

Advance Registration
Deadline September 23, 2009

A CULTURE OF EXCELLENCE



Congress of Neurological Surgeons
2009 ANNUAL MEETING
New Orleans, Louisiana
October 24-29, 2009

Preliminary Program

Annual Meeting At-a-Glance

SATURDAY, OCTOBER 24

1:00 – 5:00 PM

Afternoon Practical Courses
(PC01 – PC08)

SUNDAY, OCTOBER 25

8:00 AM – 5:00 PM

Full Day Practical Courses
(PC09 – PC15)

8:00 AM – 12:00 PM

Morning Practical Courses
(PC16 – PC26)

1:00 – 5:00 PM

Afternoon Practical Courses
(PC27 – PC37)

3:00 – 6:00 PM

**CNS Resident SANS Challenge
Preliminary Rounds**

6:30 – 8:30 PM

CNS Opening Reception
Hilton New Orleans Riverside – Grand Ballroom

MONDAY, OCTOBER 26

7:00 – 11:45 AM

**General Scientific Session I:
Defining Excellence in Neurosurgery**

9:00 – 9:30 AM

James T. Rutka

Honored Guest

**Excellence in
Neurosurgical
Research: The Neuro-
Oncology Paradigm**



9:00 AM – 3:00 PM

Exhibit Hall Open

9:30 – 10:30 AM

Coffee with Exhibitors

10:35 – 11:00 AM

APJ Abdul Kalam

*Former President
of India*

**International
Leadership Oration**



11:15 – 11:45 AM

P. David Adelson

Presidential Address

**Defining Excellence in
Neurosurgery**



12:00 – 1:30 PM

Luncheon Seminars

1:30 – 2:30 PM

Coffee and Dessert with Exhibitors

2:30 – 5:30 PM

CNS Original Science Program:

- Top Ten Abstracts
- Neurosurgical Forum

**Special Course I: Cerebral Metastases
Guidelines**

TUESDAY, OCTOBER 27

7:00 – 11:45 AM

**General Scientific Session II:
Pursuing Excellence in Neurosurgery**

9:00 – 9:30 AM

James T. Rutka

Honored Guest

**Excellence in Clinical Neurosurgery: Practice
and Judgment Make Perfect**

9:00 AM – 3:00 PM

Exhibit Hall Open

9:30 – 10:30 AM

Coffee with Exhibitors

10:33 – 10:55 AM

Governor

Bobby Jindal

*Invited Third Annual
Julian T. Hoff Lecturer*



10:57 – 11:12 AM

Basant Kumar Misra

*Neurological Society of
India President Lecture*



11:15 – 11:45 AM

Walter Isaacson

*2009 Walter E. Dandy
Orator*



12:00 – 1:30 PM

Luncheon Seminars

1:30 – 2:30 PM

Coffee and Dessert with Exhibitors

2:30 – 5:30 PM

- **Integrated Medical Learning® Clinical Science Sessions**
- **Section Sessions**
- **Consensus Sessions**
- **Special Course II: Global Disease: Infections**

5:00 – 6:00 PM

CNS Resident SANS Challenge Finals

5:30 – 6:30 PM

CNS Annual Business Meeting

6:00 – 7:00 PM

CNS Resident Recruitment Social

WEDNESDAY, OCTOBER 28

7:00 – 11:45 AM

**General Scientific Session III:
Measuring Excellence in Global Neurosurgery**

9:05 – 9:30 AM

Peter Agre, MD

*Fourth Annual
John Thompson History
of Medicine Lecturer*



9:00 AM – 3:00 PM

Exhibit Hall Open

9:30 – 10:30 AM

Coffee with Exhibitors

10:30 – 10:55 AM

James T. Rutka

Honored Guest
**Excellence in
Neurosurgical Program
Building: Enhancing
the Academic Mission**



11:15 – 11:45 AM

Terry Orlick, PhD

*CNS Michael L.J. Apuzzo
Lecturer on Creativity
and Innovation*



12:00 – 1:30 PM

Luncheon Seminars

1:30 – 2:30 PM

Coffee and Dessert with Exhibitors

2:30 – 5:30 PM

- **Integrated Medical Learning® Clinical Science Sessions**
- **Section Sessions**
- **Consensus Sessions**
- **Operative Techniques with the Masters: 3-D Live Cadaveric Demonstration**

THURSDAY, OCTOBER 29

8:00 – 11:30 AM

General Scientific Session IV

8:00 – 9:00 AM

Digital Masters Video Symposium

9:00 – 10:30 AM

Cases and Coffee with the Masters

10:30 – 11:30 AM

Digital Masters Video Symposium

11:30 AM

Adjourn

QUICK GUIDE TO THE 2009 CNS ANNUAL MEETING

October 24-29, 2009 · New Orleans, Louisiana

Important Dates

Registration Deadline:

September 23

Housing Deadline:

September 30

Cancellation Deadline:

September 30

**First Day of the
2009 CNS Annual Meeting:**

October 24

CNS Web site Shortcuts

**Annual Meeting Home Page and
Online Registration and Housing:**

<http://w3.cns.org/meetings/2009>

Integrated Medical Learning® (IML):

<http://w3.cns.org/meetings/2009/attendees/iml.asp>

**Resident SANS Challenge
Qualifying Rounds:**

<http://sanschallenge.cns.org>

**Online Case Submissions –
Cases & Coffee with the Masters:**

<http://w3.cns.org/meetings/2009/attendees/scienceCase.asp>

Contact Information

General Information:

Congress of Neurological Surgeons
877 517 1CNS – US and Canada
847 240 2500 – International

**CNS Registration and
Housing Center Telephone:**

877 585 6001 – US and Canada
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Addresses

Congress of Neurological Surgeons

10 N. Martingale Road, Suite 190
Schaumburg, IL 60173

CNS Registration and Housing Center

11208 Waples Mill Road, Suite 112
Fairfax, VA 22030

Ernest N. Morial Convention Center

900 Convention Center Boulevard
New Orleans, LA 70130



Education and Innovation



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Welcome!

