rezai, MD

623
Results of a Phase 1 Study of MR Guided Focused Ultrasound Thalamotomy for Essential Tremor
2:30-2:54 PM
Authors
William Jeffrey Elias, MD; Diane Huss, PhD; Mohamad Khaled, MD; Stephen Monteith, MD; Johanna Loomba; Eyal Zadacario, PhD; Matt Eames, PhD; Robert Frysinger, PhD; Madaline Harrison, MD; Tiffini Voss, MD; Max Wintermark, MD (Charlottesville, VA)

624
The Basolateral Amygdala is a Critical Structure for Environmental Cue Augmentation of EtOH-Seeking
2:55-3:09 PM
Authors
Jessica Wilden, MD; Sheketha Hauser, PhD; Gerald Deehan Jr, PhD; Zheng Ming Ding, PhD; William Truitt, PhD; William McBride, MD, PhD; Zachary Rodd, PhD (Indianapolis, IN)

625
Phase-Amplitude Coupling During the Formation of Episodic Memories
3:10-3:24 PM
Authors
Bradley Charles Lega, MD; Joshua Jacobs; Gordon Baltuch; Michael Sperling; Ashwini Sharan; Michael Kahana (Philadelphia, PA)

626
Creation of a Novel Interactive Tool for Computer-Assisted Multi-Modal Trajectory Planning
4:01-4:15 PM
Authors
Abbas F. Sadikot, MD, PhD; Silvain Bériault, MSc; Fahd Alsubaie, MD; Bruce Pike, PhD (Montreal, Canada)

627
Grouped Cognitive Subtraction Using Intracranial EEG
4:16-4:30 PM
Authors
Christopher Richard Conner; Gang Chen, PhD; Thomas Pieters, BA; Nitin Tandon, MD (Houston, TX)

628
Imaging Correlates of Non-Motor Symptoms of Parkinson’s Disease
4:31-4:45 PM
Authors
Nader Pouratian, MD, PhD; Zhong Zheng, BS; Shirag Shemamassian, MA; Christopher Wijekoon, BS; Antonio DeSalles, MD, PhD; Susan Bookheimer, PhD (Los Angeles, CA)

629
DBS of the Third Ventricle Using a Floating Electrode to Treat Cluster Headaches: Proof of Concept
4:46-5:00 PM
Authors
Stephan Chabardes, MD; Romain Carron, MD; Napoleon Torres, MD, PhD; Eric Seigneuret, MD; Pierrick Giraud, MD; Jean François LeBas, MD; Alim Benabd, MD, PhD
630 Auditory Novelty Detection Encoded by Dopaminergic Neurons in Human Substantia Nigra 5:01-5:15 PM
Authors Chuck Mikell, MD; Brett Youngerman, BA; John Sheehy, BA; Robert McGovern, MD; Teresa Wojtasiewicz, BS; Catherine Schevon, MD, PhD; Guy McKhann II (New York, NY)

631 GPi LFP Activity is Marked by Increased High Frequency (200-300 Hz) Power in PD Patients 5:16-5:30 PM
Authors Christos Tsiokos; Nader Pouratian (Los Angeles, CA)

Scientific Session IV—Pediatrics 2:00-5:30 PM
This session will focus on innovations in the diagnosis, management and treatment of pediatric neurosurgery. Innovations developed in the last twelve months will be presented.

Pediatric Brain Tumors: Towards Personalized Therapy 2:00-2:29 PM
Invited Speaker James T. Rutka, MD, PhD

632 Surgical Treatment of Juvenile Patients with Moyamoya Disease Based on Clinical Use of Hemodynamic Measurement 2:30-2:54 PM
Authors Tadashi Narai, MD, PhD; Yoji Tanaka, MD, PhD; Maki Mukawa, MD, PhD; Yosuke Ishii, MD, PhD; Motoki Inaji, MD, PhD; Kenji Ishii, MD; Kikuo Ohno, MD, PhD (Tokyo, Japan)

633 Arterial Spine Labeling Cerebral Blood Flow as a Correlate of Clinically Significant Hydrocephalus in Children with Brain Tumors 2:55-3:09 PM
Authors Allyson Alexander, MD, PhD; Kristen Yeom, MD; Robert Lober, MD, PhD; Michael Edwards, MD (Stanford, CA)

