

## Exhibit Hours:

9:00 AM–4:00 PM

## Lunch in the Exhibit Hall:

1:15–2:00 PM

## BREAKFAST SEMINARS

7:30–9:30 AM

Cost: \$75 each

### 201

#### How I Do It: Acoustic Tumors

##### Moderator

Frederick G. Barker, II, MD, FACS

##### Panelists

Ossama Al-Mefty, MD; L. Dade Lunsford, MD; Sanjay N. Misra, MD; Kalmon D. Post, MD; Craig Andrew Van Der Veer, MD

The principles of selecting suitable approaches, techniques and tactics of multimodality treatment of acoustic neuromas will be described.

##### Learning Objectives

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

- Identify the indications for operative treatment, radiation treatment and observation
- Apply technical details of acoustic tumor surgery
- Discuss how to avoid complications and study the outcome of surgery, radiation treatment and observation

### 202

#### Minimally Invasive Spinal Neurosurgery: State-of-the-Art

##### Moderator

Kevin T. Foley, MD

##### Panelists

Domagoj Coric, MD; Kurt M. Eichholz, MD; Praveen V. Mummaneni, MD; Maurice M. Smith, MD

This seminar will focus on endoscopic and minimally invasive techniques for cervical, thoracic and lumbar spine surgery. Techniques for decompression and fusion will be discussed.

##### Learning Objectives

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

- Describe various endoscopic and minimally invasive techniques for spinal surgery
- Discuss the indications, results and potential complications for these techniques

### 203

#### Lumbar Spine Fusion

##### Moderator

Joan Frances O'Shea, MD

##### Panelists

Peter Douglas Angevine, MD; Andrew T. Dailey, MD; Iain H. Kalfas, MD; Eric M. Massicotte, MD, MSc

This seminar describes and discusses the issues of patient selection, surgical indication and surgical techniques as they pertain to lumbar fusion. A global approach will be provided.

##### Learning Objectives

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

- Identify the fundamentals of the surgical decision making process
- Discuss factors involved with patient selection for lumbar spine fusion
- Distinguish between the surgical strategies for lumbar spine fusion and their relative indications, as well as their pros and cons

### 204

#### History of Neurosurgery and Neurosciences in Chicago

##### Moderator

Samuel H. Greenblatt, MD

##### Panelists

Ivan Ciric, MD; Javad Hekmatpanah, MD; James L. Stone, MD, FACS

Review the history of neurosurgery and related neuroscience during the 20th century in Chicago, with emphasis on people, institutions, and the first two thirds of the century.

##### Learning Objectives

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

- Discuss the contributions of the people and institutions who founded and maintained neurosurgery and its related neurosciences in Chicago during the 20th century

### 205

#### Cavernous Malformations: Current Controversies in Management

##### Moderator

Murat Gunel, MD

##### Panelists

Michael T. Lawton, MD; Gabriele Schackert, MD; R. Michael Scott, MD

This seminar will use didactic and case based discussion to explain the clinical diagnosis and management of patients with intracranial cavernous malformations.

##### Learning Objectives

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

- Discuss the presentation, diagnosis and natural history of intracranial cavernous malformations

- Review the expectant, surgical and radio-surgical treatment options for patients with cavernous malformations
- Review familiar cavernous malformation syndromes

**206**

**N&PE**

### Functional Mapping of the Cerebral Cortex: Advantages and Limitations

#### Moderator

Matthew A. Howard, III, MD

#### Panelists

Mitchel S. Berger, MD, FACS; Michael M. Haglund, MD, PhD; Guy M. McKhann, II, MD

All aspects and methods of functional mapping for neurosurgery will be discussed including removal of brain tumors, vascular lesions and epilepsy for awake and asleep patients.

#### Learning Objectives

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

- Identify and work within eloquent areas of the brain
- Discuss the technologies available to localize eloquent cortex, how this can enhance the safety of the surgery and what their limitations are

**207**

### Chiari Malformations: Diagnosis Treatments and Failures

#### Moderator

Ulrich Batzdorf, MD

#### Panelists

Richard G. Ellenbogen, MD, FACS; Karin M. Muraszko, MD

This seminar will focus on the pathophysiology of Chiari malformations, the indications for treatment, therapeutic options and the basis of their success and failure.

#### Learning Objectives

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

- Describe the current concepts of the pathophysiology of Chiari malformations
- Recognize the indications for treatment of Chiari malformations
- Discuss the options for treatment of Chiari malformations

**208**

### Lumbar Stenosis

#### Moderator

Robert E. Isaacs, MD

#### Panelists

Edward C. Benzel, MD; Larry T. Khoo, MD; Carl Laurysen, MD; Claudius Thome, MD

This seminar will evaluate short term and long term outcomes of both surgical and non-surgical treatment of lumbar stenosis. It will also evaluate recently developed minimal access treatments for stenosis.

#### Learning Objectives

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

- Discuss the natural history of spinal stenosis
- Explain the data underlying non-operative therapies for spinal stenosis
- Explain the data underlying conventional operative therapies for spinal stenosis
- Explain the data underlying the newer and less conventional operative therapies for spinal stenosis

**209**

### Treatment of Complex Regional Pain Syndrome and Hyperhidrosis

#### Moderator

Samuel J. Hassenbusch, MD, PhD

#### Panelists

Zelma HT Kiss, MD, PhD; Robert M. Levy, MD, PhD; Christopher J. Winfree, MD

This seminar will present current management concepts and emerging state-of-the-art techniques and technology to treat symptomatically mediated disorders that include complex region pain syndrome and hyperhidrosis.