The Congress of Neurological Surgeons extends a special welcome to our colleagues from the Neurological Society of India (NSI) and the American Association of South Asian Neurosurgeons (AASAN).



Please join us for these special events and courses throughout the CNS Annual Meeting.

PC27 – CNS-NSI Excellence in Global Neurosurgery

Sunday, October 25 1:00 – 5:00 PM
Course Directors: Laligam Sekhar, Basant Kumar Misra,
James T. Rutka, Issam A. Awad

Dr. APJ Abdul Kalam, Former President of India International Leadership Oration

Monday, October 26 10:35 – 11:00 AM
Book Signing 11:45 AM

GSS II: Pursuing Excellence in Delivery of Neurosurgical Care in a Resource Limited Environment

Tuesday, October 27 8:25 – 8:45 AM
Prakash Narain Tandon

NSI President Lecture

Tuesday, October 27 10:57 – 11:12 AM
Basant Kumar Misra, President NSI

CNS International Reception

Wednesday, October 28, See page 54 for details. 6:30 – 8:00 PM

Announcing the CNS Alliance with the Society for Neuro-Oncology and the AANS/CNS Section on Tumors

The CNS is proud to announce its alliance with the 2009 Joint Meeting of the SNO and the AANS/CNS Section on Tumors. We encourage the CNS members to make plans to attend the:

2009 Joint Meeting of the SNO and the AANS/CNS Section on Tumors
October 22-24, 2009 Hilton New Orleans Riverside



The CNS has lined up several new courses and lectures that may be of interest to neuro-oncology specialists. (See page 15 for details.)
Save up to 25% on combined registration fees when you register for both meetings!

PRESIDENT'S MESSAGE

**P. David
Adelson, MD,
FACS, FAAP**

CNS President



Dear Colleague:

It is my honor and privilege to invite neurosurgeons from around the world to join us for the 2009 Congress of Neurological Surgeons Annual Meeting in New Orleans, Louisiana, October 24-29.

I am excited about our theme for this year's meeting, *A Culture of Excellence*, where we will explore how we as neurosurgeons define, pursue, and measure excellence in our practices and specialty. This theme is truly exemplified by this year's Honored Guest, Dr. James T. Rutka. Dr. Rutka is unquestionably a leader in both pediatric neurosurgery and neurosurgery in Canada and worldwide. As a respected global expert on the science and surgery of human brain tumors, education and quality assessment, he brings true synergy to the CNS Annual Meeting and its theme. Dr. Rutka will address us each morning during the General Scientific Session and his insight into excellence within research, clinical neurosurgery and neurosurgical training is sure to be both engaging and inspiring. In addition, as an ongoing part of our mission, the CNS will once again partner with another international neurosurgical society for the Annual Meeting. This year our fellow neurosurgeons at the Neurological Society of India (NSI) will join us to examine how we, as a community of neurosurgeons, assess and achieve excellence in neurosurgery throughout the world. Having participated in the program development process, they will also be playing a prominent role in the scientific program.

The CNS Scientific Program Committee has shaped a powerful program. Our special lecturers, which include 2003 Nobel Laureate, Dr. Peter Agre, and former President of India, Dr. APJ Abdul Kalam, will amplify the meeting theme through their experience in defining and achieving excellence within their respective disciplines. Performance psychologist, Terry Orlick, PhD, will also offer his unique perspective on how we can all achieve higher levels of excellence in surgery and a superior quality of life. This year's invited Julian T. Hoff Lecturer will be Bobby Jindal, the Governor of Louisiana, and for our Walter Dandy Lecturer, we are honored to have Walter Isaacson, renowned author, journalist, businessman and educator to further add to our understanding of excellence through his insights.

Besides the General Scientific Sessions which have been designed to help us explore excellence in all areas of neurosurgical practice, the CNS Original Science Program, highlighted by our Monday afternoon Top Ten Abstracts session and the CNS Neurosurgical Forum, is the year's pre-eminent assembly of novel scientific discovery in neurosurgery, advancing the specialty through international and inter-subspecialty collaboration. As well, there will be Special Courses on the Brain Metastatic Guidelines, Global CNS Disease/CNS Infections, and our ever popular Live 3-D Cadaveric Demonstrations and Cases and Coffee with the Masters, which give practicing surgeons a chance to learn from master neurosurgeons from around the world within each subspecialty to refine their surgical technique and decision-making skills. We will again have innovative sessions designed to give you a voice in advancing the practice of neurosurgery. The Integrated Medical Learning® (IML) sessions, offered on four clinical subspecialty topics, let you contribute your knowledge and experience while also seeing the opinions of your peers reflected in real-time digital polling throughout the session; the CNS Consensus Sessions, covering four critical socioeconomic and political topics, aim to collect statistical data through your participation in interactive polling in order to develop position statements and affect thinking throughout neurosurgery; and lastly, the Section Sessions allow the attendees further interaction and contribution to the understanding of the science and practice of our specialty.