634 Endoscopic Endonasal Approach for Skull Base Lesions in the Pediatric Population 3:10-3:24 PM
Authors Maria Koutourousiou, MD; Srinivas Chivukula; Carl Snyderman, MD; Paul Gardner, MD; Elizabeth Tyler-Kabara, MD, PhD (Pittsburgh, PA)

Beverage Break 3:25-4:00 PM

635 Long-term Survival and Functional Improvement in Pediatric Intramedullary Spinal Cord Tumors 4:01-4:15 PM
Authors Raheel Ahmed, MD; Olatilewa Awe, MD; Arnold Menezes, MD (Iowa City, IA)

636 Crenolanib in Vitro Therapy in a RCAS/tv-a Murine Model of Diffuse Pontine Brainstem Glioma 4:16-4:30 PM
Authors Amitoz Manhas, MD; Kelly Barton; Gerald Grant, MD; Oren Becher, MD (Durham, NC)

WINS LOUISE EISENHARDT TRAVELING SCHOLARSHIP AWARD

637 Detection of Tumor Indicators of Diffuse Intrinsic Pontine Glioma in Cerebrospinal Fluid, Serum and Urine 4:31-4:45 PM
Authors Amanda Muhs Saratsis, MD; Sridevi Yadavilli, MD, PhD; Suresh Magge, MD; Javad Nazarian, PhD (Arlington, VA)

638 Reoperational Hemispherectomy for Intractable Epilepsy—One Institution's Experiences 4:46-5:00 PM
Authors Sumeet Vadera, MD; Lara Jehi; William Bingaman (Cleveland, OH)

639 Occipital Lobe Epilepsy in Children: Pre-operative Evaluation with Magnetoencephalography and Surgical Outcomes 5:01-5:15 PM
Authors George M. Ibrahim, MD; Gregory Albert, MD, MSc; Aria Fallah, MD; Hiroshi Otsubo, MD, PhD, FRCC; Ayako Ochi, MD, PhD; Tomoyuki Akiyama, MD, PhD; Elizabeth Donner, MD; Shelly Weiss, MD; O. Carter Snead, MD; James Drake, MD; James Rutka, MD, PhD (Toronto, Canada)
Management of Pediatric Intracranial Gunshot Wounds: Predictors of Favorable Outcome and a Proposed Treatment Paradigm
5:16-5:30 PM
Authors
Katie Bandt, MD; Chester Yarbrough, MD; Jacob Greenberg, BS; Jeffrey Leonard, MD; David Limbrick, MD, PhD (St. Louis, MO)

Scientific Session V—Cerebrovascular
2:00-5:30 PM
This session will focus on innovations in the diagnosis, management and treatment of Cerebrovascular neurosurgery. Innovations developed in the last twelve months will be presented.

Minimally Invasive Transpalpebral “Eyelid” Approach to the Anterior Circulation Aneurysms: Forty Cases Experience
2:30-2:54 PM
Authors
Khaled M. Aziz, MD, PhD; Sanjay Bhatia, MD; Mohamed Hammad, MD; Erik Happ, MD (Pittsburgh, PA)

Variation in a Locus Linked to Platelet Aggregation Phenotype Predicts Intraparenchymal Hemorrhagic Volume
2:55-3:09 PM
Authors
Geoffrey Appelboom, MD; Matthew Piazza, BA; Sam Bruce; Steve Zoller, BA; Kerry Vaughan, BA; Aimee Monahan; Brad Zacharia, MD; Zachary Hickman, MD; Neeraj Badjatia, MD, MS; E. Sander Connolly, MD (New York, NY)

Is Intra-arterial Thrombolysis Beneficial for M2 Occlusions? Subgroup Analysis of the PROACT II Trial
3:10-3:24 PM
Authors
Ralph Rahme, MD; Todd Abruzzo, MD; Renee Martin, PhD; Thomas Tomsick, MD; Andrew Ringer, MD; Anthony Furlan, MD; Pooja Khatri, MD (Cincinnati, OH)