#### Learning Objectives

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

- Recognize and diagnose complex regional pain syndrome
- Discuss current treatment of hyperhidrosis

**210**

### Controversies in the Management of Intracerebral Hematomas

#### Moderator

Neil D. Kitchen, MD, FRCS

#### Panelists

Geoffrey T. Manley, MD, PhD; Alexander David Mendelow, FRCS, PhD; Mario Zuccarello, MD

The pathophysiology of spontaneous intracerebral hemorrhage will be described, as well as current treatment options. Recent ongoing clinical trials for treatment of ICH patients will be discussed.

#### Learning Objectives

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

- Discuss the management of intracerebral hemorrhage according to current clinical evidence
- Discuss rationale for current clinical studies
- Discuss evidence based medicine in the management of a patient with intracerebral hemorrhage

**211**

**R&F**

### Advances in Carotid Disease: Surgery vs. Endovascular Therapy

#### Moderator

Christopher M. Loftus, MD, FACS

#### Panelists

Felipe C. Albuquerque, MD; Robert E. Harbaugh, MD, FACS

This seminar will explore the risk/benefit ratio for high-risk carotid surgery.

### Learning Objectives

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

- Identify high-risk cases in carotid disease
- Recommend appropriate carotid disease cases for surgery
- Discuss the limits of endovascular treatment

## 212

### Pituitary Tumors

#### Moderator

Gail L. Rosseau, MD

#### Panelists

William T. Couldwell, MD, PhD; Daniel F. Kelly, MD; Edward R. Laws, Jr., MD; Jean Regis, MD

Participants will obtain a state-of-the-art update on pituitary tumors, including optimal medical, surgical and adjunctive therapies.

#### Learning Objectives

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

- Discuss optimal management of prolactinomas
- Describe approach advances in and extensions of transsphenoidal surgery
- Construct appropriate adjunctive treatment algorithms for patients

## 213

### Biologics for the Spine

#### Moderator

Daniel K. Resnick, MD

#### Panelists

Robert S. Bray, Jr., MD; James S. Harrop, MD; Patrick W. Hitchon, MD; Christopher I. Shaffrey, MD; Michael Y. Wang, MD

This seminar will focus on novel cutting edge strategies for spine stabilization, specifically focusing on bone graft extenders and substitutes, absorbable implants, and biological adjuncts for fusion.

#### Learning Objectives

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

- Discuss the use of electrical stimulation for promotion of fusion
- Describe the current use of absorbable and non-absorbable polymers for spinal stabilization
- Discuss the current use of BMP for spinal arthrodesis

## 214

### Management of Spinal Axis Trauma

#### Moderator

Gregory R. Trost, MD

#### Panelists

Michael S. Muhlbauer, MD; Nicholas Theodore, MD; Michael Y. Wang, MD

A variety of commonly encountered spine injuries/fractures will be discussed. The controversies and rationale for treatment strategies will be reviewed.

#### Learning Objectives

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

- Discuss the pertinent issues and alternatives for treatment of spinal fractures/injuries
- Review rationale for various spine trauma treatments

## 215

### Cervical Disc Disease

#### Moderator

Vincent C. Traynelis, MD

#### Panelists

Ronald I. Apfelbaum, MD; Darryl J. Dirisio, MD; William E. Krauss, MD; Stephen M. Papadopoulos, MD; Paul Santiago, MD

This seminar will evaluate the surgical management options for herniated cervical discs. The rationale for selection of anterior and posterior approaches and available techniques will be explored.

#### Learning Objectives

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

- Evaluate the various treatment options for cervical disc disease

- Compare and contrast the different surgical approaches for herniated cervical disc disease
- Discuss treatment options for cervical disc disease

## 216

### Intracranial Endoscopy

#### Moderator

Michael R. Gaab, MD, PhD

#### Panelists

Alan R. Cohen, MD, FACS; Amin Kassam, MD; Daniel R. Pieper, MD; Mark M. Souweidane, MD

Experienced panelists will discuss the actual indications and new developments in intracranial endoscopy and the techniques available for performing these procedures. Emphasis will be placed on techniques, complication rates, complication avoidance and management.

#### Learning Objectives

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

- Identify the indications for intracranial endoscopic procedures
- Evaluate specific techniques available for intracranial endoscopic procedures
- Discuss complication rates and strategies for complication avoidance of intracranial endoscopic procedures
- Recognize actual trends in intracranial endoscopy development

## 217

### Malignant Brain Tumors: State-of-the-Art Treatment

#### Moderator

Joseph M. Piepmeier, MD

#### Panelists

Ennio Antonio Chiocca, MD, PhD; Francesco DiMeco, MD; Andrew Thomas Parsa, MD, PhD

This seminar will discuss new advances in the management of malignant gliomas including gene therapy, convection enhanced drug and immunotherapy. These advances will be discussed in the context of tumors managed by the neurosurgeon.