On behalf of the Executive Committee and Dr. Rutka, I encourage you to join me in New Orleans as we work together to explore and achieve excellence in neurosurgery.

Sincerely,

A handwritten signature in black ink, appearing to read "P. David Adelson". The signature is fluid and cursive, written over a white background.

P. David Adelson, MD, FACS, FAAP
CNS President

HONORED GUEST

James T. Rutka, MD, PhD, FRCSC, FACS, FAAP



Born in Toronto, and educated at Princeton University (1975-1977) and Queen's University Medical School (1977-1981), James T. Rutka, MD, PhD, FRCSC, FACS, FAAP, interned at McGill University (1981-1982) before entering the University of Toronto Neurosurgery Training Program in 1982. His training included a research fellowship at the Brain Tumor Research Center, the University of California San Francisco where he obtained his PhD in Experimental Pathology (1984-1987). Upon conclusion of his neurosurgical residency in 1989, Dr. Rutka did a clinical fellowship in microvascular neurosurgery with Dr. Kenichiro Sugita at the University of Nagoya, and a post-doctoral research fellowship in molecular immunology at Juntendo University, Tokyo (1990).

Dr. Rutka assumed his appointment in the Department of Surgery, Division of Neurosurgery in 1990, and has been on the surgical staff at the Hospital for Sick Children in the Division of Pediatric Neurosurgery since that time. Dr. Rutka's primary research and clinical interests relate to the science and surgery of human brain tumors. His laboratory interests lie in the molecular biology of human brain tumors – specifically in the determination of the mechanisms by which brain tumors grow and invade. His recent clinical interests have centered on the surgical treatment of epilepsy in children. He has over 250 peer-reviewed publications. His laboratory has been continually funded with grants from the CIHR, NCIC, OICR and the Pediatric Brain Tumor Foundation (since 1992). He is on the editorial boards of the *Journal of Neurosurgery*, **NEUROSURGERY**[®], the *Journal of Neuro-Oncology* and *Neuro-Oncology*.

Dr. Rutka was appointed as Co-Director of the Arthur and Sonia Labatt Brain Tumor Research Centre at the University of Toronto in 1998. In 1999, he received a Scientist Award from the Medical Research Council of Canada. That same year, Dr. Rutka was promoted to Professor in the Department of Surgery, and was appointed Chairman of the Division of Neurosurgery at the University of Toronto. He currently holds the Dan Family Chair in Neurosurgery. In 2001, Dr. Rutka received the Lister Award in the Department of Neurosurgery for sustained contributions to surgical research at the University of Toronto. In 2002, Dr. Rutka was listed by Globe and Mail as one of the Nation Builders in Canada, in the section of Science and Technology. In 2004, he was honored with the Grass Award from the Society of Neurological Surgeons. In 2005, he received the Farber Award from the AANS/CNS Section on Tumors for longstanding contributions to neuro-oncology research. In 2006, Dr. Rutka was appointed to the position of Secretary of the American Association of Neurological Surgeons and was awarded the International Order of Smile, an award which honors individuals for their love, care and aid of children.

Don't Miss These Presentations by our Honored Guest!

SUNDAY, OCTOBER 25

8:00 AM – 12:00 PM

PC 26 – UPDATE: Pediatric Neuro-Oncology

1:00 – 5:00 PM

PC 27 – CNS-NSI Excellence in Global Neurosurgery

MONDAY, OCTOBER 26

9:00 – 9:30 AM

GSS I: Excellence in Neurosurgical Research: The Neuro-Oncology Paradigm

12:00 – 1:30 PM

M01 – Resident/Honored Guest Luncheon

TUESDAY, OCTOBER 27

9:00 – 9:30 AM

GSS II: Excellence in Clinical Neurosurgery: Practice and Judgment Make Perfect

WEDNESDAY, OCTOBER 28

10:30 – 10:55 AM

GSS III: Excellence in Neurosurgical Program Building: Enhancing the Academic Mission

2:30 – 4:00 PM

Section on Tumors – Achieving Excellence in Craniopharyngioma

THURSDAY, OCTOBER 29

9:00 – 10:30 AM

Cases and Coffee with the Masters – Functional/Epilepsy and Pain

10:30 – 10:40 AM

Digital Masters Video Symposium – Epilepsy

INTERNATIONAL
LEADERSHIP ORATION

APJ Abdul Kalam, PhD

Former President of India

Monday, October 26
10:35 – 11:00 AM



Avul Pakir Jainulabdeen Abdul Kalam, PhD was born on October 15, 1931 in Rameswaram in Southern India. Dr. APJ Abdul Kalam served as India's 11th President from 2002 to 2007, and continues to work tirelessly towards the goals he helped define for the transformation of India into a developed nation by 2020.

An aeronautical engineer by training, Dr. Kalam has made significant lifelong contributions to the Indian Space and Defense Programs. His seminal contributions in these arenas have been singularly important in propelling India to the center of the world stage both from a scientific and an economic standpoint. He was the key figure in the establishment of the Indian indigenous space program in 1980.

In various strategic leadership positions with the Government of India throughout his illustrious career, Dr. Kalam has focused on working individually and collaboratively to ensure India's status as an independent, self-reliant, peaceful, regional superpower. His most significant material contributions include the launch of India's first satellite, the development of a defensive missile program, exploration of nuclear power for peaceful purposes and the development of an indigenously built and serviced Air Force. His leadership of the Technology Vision 2020 project has provided a road map for transforming India into a developed nation. Dr. Kalam served as the Principal Scientific Advisor to the Government of India, in the rank of Cabinet Minister, from November 1999 to November 2001 and was responsible for evolving policies, strategies and missions for many development applications.