Ophthalmic Segment Aneurysms: Technical Adjuncts
2:00-2:29 PM
Invited Speaker
Steven L. Giannotta, MD

Long-term Results of Enterprise Stent-assisted Coiling of Cerebral Aneurysms
4:01-4:15 PM
Authors
Maryam Rahman, MD; Kyle Fargen; Maryam Rahman, MD, MS; Brian Hoh; Babu Welch; Giuseppe Lanzino; Alan Boulos; Jeffrey Carpenter; Ansar Rai; Erol Veznedaroglu; Andrew Ringer; Rafael Rodriguez-Mercado; Peter Kantzemann; Adnan Siddiqui; Elad Levy; J. Mocco (Gainesville, FL)

The Panacea or the Problem: Flow Diverters in the Treatment of Fusiform Vertebrobasilar Aneurysms
4:16-4:30 PM
Authors
Adib Adnan Abla, MD; Peter Kan, MD; Travis Dumont; L. Hopkins; Adnan Siddiqui; Elad Levy, MD (Phoenix, AZ)

Risk of Hemorrhage From “De Novo” Cerebral Aneurysms
4:31-4:45 PM
Authors
Daniel H. Fulkerson, MD; William Kemp III, BS; Troy Payner, MD; Thomas Leipzig, MD; Aaron Cohen-Gadol, MD, MSc; Terry Horner, MD (Indianapolis, IN)

Outcomes after Stereotactic Radiosurgery for ARUBA-eligible Patients
4:46-5:00 PM
Authors
Bruce E. Pollock, MD; Michael J. Link; Robert D. Brown (Rochester, MN)

Brainstem Cavernoma Surgery with the Support of Pre- and Post-operative Diffusion Tensor Imaging
5:01-5:15 PM
Authors
Nils Harry-Bert Ulrich; Ralf Kockro, PhD; David Bellut; Oliver Bozinov; Jan Burkhardt; Spyros Kolias; Helmut Bertalanffy (Zurich, Switzerland)
649 Risk of Hemorrhage and Ischemia after EC/IC Bypass Surgery—An Observational Analysis of 204 Consecutive Revascularization Procedures 5:16-5:30 PM
Authors Gerrit Alexander Schubert, MD; Marcel Seiz, MD; Peter Schmiedek, MD; Claudius Thomé, MD (Innsbruck, Austria)

651 High-Grade Traumatic Cervical Subluxation Injuries: Treatment Strategies and Outcomes 2:55-3:09 PM
Authors Sanjay Dhall, MD; Daniel Hoh, MD (Atlanta, GA)

652 Lifetime Attributable Risk of Cancer from Computed Tomography in Patients with Severe Traumatic Brain Injury 3:10-3:24 PM
Authors David Panczykowski, MD; Patrick Salibi, BS; Nathan Zwagerman, MD; Michael Sheetz, MS; Vikas Agarwal, MD; David Okonkwo, MD, PhD (Pittsburgh, PA)

Authors Julio C. Furlan, MD; Michael Fehlings, MD, PhD (Toronto, Canada)

660 Transcranial Doppler Monitoring of Carotid and Vertebral Artery Injuries at a Level I Trauma Center 4:01-4:15 PM
Authors Jason Chang, MD; Louis Kim, MD; Kathleen Fink, MD; Manuel Ferreira, MD, PhD; Laligam Sekhar, MD; Randall Chesnut, MD (Seattle, WA)

654 Timing of Cranioplasty After Decompressive Craniectomy for Trauma 4:16-4:30 PM
Authors Mark Peter Piedra, MD; Andrew Nemecek, MD, MS; Brian Ragel, MD (Portland, OR)

656 Clinical Outcome of Early Versus Late Surgery for Cervical Spinal Cord Injury 4:46-5:00 PM
Authors KyoungSuok Cho, MD, PhD; Sang-Bok Lee, MD; Pil-Woo Huh, MD, PhD (Uijongbu, Republic of Korea)

657 Magnetoencephalographic Virtual Recording: A Novel Diagnostic Tool for Concussion 5:01-5:15 PM
Authors Matthew J. Tormenti, MD; Donald Krieger, PhD; Ava Puccio, PhD; Malcolm McNeil, PhD; Walter Schneider, PhD; David Okonkwo, MD, PhD (Pittsburgh, PA)