### Learning Objectives

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

- Examine drug delivery using convection based interstitial diffusion
- Review the tumor biology with gene and vaccine therapy

## 218

### Tethered Cord Anomalies

#### Moderator

Joseph H. Piatt, Jr., MD

#### Panelists

Stephen J. Haines, MD; Corey Raffel, MD, PhD; Nathan R. Selden, MD, PhD

The seminar will present the evidentiary basis for the management of tethered spinal cords in childhood. It will highlight contemporary surgical techniques. It will emphasize unanswered questions and areas of controversy, including the concept of 'minimal' tethered cord.

### Learning Objectives

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

- Classify the various patterns of spinal dysraphism
- Discuss the risks of progressive neurological disability from spinal cord tethering associated with each pattern of dysraphism
- Select intraoperative and postoperative practices that minimize the risk of surgical complications in the treatment of tethered spinal cord
- Explain the treatment of a child with minimal imaging findings referred because of dysfunctional voiding

## 219

### The Future of Global Neurosurgery

#### Moderator

Nelson M. Oyesiku, MD, PhD

#### Panelists

Rick Abbott, MD; Tetsuo Kanno, MD

The seminar will focus on the predictions and direction of the future of neurological surgery.

### Learning Objectives

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

- Discuss the direction and future of neurosurgery
- Explore treatment options for neurosurgery into the future

## 220

### Improving Your Bottom Line

#### Moderator

James I. Ausman, MD, PhD

#### Panelists

Saeed Bajwa, MD; Rajiv D. Desai, MD; Gregory B. Lanford, MD; Troy D. Payner, MD; Webster H. Pilcher, MD, PhD; Craig Andrew Van Der Veer, MD

This seminar will survey the solutions neurosurgeons have made to the constrictive economic environment using practicing neurosurgeons as faculty. Successful examples will cover the small practice to the academic center. This seminar encourages audience participation. It will cover options ranging from entrepreneurial to employment.

### Learning Objectives

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

- Appraise techniques employed by managing partners of large neurosurgical practices to reduce overhead
- Manage personnel and develop innovative ways to increase the bottom line and run a more productive practice
- Discuss forces shaping healthcare
- Explain how to grow a practice in today's and tomorrow's healthcare environment

## 221

### Spinal Motion Preservation-The Posterior Column Implants

#### Moderator

M. Samy Abdou, MD

#### Panelists

Fred H. Geisler, MD, PhD; Russ P. Nockels, MD; Phillip A. Tibbs, MD; Kenneth S. Yonemura, MD

A wide range of treatment strategies and implantable devices are being developed to treat facet disease, spinal stenosis and other manifestations of posterior column disease without fusion. The implantable devices include X-Stop, Dynasis, TOPS and others. The results of the most recent clinical trials will be presented by investigators involved in these studies.

### Learning Objectives

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

- Discuss the normal anatomy of the posterior spinal column, as well as the pathophysiology of degenerative disease
- Discuss the biomechanical basis of non fusion technology
- Explain the design features of both pedicle screw-based and inter-spinous process implants
- Compare and contrast the differing treatment strategies
- Discuss the relevant clinical results of pedicle screw-based stabilization devices and of inter-spinous process implants

## 222

R&F

### Becoming a Neurosurgeon: A Practical Course for Medical Students and Residents

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

#### Moderator

Lawrence S. Chin, MD, FACS

#### Panelists

Deborah L. Benzil, MD; M. Sean Grady, MD; Jayant Jagannathan, MD; N. Scott Litofsky, MD

This seminar will provide medical students and junior residents an overview of neurosurgery residency and how to prepare for a career beyond residency. Practical tips, as well as an overview of the future of our specialty will be presented.

### Learning Objectives

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

- Describe the typical process for applying and getting into a residency
- Recite practical hints on dealing with the stress of residency
- Discuss how to prepare for a career out of residency
- Discuss the main challenges facing neurosurgeons now and in the future

## 223

### Vertebroplasty: Indications, Controversies and Credentialing

#### Moderator

Richard D. Fessler, II, MD

#### Panelists

Sean D. Lavine, MD; Mick J. Perez-Cruet, MD; Andrew J. Ringer, MD

This seminar will focus on vertebroplasty (VP) and kyphoplasty (KP) techniques, hospital credentialing for performance of these procedures and identifying appropriate patients for each technique.

### Learning Objectives

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

- Discuss the indications for VP and KP
- Discuss the rationale for choosing VP or KP for a given patient
- Discuss hospital credentialing and delineation of privileges

## 224

N&PE

### Management of Acute Spinal Cord Injury

#### Moderator

Michael G. Fehlings, MD, PhD

#### Panelists

James D. Guest, MD, PhD; Charles Kuntz, IV, MD; Michael Patrick Steinmetz, MD; Andrea Strayer, MSN, CNRN, Michael Y. Wang, MD

This breakfast seminar will provide an up-to-date review of the pathophysiology, medical management, surgical options and recent clinical trials related to spinal cord injury.