Dr. Kalam has authored a number of books, including *Wings of Fire*, *My Journey*, *India 2020 - A Vision for the New Millennium*, *Ignited Minds - Unleashing the Power Within India*, *Indomitable Spirit*, *Guiding Soul*, *Envisioning an Empowered Nation*, *Inspiring Thoughts*, *Children Ask Kalam*, *You Are Born to Blossom* and *Life Tree*, a collection of his poems. Many of his books have been translated into various Indian and other languages. Although his books reveal a broad interest in India and her citizens, Dr. Kalam holds most dear the development and education of children internationally. He continues to invest significant effort in igniting young minds for national development by meeting high school students across India and around the world.

Dr. Kalam is one of the most distinguished scientists in India and has received honorary doctorates from 36 universities and other institutions. The Royal Society, UK, awarded him the King Charles II Medal for Science and Technology in October 2007. He has also been awarded the highest civilian honors in India: the Padma Bhushan (1981), Padma Vibhushan (1990) and Bharat Ratna (1997).

Although he is one of the most influential and decorated sons of India, Dr. Kalam is renowned for his basic humility and strength of character that continues to inspire present and future generations.

*“Where there is righteousness in the heart, there is beauty in the character.
When there is beauty in the character, there is harmony in the home.
When there is harmony in the home, there is order in the nation.
When there is order in the nation, there is peace in the world.”*

– APJ Abdul Kalam



Join us for a book signing!

APJ Abdul Kalam, PhD

Monday, October 26

11:45 AM

INVITED THIRD ANNUAL
JULIAN T. HOFF LECTURER

Bobby Jindal

Governor of Louisiana

Tuesday, October 27
10:35 – 10:55 AM



Bobby Jindal was born in Baton Rouge on June 10, 1971. He graduated from Baton Rouge High School in 1988 and went on to attend Brown University where he graduated with honors in biology and public policy. Following his graduation from Brown he attended Oxford University in England as a Rhodes Scholar, having turned down admissions to medical and law schools at both Harvard and Yale.

In 1994, Governor Jindal went to work for McKinsey and Company as a consultant for Fortune 500 companies before entering public service. In 1996, he was appointed Secretary of the Louisiana Department of Health and Hospitals (DHH). During Governor Jindal's tenure as DHH Secretary, he rescued Louisiana's Medicaid program from bankruptcy, childhood immunizations increased, Louisiana ranked third best nationally in health care screenings for children, and new and expanded services for elderly and disabled persons were offered.

In 2004 he was elected to the 109th United States Congress representing the First District of Louisiana. In Congress he was elected Freshman Class President and served on the House Committee on Education and the Workforce, the House Committee on Homeland Security, and the House Committee on Resources. His noteworthy accomplishments include the passage of legislation to bring significant offshore energy revenues to Louisiana for the first time and legislation that keeps Federal Emergency Management Agency from taxing certain recovery grants as income. Governor Jindal was re-elected to Congress in 2006 with 88 percent of the vote.

Governor Jindal was sworn in as Governor of Louisiana on January 14, 2008. Shortly after taking office, Governor Jindal called a Special Session to address comprehensive ethics reform, the cornerstone of his election platform. Since the conclusion of the session, the Better Government Association and the Center for Public Integrity announced that Louisiana's new ethics laws are among the best in the nation.

Governor Jindal and his wife, Supriya, have three young children.

TENTH ANNUAL
WALTER E. DANDY ORATOR

Walter Isaacson

President and CEO of
the Aspen Institute

Tuesday, October 27
11:15 – 11:45 AM



Walter Isaacson is the President and CEO of the Aspen Institute. He has been the Chairman and CEO of CNN and the editor of Time Magazine. He is the author of *Einstein: His Life and Universe* (2007), *Benjamin Franklin: An American Life* (2003) and *Kissinger: A Biography* (1992). He is also the co-author of *The Wise Men: Six Friends and the World They Made* (1986).

Mr. Isaacson was born on May 20, 1952, in New Orleans. He is a graduate of Harvard College at Harvard University and of Pembroke College of Oxford University, where he was a Rhodes Scholar.

Mr. Isaacson began his career at the Sunday Times of London and then the New Orleans Times-Picayune/States-Item. He joined Time Magazine in 1978 and served as Political Correspondent, National Editor and Editor of New Media before becoming the magazine's 14th Managing Editor in 1996. He became Chairman and CEO of CNN in 2001, and then President and CEO of the Aspen Institute in 2003.

After Hurricane Katrina in 2005, he was appointed by former Governor of Louisiana Kathleen Blanco to be the Vice-Chairman of the Louisiana Recovery Authority. In December 2007, he was appointed by former President George W. Bush to be the Chairman of the US-Palestinian Partnership, a government and private sector effort to provide economic and educational opportunities for the Palestinian people. Currently, he is Chairman of the Board for Teach for America and is on the boards of United Airlines, Tulane University and Science Service. He is also on the advisory councils of the National Institutes of Health, National Constitution Center and Shakespeare Theatre in Washington, DC.

He lives with his wife and daughter in Washington, DC.



Join us for a book signing!