658 New Medical Therapy of Chronic Subdural Hematoma with Tranexamic Acid Without Operations 5:16-5:30 PM
Authors Kazunari Oka, MD; Hiroshi Kageyama, MD; Terushige Toyooka, MD; Nobusuke Tsuzuki, MD (Kuki, Japan)
Introduction to Stereotactic Radiosurgery
5:30-8:30 PM
Moderator
Gene H. Barnett, MD, PhD
Panelists:
Antonio A. F. DeSalles, MD PhD
Peter C. Gerszten, MD
William A. Friedman, MD
Fee: $25

The course is designed as an introduction to stereotactic radiosurgery for neurosurgeons interested in learning general radiobiologic principles and clinical strategies. Critical topics to be covered include: functional radiosurgery; spinal radiosurgery; malignant brain tumors and benign brain lesions, and the indications for each.

Learning Objectives:
Upon completion of this activity, participants should be able to:
• Outline the basic radiobiologic principles of radiosurgery
• Demonstrate current indications, technologies, and outcomes for malignant brain tumors, benign brain lesions, and spine and functional radiosurgery
• Discuss complication avoidance and management in the setting of radiosurgical patients
• Evaluate how applying radiobiologic principles can enhance your neurosurgical practice

AANS INTERNATIONAL RECEPTION
6:30-8:00 PM
BONGOS CUBAN CAFÉ

AANS HISTORY SECTION DINNER
6:30-9:30 PM
Rusty Pelican
Fee: $150

Invited Speaker:
Corey Malcom
Director of Archaeology
Mel Fisher Maritime Heritage Society

Mr. Corey Malcom is the Director of Archaeology for the Mel Fisher Maritime Museum in Key West, Florida, a position he has held for nearly 25 years. During this time he has participated in some of the most significant shipwreck research projects, including the 1622 galleon Nuestra Señora de Atocha, the 1700 English slaver Henrietta Marie, the galleon Santa Clara of 1564. He also organized the successful survey to locate the long-lost African Cemetery on Key West. Since 2002, Malcom has spearheaded the multi-agency effort to locate the wreck of the pirate-slaver Guerrero. Mr. Malcom is a graduate of Indiana and Nova Southeastern Universities and is currently a PhD candidate at the University of Huddersfield.

The Search for the Pirate-Slaver Guerrero
On December 19, 1827, while being chased by the British Royal Navy schooner HMS Nimble, the Havana-based pirate ship Guerrero wrecked on a South Florida reef and sank. The ship, after a crime-spree along the African coast, was sailing to Cuba with 561 African captives onboard; 41 were drowned. The wreck’s survivors were rescued by wreckers, but the pirates rose up against the Samaritans, hijacked them, and continued their voyage to Cuba. The Nimble wrecked, too, but was refloated and repaired.

With such a dramatic tale, and because of its historical significance as one of the few ships known to have wrecked as an active slaver, Guerrero it has long been the subject of much curiosity. Since 2002, the Mel Fisher Maritime Museum, the RPM Nautical Foundation, The National Association of Black Scuba Divers, and the Florida Keys National Marine Sanctuary have partnered to search for and document the wreck sites of both Guerrero and Nimble. Using sophisticated marine survey gear, and spending considerable time both on and under the water, the efforts have located two promising targets. Mr. Corey Malcom, organizer of the search for Guerrero, will present an overview of the ship’s fascinating history and outline today’s efforts to locate and document its remains.

IMRIS INDUSTRY SUPPORTED SATELLITE SYMPOSIUM
An Intraoperative MR Imaging Journey—The Clinical Experience of the VISIUS Surgical Theatre
6:30-10:30 PM
Loews Miami Beach Hotel

The use of intraoperative imaging during neurosurgery continues to grow as technology evolves and as new studies demonstrating clinical benefits are published. In this symposium, leaders in intraoperative imaging will share their experience with a range of neurosurgical cases focusing on the clinical benefits, workflow optimization and utilization of the VISIUS Surgical Theatre.

No CME is offered for this symposium.

This symposium is not sponsored or endorsed by the AANS.