### Learning Objectives

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

- Discuss clinically relevant aspects of the pathophysiology of spinal cord injury
- Discuss current concepts in the medical management of spinal cord injury
- Explain the role and timing of surgical treatment for acute spinal cord injury
- Discuss recent developments in clinical trials for spinal cord injury
- Integrate current concepts of spinal cord injury into their practice

## PLENARY SESSION II

9:45 AM–1:00 PM

#### Moderators

James R. Bean, MD; E. Sander Connolly, Jr., MD

## 700

9:45–9:59 AM

### The Economic Impact of the Prestige® Cervical Disc System: Results from a Randomized Clinical Trial

#### Authors

Joseph Menzin, PhD; Bin Zhang, MD; Peter J. Neumann, DSc; Lisa M. Lines, BS; Vincent C. Traynelis, MD; David W. Polly, Jr., MD

## 701

10:00–10:14 AM

### Surgical Management of Cavernous Malformations of the Brainstem Presenting in Childhood

#### Authors

Gregory P. Lekovic, MD, PhD; Elisa Beres, MD; L. Fernando Gonzalez, MD; Randall Porter, MD; Harold Rekeate, MD; Robert F. Spetzler, MD

## 702

10:15–10:29 AM

### Journal of Neuro-Oncology Award Impact of Surgery on the Leptomeningeal Dissemination (LMD) of Supratentorial Brain Metastasis (SBM)

### Authors

Raymond Sawaya, MD; Dima Suki, PhD; Mustafa Aziz Hatiboglu, MD; Akash J. Patel, MD; Weiming Shi, MD; Anita Mahajan, MD; Jeffrey Weinberg, MD; Morris D. Groves, MD

## 703

10:30–10:44 AM

### Deep Brain Stimulation (DBS) For Treatment of Depression: Long-Term Outcomes from a Prospective Multi-Center Trial

#### Authors

Ali R. Rezai, MD; Donald Malone, MD; Darin Dougherty, MD; Gerhard Friehs, MD; Emad Eskandar, MD; Andre Machado, MD, PhD; Cynthia Kubu, PhD; Linda Carpenter, MD; Audrey Tyrka, MD, PhD; Paul Malloy, PhD; Stephen Salloway, MD; Scott Rauch, MD; Lawrence H. Price, MD; Steven Rasmussen, MD

## 704

10:45–10:59 AM

### Outcome Analysis in Surgery for Adult Chiari I Malformation with Syringomyelia, With or Without Arachnoid Opening and Dural Graft

#### Authors

Rupa Gopalan, BS; Charles A. Sansur, MD, MHSc; David K. Hamilton, MD; John A. Jane, MD, PhD

## 705

11:00–11:14 AM

### Long-Term Follow-Up in Patients Surgically Treated for an Unruptured Intracranial Aneurysm

#### Authors

James Torner, PhD; David Piepgras, MD; Irene Meissner, MD; John Huston, MD; Robert Brown, MD, MPH

## LOUISE EISENHARDT LECTURE

11:15–11:45 AM

#### Introduction

Jon H. Robertson, MD

#### Speaker

TBD

## DISTINGUISHED SERVICE AWARD

11:46–11:48 AM

### Introduction

Jon H. Robertson, MD

### Recipient

Peter W. Carmel, MD

## PRESIDENTIAL INTRODUCTION

11:49 AM–12:05 PM

Frederick A. Boop, MD, FACS

## PRESIDENTIAL ADDRESS

12:06–1:00 PM

Jon H. Robertson, MD

## LUNCH IN THE EXHIBIT HALL

1:15–2:00 PM

501

2:00–5:00 PM **N&PE**

### Integration of Patient Assessment Technology Into Practice

**Cost:** \$75

This session is free for Nurses and Physician Extenders.

### Moderator

Twyila Lay, NP, MS

### Speakers

MaryKay Bader, MSN, Leo Timothy Harris, PA-C, Geoffrey T. Manley, MD, PhD; Karen March, RN, MN

This symposium will explore the technological advancements in cerebral monitoring used in the assessment and management of complex patient data critical to the care of patients with traumatic brain injury. Didactic will be provided by a neurotrauma expert, including Advance Practice Nurses, Physician Assistants, and Neurosurgeons with an opportunity for interactive discussion and hands on device demonstrations.

### Learning Objectives

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

- Analyze the differences in various devices for ICP monitoring and discuss the guidelines for monitoring and medical decision making in regards to placement of an EVD vs. a parenchymal monitor

- Identify appropriate parenchymal placement, relevance and reliability of core vs. brain temperatures, and the use of brain tissue oxygen monitoring in the treatment and assessment of the patient with traumatic brain injury
- Describe the indications for using cerebral blood flow monitoring and performance of auto regulation challenges, including the significance of its use in treatment and prevention of secondary brain injury
- Distinguish the various levels of cellular physiology as it relates to cerebral microdialysis and the significance of its use in the treatment of traumatic brain injury
- Examine how the introduction of informatics into your practice can aid in the treatment/care of the ICU patient

502

2:00–5:00 PM

### Diminishing Professional Liability Exposure: Patient Safety, Error Disclosure, Enhancing Communication

**Cost:** \$75

### Moderator

Jamie S. Ullman, MD

### Speakers

Stanley W. Fronczak, MD, JD, FACS; John A. Kusske, MD

This session discusses strategies to reduce the risk of liability through approaches that are practical.