Walter Isaacson

Tuesday, October 27

11:45 AM

**FOURTH ANNUAL
JOHN THOMPSON HISTORY
OF MEDICINE LECTURER**

Peter Agre, MD

Molecular Biologist

**Wednesday, October 28
9:05 – 9:30 AM**



Peter Agre, MD was awarded the Nobel Prize in Chemistry in 2003 for his discovery of aquaporins. Currently Vice Chancellor of Science & Technology at Duke University, Dr. Agre trained and started his career in medicine, but moved to laboratory-based research soon after.

Dr. Agre earned an MD degree from Johns Hopkins University School of Medicine in 1974. In 1981, following postgraduate training and a fellowship, he returned to Johns Hopkins. In 1993, he advanced to Professor of Biological Chemistry and in 2000, he was elected to the National Academy of Sciences.

In the 1980s, Dr. Agre began conducting his pioneering research on water channels in cell membranes. First mentioned by scientists in the mid-1800s, these specialized openings allow water to flow in and out of cells. They are essential to living organisms, and scientists sought to find the channels, determine their structure and understand how they worked. In 1988, Dr. Agre was able to isolate a type of protein molecule in the cell membrane that he later came to realize was the long-sought water channel. His research included comparing how cells with and without the protein in their membranes responded when placed in a water solution. He discovered that cells with the protein swelled up as water flowed in, while those lacking the protein remained the same size. Dr. Agre named the protein "aquaporin." Researchers subsequently discovered a whole family of the proteins in animals, plants and even bacteria. Two different aquaporins were later found to play a major role in the mechanism by which human kidneys concentrate urine and return the extracted water to the blood.

Dr. Agre's current research is focused on the structural and functional characterization of aquaporins.

**GNS MICHAEL L.J. APUZZO
LECTURER ON CREATIVITY
AND INNOVATION**

Terry Orlick, PhD

**Professor and Performance
Enhancement Researcher**

**Wednesday, October 28
11:15 – 11:45 AM**



Terry Orlick, PhD, is a world-renowned leader in focus training and high-level performance psychology. Dr. Orlick has served as a focus coach and performance enhancement consultant for over 30 years to thousands of Olympic and professional athletes and coaches. He has also conducted research and worked with high level performers in a multitude of other high performance disciplines including business executives, performing artists, astronauts, mission control and surgeons. His life's work has centered on creating a culture of excellence and teaching and coaching the key mental skills required to attain and sustain the highest levels of excellence.

Former President of the International Society for Mental Training and Excellence, Dr. Orlick has authored hundreds of applied articles and more than 20 highly acclaimed books, including the best selling *In Pursuit of Excellence* (2008), *Embracing Your Potential* (1998) and *Positive Living Skills: for Children, Youth and Adults* (2009).

Dr. Orlick is a Professor and Performance Enhancement Researcher in the Faculty of Health Sciences - School of Human Kinetics at the University of Ottawa, Canada, and Founder and Editor of the innovative online *Journal of Excellence*. He holds degrees from Syracuse University, the College of William and Mary and the University of Alberta. Dr. Orlick has received distinguished service awards from numerous organizations. He has given lectures and workshops on the positive pursuit of excellence in virtually every corner of the world.



Join us for a book signing!

Terry Orlick, PhD

Wednesday, October 28

11:45 AM

CNS PRESIDENT

P. David Adelson, MD, FACS, FAAP



P David Adelson, MD, FACS, FAAP, is honored to serve the Congress of Neurological Surgeons as its President for 2008–2009. He has served on the Executive Committee of the CNS in numerous roles since 1997, including Member-at-Large, Chair of the Bylaws, Publications and Strategic Planning Committees, Secretary (2003-2006), Vice President (2006-2007) and President Elect (2007- 2008). In addition, he is the Past-Chairman of the AANS/CNS Section on Neurotrauma and Critical Care, serves on the editorial board of **NEUROSURGERY**[®], and has been active nationally on the behalf of Neurosurgery, serving on the Washington Committee as Co-Chair of the Guidelines Committee, Executive Committee of the Section of Neurosurgery for the AAP, and the Committee on Trauma for the American College of Surgeons.

Dr. Adelson is Director of the Children’s Neuroscience Institute and Chief, Pediatric Neurosurgery at Phoenix Children’s Hospital. Before leaving Pittsburgh, he was the A. Leland Albright Professor of Neurosurgery/Pediatric Neurosurgery at the University of Pittsburgh, School of Medicine and Children’s Hospital of Pittsburgh. Dr. Adelson received his BA from Columbia College in 1982, and his MD in 1986 from the College of Physicians and Surgeons, Columbia University. He completed his neurosurgical residency at the University of California, Los Angeles in 1993 under the chairmanship of Dr. Donald P. Becker and then pursued pediatric neurosurgery fellowship at the Children’s Hospital of Boston, Harvard Medical School under the guidance of Drs. R. Michael Scott and Peter McLaren Black. He is also a Fellow of both the American College of Surgeons (FACS) and the American Academy of Pediatrics (FAAP).

Following fellowship training, Dr. Adelson joined the faculty of the University of Pittsburgh, Department of Neurological Surgery, and Children’s Hospital of Pittsburgh, first as an Assistant Professor in 1994 under Dr. Peter J. Jannetta, and then through promotion as Associate Professor with tenure in 1999, Full Professor in 2003, and finally the Albright Professor of Neurosurgery/Pediatric Neurosurgery in 2007 under Dr. L. Dade Lunsford. At the time he left the University, Dr.

Adelson was the Vice Chairman (Research) where he had been part of the growth of one of the most successful neurosurgical departments in terms of extramural funding; the Director of the Walter L. Copeland Neurosurgical Laboratories, and the Director of the Center for Injury Research and Control (CIRCL), a CDC funded ICRC at the University of Pittsburgh. He left the University in 2008 to join Phoenix Children’s Hospital in its efforts to develop a comprehensive Children’s Neuroscience Institute where he is the Director, as well as Chief, Pediatric Neurosurgery.