### Learning Objectives

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

- Explain how to position neurosurgeons and their patient care teams to meet both day-to-day challenges and regulatory requirements by providing tips that will be useful in all aspects of a neurosurgical practice.
- Distinguish the disclosure of errors to patients and their families
- Review the advantages of disclosure to improve patient communication and reduce incidence of litigation
- Debate “when” and “what” to disclose regarding “near misses”

The session outlines different patient safety issues and techniques to avoid errors and “near misses” such as:

- Communication errors
- Medication administration
- Wrong-site surgery

## POSTER VIEWING IN THE EXHIBIT HALL

2:00–2:45 PM

## AANS/CNS SECTION ON NEUROTRAUMA

2:45–5:30 PM

### Moderators

Odette Althea Harris, MD, MPH  
Roland A. Torres, MD

## CODMAN 2006 AWARD PRESENTATION

2:45–3:00 PM

### Speaker

Gregory Hawryluk, MD

## CODMAN 2007 AWARD PRESENTATION

3:01–3:15 PM

### Speaker

TBD

731

3:16–3:30 PM

### Magnetic Resonance Imaging Findings in Vegetative State After Acute Head Injury

### Authors

Raimund P. Firsching, DR; Birgitt Stiller, MD; Imre Bondar, PhD, MD; Martin Skalej, PhD, MD

732

3:31–3:45 PM

### Synthes Resident Spine Award Cortical Control and Characterization of a Spinal Nerve Bridge to Bypass Spinal Cord Injury

### Authors

Raqeeb M. Haque, MD; Samit Chakabarty, PhD; Lucas Campos, MD, PhD; Deepa Danan, BS; Christopher Winfree, MD; John Martin, PhD

**733** 3:46–4:00 PM

**Early Detection of Cerebral Edema Through an Implanted Optical Probe**

**Authors**

Christopher M. Owen, MD; Amandip S. Gill, BS; Devin K. Binder, MD, PhD

**734** 4:01–4:15 PM

**The Use of Selective NMDA Modulators in Traumatic Brain Injury**

**Author**

Jennifer Jennings, MD

**LECTURE**

4:16–5:30 PM

**AANS/CNS CEREBROVASCULAR SECTION**

**2:45–5:30 PM**

**Moderators**

Charles J. Prestigiacomo, MD, FACS; John A. Wilson, MD, FACS

**735** 2:45–2:52 PM

**Embolization of Wide-Neck Aneurysms—Does Stent-Assistance Help? 368 Aneurysms with Delayed Angiographic Follow Up**

**Authors**

Michael J. Alexander, MD, FACS; Ketan Bulsara, MD; Ali Zomorodi, MD

**736** 2:53–3:00 PM

**Young Neurosurgeon Medical Student Award**

**Loss of Consciousness Following Aneurysmal Subarachnoid Hemorrhage: Incidence, Predictors and Impact on Outcome**

**Authors**

Christopher P. Kellner, BA; Raqeeb Haque, MD; Hani Malone, BA; Luis Fernandez, MD; Michael Schmidt, PhD; E. Sander Connolly, Jr., MD; Stephan A. Mayer, MD

**737** 3:01–3:08 PM

**WINS Award**

**Cortical Infarcts in a Primate Model of Subarachnoid Hemorrhage (SAH): Is it an Animal Model of Delayed Ischemic Deficits?**

**Authors**

Bawarjan Schatlo, MD; Alexander O. Vortmeyer, MD; Sven Gläscher, MD; Edward H. Oldfield, MD; Jens P. Dreier, MD; Ryszard M. Pluta, MD, PhD

**738** 3:09–3:16 PM

**Intraoperative Angiography in Intracranial Aneurysm Surgery. Experience with 1025 Cases**

**Authors**

Eric S. Nussbaum, MD; Michael Madison, MD; Mark Myers, MD; James Goddard, MD; Leslie Nussbaum, MD, PhD

**739** 3:17–3:24 PM

**Evaluation of the Glasgow Coma Scale in the Prediction of Long-Term Outcome in Poor-Grade Aneurysmal Subarachnoid Hemorrhage: The Relative Value of the Motor, Verbal and Eye Examinations**

**Authors**

Ricardo J. Komotar, MD; Robert M. Starke, BA; William J. Mack, MD; Christopher P. Kellner, BS; Grace H. Kim, MD; David Hahn, BS; Marc L. Otten, MD; Maxwell B. Merkow, BS; Matthew C. Garrett, BS; Michal A. Rynkowski, MD; Brian Y. Hwang, BS; Laura E. Fischer, MS; Michael J. Schmidt, PhD; Stephan A. Mayer, MD; E. Sander Connolly, Jr., MD

**DONAGHY LECTURESHIP**

**Introduction**

3:25–3:30 PM

Joshua B. Bederson, MD

**Treatment strategy of Cerebral Arteriovenous Malformation**

3:31–3:50 PM

**Recipient**

Nobuo Hashimoto, MD

**STATE OF THE CEREBROVASCULAR SECTION**

3:51–4:00 PM

**Speaker**

Joshua B. Bederson, MD

**SYMPOSIUM**

**Should Carotid Artery Bypass be Performed in Patients Tolerating Balloon Test Occlusion? Let's Ask the Experts**

**Moderator**

Charles J. Prestigiacomo, MD, FACS

4:01–4:11 PM

**Speaker**

Neil A. Martin, MD

4:12–4:22

**Speaker**

Robert H. Rosenwasser, MD, FACS

**QUESTIONS/INDEX CASE DISCUSSION**

4:23–4:26 PM

Charles J. Prestigiacomo, MD, FACS

**740** 4:27–4:34 PM

**C3a-Receptor Antagonist Attenuates Brain Injury after Intracerebral Hemorrhage in Mice**

**Authors**

Michal A. Rynkowski, MD; Grace H. Kim, MD; Ricardo J. Komotar, MD; Marc L. Otten, MD; Andrew F. Ducruet, MD; Sergei A. Sosunov, MD, PhD; Matthew C. Garrett, BS; Robert M. Starke, BA; Maxwell B. Merkow, BS; David K. Hahn, BS; Christopher P. Kellner, BS; Vadim S. Ten, MD, PhD; E. Sander Connolly, Jr., MD

**741** 4:35–4:42 PM

**Factors Predictive of Complications from Onyx Embolization of Intracranial Arteriovenous Malformation Embolization (AVMs)**

**Authors**

Gregory J. Velat, MD; Gregory L. Faught, MD; W. Christopher Fox, MD; John F. Reavey-Cantwell, MD; Jobyna Whiting, MD; Stephen B. Lewis, MD; Christopher S. Firment, MD; Brian L. Hoh, MD

**742** 4:43–4:50 PM

**Emergency Surgical Salvage Procedures for Severe Intracranial Aneurysm Rupture During Endovascular Coiling Procedures**

**Authors**

Eric S. Nussbaum, MD; Michael Madison, MD; Mark Myers, MD; James Goddard, MD; Tariq Janjua, MD

**743** 4:51–4:58 PM

**Respiratory Complications of Onyx Embolization: Analysis, Management, and Outcome of Pulmonary Edema Cases**

**Authors**

Michael P. Bellew, MD; John A. Scott, MD; Troy D. Payner, MD; Thomas J. Leipzig, MD; Andrew J. DeNardo, MD; Aaron Cohen, MD; Itay Melamed, MD; Terry G. Horner, MD

**744** 4:59–5:06 PM

**Pial Synangiosis for Moyamoya Disease with Hemorrhagic Presentation in Children: Long-Term Follow-Up**

**Authors**

Ronald T. Grondin, MD, FRCSC; Edward R. Smith, MD; R. Michael Scott, MD

**745** 5:07–5:14 PM

**Best Treatment for Hemorrhagic Type Moyamoya Disease Based on the Long Term Follow-Up Data**

**Authors**

Shoichiro Kawaguchi, MD, PhD; Toshisuke Sakaki, MD, PhD; Masami Imanishi, MD, PhD; Yasunori Sasaoka, MD, PhD; Takeshi Matsuyama, MD, PhD; Toshikazu Takeshima, MD, PhD; Misato Nobayashi, MD, PhD

**746** 5:15–5:22 PM

**Relationship of Intraoperative Blood Flow and Post-Operative Outcome in Moyamoya Patients Following Revascularization Surgery**

**Authors**

Marco Lee; Raphael Guzman, MD, PhD; Samuel Cheshier, MD, PhD; Gary Steinberg, MD, PhD

**747** 5:23–5:30 PM

**A New Modified Intracerebral Hemorrhage (MICH) Score for Treatment Decisions in Basal Ganglia Hemorrhage—A Randomized Trial**

**Authors**

Der-Yang Cho, MD; Chun-Chung Chen, MD; Han-Chung Lee, MD; Wen-Yuan Lee, MD; Li-Hwe Ho, RN

**AANS/CNS SECTION ON SPINE**

**2:45–5:30 PM**

**Moderator:**

Michael G. Kaiser, MD

**COMPLEX CERVICAL SPINE MANAGEMENT SYMPOSIUM**

2:45–4:10 PM

**Neutral Upright Spinal Alignment and Spinal Balance: The Cervical Spine**

2:45–3:01 PM

**Speaker**

Charles Kuntz, IV, MD

**Indications for 360 Fusions**

3:02–3:18 PM

**Speaker**

Michael W. Groff, MD

**The Role and Limitations of Dynamic Plating**

3:19–3:35 PM

**Speaker**

Praveen V. Mummaneni, MD

**Cervical Myelopathy—Pathogenesis and Treatment Options**

3:36–3:53 PM

**Speaker**

James S. Harrop, MD

**MIS Foraminotomy—The Argument for Motion Preservation**

3:54–4:10 PM

**Speaker**

Michael Y. Wang, MD

**723** 4:11–4:20 PM

**Prospective Assessment of Axial Back Pain Symptoms Before and After Bariatric Weight Reduction Surgery**

**Authors**

Paul Khoueir, MD; Mary Helen Black, MS; Peter F. Crookes, MD; Howard S. Kaufman, MD; Namir Katkhouda, MD; Michael Y. Wang, MD

**724** 4:21–4:30 PM

**Predictors of Outcome with Decompressive Surgery for Cervical Spondylotic Myelopathy: A Prospective Multicenter Study in 283 Patients with Independent Assessment**

**Authors**

Michael G. Fehlings, MD, PhD, FRC; Branko Kopjar, MD, PhD; Tim Yoon, MD; Paul Arnold, MD; Darrel Brodke, MD; Eric Woodard, MD; Christopher Shaffrey, MD; Alexander Vaccaro, MD; Michael Jannsen, DO

**725** 4:31–4:40 PM

**Murine Embryonic Stem Cells for Disc Regeneration in an In-Vivo Rabbit Model of Disc Degeneration**

**Authors**

Mick Perez-Cruet, MD, MSc; Hormoz Sheikh, MD; David Svinarich, PhD; Ramiro Perez De La Torre, DR; Christopher Facek, BS; Rasul Chaudhry, PhD

**726** 4:41–4:50 PM

**MRI Parameters as Predictors of Neurological Improvement in Patients with Traumatic Spinal Cord Injury: A Prospective Study in 60 Consecutive Patients**