Dr. Adelson is a nationally and internationally recognized expert in pediatric neural injury, with a special interest in neural recovery and plasticity after traumatic brain injury in children. He has had active and funded basic science laboratory and clinical research programs focused on pediatric TBI and hypothermia, synaptic connectivity and neurogenesis. He is presently the Principal Investigator of an NIH funded multi-center randomized clinical trial studying the effect of moderate hypothermia following severe TBI in children. He has been the recipient of multiple awards, including The Best Doctors in America, Young Investigator Award from the Brain Injury Association and CNS Clinical Investigation Award. His research has resulted in numerous publications; he has authored over 125 publications in refereed journals and over 45 book chapters/invited articles and edited 8 books.

Born in Long Island, New York, and following moves to New York City, Los Angeles, Boston for training, and Pittsburgh for 14 ½ years, Dr. Adelson now lives in Phoenix, Arizona, with his wife Barbara whom he met in Los Angeles. Barbara, originally from Westport, Connecticut, trained as a nurse but found a new career as an executive for non-profits in the Pittsburgh area, previously the President of the Ladies Hospital Aid Society and the ACMS Alliance, and this year as President of the CNS Auxilliary. They have five children, Casey, Brittany, David, Samuel, and Richard.

CNS PRESIDENT-ELECT

Gerald E. Rodts, Jr., MD



Gerald E. (Rusty) Rodts, Jr., MD, is honored to serve as President-Elect of the CNS. He is Professor of Neurological Surgery and Orthopedic Surgery at Emory University, School of Medicine, where he has worked since 1994.

Dr. Rodts majored in Biology at Princeton University where he also received a certificate for Science in Human Affairs. He completed his medical degree at The College of Physicians and Surgeons of Columbia University in New York City. He thanks Bennett Stein, MD, Donald Quest, MD, Peter Carmel, MD, and others for stimulating his interest in neurosurgery. Dr. Rodts received his neurosurgery training at the University of California, Los Angeles under the tutelage of Donald Becker, MD, Ulrich Batzdorf, MD, Neal Martin, MD, Keith Black, MD, Duncan McBride, MD, John Frazee, MD and others. He is also grateful to the late Ed Dawson, MD,

UCLA Professor of Orthopedic Surgery, for his teachings in spine surgery. Dr. Rodts completed a post-graduate fellowship in spine surgery under Regis Haid, MD at Emory University in Atlanta in 1995. He joined the Emory faculty the same year.

Dr. Rodts has held numerous volunteer and elected positions in the Congress of Neurological Surgeons. He has served as Vice-President, Secretary, Member-at-Large, Ex-Officio, Chairman of the Bylaws Committee and Chairman of the CNS delegation to the CSNS. He has also served as Chairman of the Scientific Program Committee and as Annual Meeting Chairman. He has held numerous positions on the Scientific Program Committee and Sergeant-at-Arms Committee. In addition to his work with the CNS, Dr. Rodts has served as Chairman, Treasurer, Scientific Program Chairman and Annual Meeting Chairman of the Joint Section on Disorders of the Spine and Peripheral Nerves. He has served as the President of the Georgia Neurosurgical Society, and is a member of the Academy of Neurological Surgeons and the Society of Neurological Surgeons.

Dr. Rodts' clinical and academic interests include degenerative pathology of the spine, rheumatoid arthritis, congenital abnormalities of the cervical spine and skull base and minimally-invasive and computer-assisted image guidance of the spine. He has published numerous peer-reviewed articles and book chapters and has co-edited several textbooks and surgical atlases. He was an original founder and developer of the award winning educational web site SpineUniverse.com. He is on the editorial board of *The Journal of Spinal Disorders and Techniques*, *The Japanese Spine Journal*, and he is a frequent reviewer for **NEUROSURGERY**[®]. He is Director of the Post-Graduate Fellowship in Spine Surgery at Emory University, Department of Neurosurgery.

Born in Wichita, Kansas, and having moved frequently during his youth around the Midwest and Northeast, Dr. Rodts enjoys life in Atlanta with his wife Kelly and his three boys Teddy, Duncan and Brady and daughter Lane. The Rodts family is avidly engaged in baseball, golf, soccer, football and winter and ocean sports.

ANNUAL MEETING CHAIRMAN

Nathan R. Selden, MD, PhD, FACS, FAAP



Nathan R. Selden, MD, PhD, FACS, FAAP, is honored to serve as the 2009 Annual Meeting Chairman. Dr. Selden is the Campagna Associate Professor and Head of Pediatric Neurosurgery at Oregon Health & Science University, as well as residency Program Director and Vice Chairman for Education in the Department of Neurological Surgery.

Dr. Selden graduated 'With Distinction' from Stanford University and then spent three years as a British Marshall Scholar at Cambridge University, where he completed a PhD in Neuroscience and rowed for Jesus College. At Harvard Medical School, he was awarded the John E. Thayer Scholarship and graduated *cum laude* in Neuroanatomy. Dr. Selden trained at the University of Michigan under the chairmanship of Dr. Julian Hoff and was introduced to pediatric neurosurgery by Dr. Karin Muraszko. His post-doctoral work on human basal ganglia anatomy was recognized in 1998 by the American Academy of Neurological Surgery Award. He also served as a clinical fellow in pediatric neurosurgery at Children's Memorial Hospital in Chicago.