**Authors**

Julio C. Furlan, MD, PhD; Bizhan Aarabi, MD; Michael G. Fehlings, MD, PhD

**727** 4:51–5:00 PM

**Influence of Anesthesia on Postoperative Cognitive Decline in Adults Over 50 Who Have Undergone Spinal Surgery**

**Authors**

Lee Hyer, PhD; Sami Walid, MD; Erich Richter, MD; Andrew Brooks; Joe Sam Robinson, MD

**728** 5:01–5:10 PM

**A Receptor for Myelin-Associated Inhibitors Contributes to Parallel Axonal Regeneration on Spinal Cord White Matter**

**Authors**

David B. Pettigrew, PhD; Jeffrey M. Sutton, BS; Charles Kuntz, IV, MD; Keith A. Crutcher, PhD

**729** 5:11–5:20 PM

**Multidisciplinary Approach for Perimedullary AV Fistulas**

**Authors**

Kazutoshi Hida, MD, PhD; Shunsuke Yano, MD, PhD; Yoshinobu Iwasaki, MD, PhD

**730** 5:21–5:30 PM

**The Effect on Missed Diagnosis of Lumbar Disc Herniation with Kinetic MRI**

**Authors**

Jun Zou, MD, MS; Huilin Yang, MD, PhD; Jeffrey C. Wang, MD

**AANS/CNS SECTION ON TUMOR I**

**2:45–5:30 PM**

**Moderators**

Khaled M. Aziz, MD, PhD  
Franco De Monte, MD, FACS

**SYMPOSIUM**

2:45–3:30 PM

**An Expert Panel Discussion on Suprasellar Meningiomas: Thoughts and Strategies for Microscopic Versus Endoscopic Surgical Resection**

**Learning Objectives**

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

- Explain the pros and cons of minimally invasive surgery
- Discuss the anatomical barriers to suprasellar meningiomas
- Discuss safe optic foramenotomy and dissection around the encased optic nerve and/or the internal carotid artery branches

- Discuss the importance of dural repair
- Discuss operative time, cosmetics and postoperative recovery

2:45–2:59 PM

**Endoscopic Resection of Suprasellar Meningiomas**

**Speaker**

Amin Kassam, MD

3:00–3:14 PM

**Microscopic Resection of Suprasellar Meningiomas**

**Speaker**

Ossama Al-Mefty, MD

3:15–3:30 PM

**Endoscopic Assisted Microsurgical Resection of Suprasellar Meningiomas**

**Speaker**

Harry R. van Loveren, MD

**PANEL DISCUSSION**

3:31–3:50 PM

**AWARD PRESENTATIONS AND LECTURES**

3:51–4:00 PM

**Introductions**

Gene H. Barnett, MD, FACS

**FARBER AWARD**

4:01–4:20 PM

**Introductions**

Gene Barnett, MD

**Recipient**

TBD

**706** 4:21–4:30 PM

**American Brain Tumor Association Young Investigator Identification of Inhibitor for Brain Tumor Stem Cells**

**Author**

Ichiro Nakano, MD, PhD

**707** 4:31–4:40 PM

**Persistent Outpatient Hyperglycemia is Independently Associated with Decreased Survival After Surgical Resection of Malignant Brain Astrocytoma**

**Authors**

Matthew J. McGirt, MD; Muraya Gathinji, MS; Frank Attenello, MS; Khoi Than, MD; Kaisorn L. Chaichana, BS; Amado Jimenez Ruiz, BS; Alessandro Olivi, MD; Jon D. Weingart, MD; Henry Brem, MD; Alfredo Quinones-Hinojosa, MD

**708** 4:41–4:50 PM

**Convection Enhanced Delivery of a Highly Specific Ras Inhibitor: Salirasib**

**Authors**

Liat Goldberg, MSc; Aharon Ocherashvilli, PhD; Dianne Daniels, MSc; David Last, PhD; Zvi Cohen, MD; Gregory Tamar, BSc; Yoel Kloog, PhD; Yael Mardor, PhD

**709** 4:51–5:00 PM

**Gamma Knife Surgery for Cushing's Disease: Long-Term Outcomes**

**Authors**

Jason P. Sheehan, MD, PhD; Jay Jagannathan, MD; Nader Pouratian, MD, PhD; Edward Laws, MD; Ladislau Steiner, MD, PhD; Mary Lee Vance, MD

**710** 5:01–5:10 PM

**Preuss Award**

**Interleukin-13 Receptor Alpha2 Expression in Glioblastoma Multiforme**

**Authors**

John K. Park, MD, PhD; John Jarboe, BS; Russell Lonser, MD; Kory Johnson, PhD; Yong Choi, PhD

**711** 5:11–5:20 PM

**Factors Related to Failed Vestibular Schwannoma Radiosurgery**

**Authors**

Bruce E. Pollock, MD; Michael J. Link, MD; Robert L. Foote, MD

**712** 5:21–5:30 PM

**Quantitative Comparison of Kawase's Approach Versus Retrosigmoid Approach**

**Authors**

Steven W. Chang; Anhua Wu, MD; Pushpa Deshmukh, PhD; Mark Preul, MD; Robert F. Spetzler, MD; Nicholas Bambakidis, MD