Dr. Selden continues a career-long interest in functional neurochemistry. His current work on pain modulatory centers in the amygdala and brainstem has been funded by the NIH, the Oregon Child Health Research Center, the Cameron Foundation and the Oregon Bioscience Innovation Fund. His clinical focus is functional neurosurgery for children, including epilepsy and spasticity. In November 2006, he performed the first implantation of neuronal stem cells in a human patient, as co-Principal Investigator of a trial treating Batten's Disease. He is also interested in clinical evidence regarding spinal dysraphism and is an author of the *Pediatric Traumatic Brain Injury Guidelines*.

Dr. Selden has served the Congress of Neurological Surgeons as a member of the Executive and Strategic Planning Committees; as Chairman of the SANS, Education, and Scientific Program Committees; and as a member of the Information Technology and Project Coordination Committees, as well as of the Committee on Long Range Planning and Development of **NEUROSURGERY**[®]. He is also Chairman of the Bylaws Committee of the Joint Section on Pediatric Neurosurgery. He is a member of the Society of Neurological Surgeons, the American Society of Pediatric Neurosurgeons, the Society of University Neurosurgeons, the Western Neurosurgical Society and the Harvard Aesculapian Society and is a Fellow of the American College of Surgeons, the American Academy of Pediatrics and the Cambridge Philosophical Society. He has a significant interest in lifelong neurosurgical education, and serves as Editor of the SNS Program Director's Toolkit, as past Editor of the Self-Assessment in Neurological Surgery (SANS), as a member of the Task Force on Neurosurgical Resident Education, and on the editorial boards of *Pediatric Neurosurgery* and *Congress Quarterly*.

Dr. Selden is married to his medical school classmate, Dr. Karen Selden, a plastic and reconstructive surgeon. His interests include teaching their three children, Ryan (10), Lauren (9), and Megan (5), to ski, hike and raft in the Oregon Cascades, mystery novels and Italian language and culture.

SCIENTIFIC PROGRAM
CHAIRMAN

Ali R. Rezai, MD



Ali R. Rezai, MD is the Jane and Lee Seidman Chair in Functional Neurosurgery and the Director of Neurological Innovations at the Cleveland Clinic.

Dr. Rezai majored in Biology at UCLA, earned his medical degree with honors from the University of Southern California and underwent neurosurgical training at New York University, under the direction of Joseph Ransohoff and Patrick Kelly. He completed his subspecialty training in functional neurosurgery at the University of Toronto with Ronald Tasker and Andres Lozano. He then joined the neurosurgical faculty at New York University Medical Center and became the Director of the Center for Functional and Restorative Neurosurgery until January 2000 when he joined the faculty at the Cleveland Clinic.

Dr. Rezai's clinical areas of expertise are the neurosurgical management of patients with severe movement disorders such as Parkinson's disease and dystonia, psychiatric conditions such as depression and obsessive compulsive disorder, traumatic brain injury and chronic pain. Dr. Rezai has been named one of the best doctors in America in Castle and Connolly's *Guide to America's Top Doctors for 2001-2008*.

Dr. Rezai's research focuses on mechanisms of neurostimulation, delineation of abnormal brain circuitry underlying disease processes as well as the autonomic nervous system. He is actively engaged in developing neuromodulation devices and translational research involving novel brain, spinal cord, peripheral nerve and autonomic nervous system neuromodulation approaches.

Dr. Rezai is the author of over 100 journal publications and more than 20 book chapters. He has edited a book on neurosurgery for psychiatric disorders as well the two volume textbook entitled *Neuromodulation*. Dr. Rezai has been a principal or co-investigator on seven NIH grants, and was the principal investigator for the State of Ohio Brain Neuromodulation Center Grant. He has delivered over 300 lectures nationally and internationally and has chaired numerous symposia and meetings. Dr. Rezai is on the Editorial Board of **NEUROSURGERY**[®], *Neuromodulation* and other journals. He has received numerous clinical, scientific and innovation awards. Dr. Rezai holds 12 issued US patents.

Dr. Rezai has been actively involved with the Congress of Neurological Surgeons and has served on its Executive Committee for the past seven years. Dr. Rezai is currently the Vice President for the American Society of Stereotactic and Functional Neurosurgery (ASSFN) as well as the North American Neuromodulation Society (NANS).

2009 CNS Annual Meeting Committee



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Nathan R. Selden



Scientific Program Chairman
Ali R. Rezaei

Scientific Program Vice Chairman
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Scientific Program Strategic Planning/Oversight
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Nicholas M. Boulis, *Advisor*

General Scientific Session I
Frederick F. Lang
General Scientific Session II
Ian F. Pollack
General Scientific Session III
Nicholas M. Boulis
General Scientific Session IV
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Michael Y. Wang
Peripheral Nerves
Lynda J. Yang
Neurotrauma and Critical Care
David O. Okonkwo
Pain
Julie G. Pilitsis
Pediatric Neurological Surgery
Sarah J. Gaskill
Mark D. Krieger
Stereotactic and Functional Neurosurgery
Aviva Abosch
Michael G. Kaplitt
Tumors
William T. Curry, Jr.
Council of State Neurosurgical Societies
Michael P. Steinmetz