## AANS/CNS SECTION ON STEREOTACTIC AND FUNCTIONAL SURGERY

2:45–5:30 PM

### Moderators:

Roy A. E. Bakay, MD  
Nicholas M. Boulis, MD

### SYMPOSIUM

2:45–3:50 PM

#### Advances in Neuro-GeneTherapy: Update on Clinical Translation

2:45–2:56 PM

#### Gene Therapy Approaches to the Spinal Cord and Peripheral Nervous System: ALS, Neuropathy and Spinal Cord Injury

##### Speaker

Nicholas M. Boulis, MD

2:57–3:08 PM

#### Gene Therapy for Neurodegeneration: Huntington's, Alzheimer's and Spinal Cerebellar Atrophy

##### Speaker

Jeffrey Kordower

3:09–3:20 PM

#### Gene Therapy for Parkinson's Disease

##### Speaker

Philip A. Starr, MD, PhD

3:21–3:32 PM

#### Gene Therapy for Functional Disorders of the Nervous System: Psychiatry, Movement Disorders and Pain

##### Speaker

Michael G. Kaplitt, MD, PhD

### Question and Answer

3:33–3:50 PM

**713**

3:51–4:00 PM

#### The STEPS Trial: Design of a Phase 2 Study to Evaluate Spheramine®, A Novel Cell-Based Therapy Administered by Stereotactic Implantation into the Striata of Patients with Parkinson's Disease (PD)

##### Authors

Robert E. Gross, MD, PhD; Roy A. E.  
Bakay, MD; Wilhelm Eisner, MD; Robert  
Hauser, MD; Walter Hong; Heinz  
Reichmann, MD; Elke Reissig, MD; Heike  
Steiner; Raymond L. Watts, MD

**714**

4:01–4:10 PM

#### Extra-Temporal Focal Cortical Dysplasia: Long-Term Surgical Outcome

##### Authors

Kostas N. Fountas, MD; Joseph R. Smith,  
MD, FACS

**715**

4:11–4:20 PM

#### Granulocyte Macrophage-Colony Stimulating Factor (GM-CSF) Promotes the Survival of Dopaminergic Neurons in 1-Methyl-4-Phenyl-1,2,3,6- Tetrahydropyridine (MPTP) Induced Parkinson's Disease Rat Model

##### Authors

Yoon Ha, MD, PhD; Na Kyeong Kim,  
MSc; Byung Hyune Choi, PhD; Hyeon-  
seon Park, MD, PhD; Hyung Chun Park,  
MD, PhD; So Ra Park, MD, PhD

**716**

4:21–4:30 PM

#### Long-Term Benefits of Subthalamic Nucleus Deep-Brain Stimulation for Cervical Dystonia

##### Authors

Peter A. Pahapill, MD, PhD; Barbara  
O'Connell, MD

**717**

4:31–4:40 PM

#### Idiopathic and Secondary Upper Limb Segmental Dystonia. The Therapeutic Role of Chronic Motor Cortex Stimulation

##### Authors

Angelo Franzini; Carlo Marras; Giovanni  
Tringali; Giuseppe Messina; Luigi Romito;  
Giovanni Broggi

**718**

4:41–4:50 PM

#### Complications of Subdural Electrode Epilepsy Recording

##### Authors

Larry R. Shannon, II, MD; Richard W.  
Byrne, MD; Michelle Cecchini, BS;  
Matthew Morrin; George S. Selas, BS;  
Andres Kanner, MD; Michael Smith, MD

**719**

4:51–5:00 PM

#### Intrastratial Implantation of Human Retinal Pigment Epithelial (hRPE) Cells Attached to Gelatin Microcarriers (GM) for the Treatment of Parkinson's Disease (PD)

### Authors

Roy A. Bakay, MD; Michael Cornfeldt,  
PhD; Alan Freeman, MD; Elke Reissig,  
MD; Raymond L. Watts, MD

**720**

5:01–5:10 PM

#### Predicting Successful Surgical Treatment of Temporal Lobe Epilepsy

##### Authors

W. Jeff Elias, MD; Charles A. Sansur, MD,  
MHSc; Robert C. Frysynger, PhD; Nathan  
B. Fountain, MD

**721**

5:11–5:20 PM

#### Hypofractionated Stereotactic Radiation for Giant AVMs: Preliminary Results

##### Authors

Rajashree Sarkar, MD; Alessandra Gor-  
gulho, MD; Ana Maria Moura, MD;  
Waren Ishida, MD; Nzhde Agazaryan,  
PhD; Michael T. Selch, MD; Antonio A.F.  
De Salles, MD, PhD

**722**

5:21–5:30 PM

#### Predictors of Peritumoral Edema Following Stereotactic Radiosurgery of Supratentorial Meningiomas

##### Authors

Chirag G. Patil, MD; Stanley Hoang, BS;  
John Borchers, MD; Gordon Sakamoto,  
MD; Steven D. Chang, MD; John R.  
Adler, MD

## NREF RESEARCH SYMPOSIUM 4:00–5:30 PM

The NREF will host its first annual Research Symposium prior to its reception for donors and grant recipients. Awardees completing their fellowships will present the results of their research. The NREF's Scientific Advisory Committee will moderate. It is hoped that this symposium will foster collegial ties among awardees and expose their work to academic faculty and departmental chairs. Following the symposium, new grant recipients and past awardees will join the NREF Board of Directors, corporate partners and Cushing Donors at a reception for donors and grant recipients.

See page 68 for more about NREF.