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Spine
Charles L. Branch
Peripheral Nerves
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Neurotrauma and Critical Care
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Pain
Andre Machado
Pediatric Neurological Surgery
Alan Cohen
Stereotactic and Functional Neurosurgery
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Tumors
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Adam S. Kanter
Timothy H. Lucas, II
Praveen V. Mummaneni
Theodore H. Schwartz
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Michael W. Groff
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Saleem I. Abdulrauf, *Chairman*
Ganesh Rao, *Vice Chairman*
James K. Liu
Brian T. Ragel

Digital Masters Video Symposium
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Brian T. Ragel, *Vice Chairman*
Ganesh Rao, *Advisor*

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Leon E. Moores, *Co-Chairman*
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Sergeant-at-Arms
John A. Boockvar, *Chairman*
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Vijendra P. Singh

CME/Education Liaison
Nathan R. Selden

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Anil Nanda, *Chairman*

Past Presidents' Liaison
Richard G. Ellenbogen

Auxiliary Program Chair
Karen B. Selden, MD

Allied Health Care CME Liaison
Andrea L. Strayer, MSN, APNP, CNRN

The Congress of Neurological Surgeons welcomes our colleagues from the Society for Neuro-Oncology (SNO) and the AANS/CNS Section on Tumors to New Orleans for the



2009 Joint Meeting of the SNO and the AANS/CNS Section on Tumors



October 22-24, 2009 Hilton New Orleans Riverside

The CNS will offer special registration rates to those who attend both meetings! Save up to 25% on combined registration fees when you register for both meetings! The SNO and AANS/CNS Section on Tumor attendees may also find these 2009 CNS Annual Meeting sessions of value!

SATURDAY, OCTOBER 24

PC03 National Institutes of Health Grant Writing Course
1:00 – 5:00 PM *Complimentary!*

SUNDAY, OCTOBER 25

PC09 UPDATE: Brain Tumor
8:00 AM – 5:00 PM

PC22 Surgical Approaches to the Ventricular System
8:00 AM – 12:00 PM

PC25 UPDATE: Cranial Radiosurgery
8:00 AM – 12:00 PM

***PC26 UPDATE: Pediatric Neuro-Oncology**
8:00 AM – 12:00 PM

MONDAY, OCTOBER 26

GSS I: Defining Excellence in Surgical Neuro-Oncology
7:05 – 7:25 AM

Honored Guest Lecture – Excellence in Neurosurgical Research: The Neuro-Oncology Paradigm
9:00 – 9:30 AM

M11 Surgery for Tumors in Eloquent Cortex
12:00 – 1:30 PM

M12 Vestibular Schwannoma Management
12:00 – 1:30 PM

M14 Meningioma Management
12:00 – 1:30 PM

CNS Top Ten Abstracts and Neurosurgical Forum – Section on Tumors
2:30 – 5:30 PM

Special Course I: Cerebral Metastases Guidelines
2:30 – 5:30 PM

TUESDAY, OCTOBER 27

T21 Spinal Cord Tumor Management
12:00 – 1:30 PM

T31 Skull Base Approaches
12:00 – 1:30 PM

T32 State-of-the-Art Management of Brain Metastases
12:00 – 1:30 PM

T34 Management of Low Grade Gliomas: Current Strategies and Dilemmas
12:00 – 1:30 PM

WEDNESDAY, OCTOBER 28

W44 Pediatric Brain Tumor Treatment Strategies
12:00 – 1:30 PM

W52 Malignant Gliomas: Future Treatment Strategies
12:00 – 1:30 PM

W53 Radiosurgery in Neuro-Oncology
12:00 – 1:30 PM

**Complimentary to the first 20 Course Registrants who register for both the CNS Annual Meeting and the Joint Meeting of the Society for Neuro-Oncology and the AANS/CNS Section on Tumors.*



Attention Nurses and Physician Extenders!



As the makeup of the neurosurgical care team evolves in the face of resident work hour restrictions, nurses, physician assistants and other physician extenders play an increasingly critical role in the OR. The 2009 CNS Annual Meeting offers a number of special sessions and courses that can help nurses and physician extenders navigate the dynamic field of neurological surgery and improve patient care. Be sure to check out these optional courses and more throughout the program.

PC05

Saturday, October 24

1:00 – 5:00 PM

Practical Neurosurgical ICU Management: The Basics (for MDs in Training, RNs, APRNs, and PAs)

PC11

Sunday, October 25

8:00 AM – 5:00 PM

Inpatient and Outpatient Management Dilemmas: For Nurses, APRNs and Physician Assistants

M10

Monday, October 26

12:00 – 1:30 PM

TBI/ICP Management for Allied Health Professionals

Consensus Session I

Tuesday, October 27

2:30 – 4:00 PM

The Role of Mid-level Health Care Providers in Modern Neurosurgery Practice

Nurses and Physician Extenders also receive discounted rates on all Luncheon Seminars.

2009 CNS Annual Meeting Resident Program

Resident education and professional development are top priorities of the Congress of Neurological Surgeons and the 2009 CNS Annual Meeting offers residents a host of opportunities to enhance their leadership skills, advance their education and further their careers.

Take advantage of these outstanding opportunities throughout the course of the meeting to advance your neurosurgical training:

General Scientific Session II

Tuesday, October 27 7:05 – 7:25 AM
Pursuing Excellence in Neurosurgical Training

General Scientific Session III

Wednesday, October 28 7:25 – 7:45 AM
Measuring Excellence in Neurosurgical Competency and Certification

Sergeant-at-Arms Program

Sergeant-at-Arms volunteers contribute to the overall success of the Annual Meeting by performing simple, but vital organizational tasks. By assisting the CNS you will receive complimentary admission to the Practical Course or Luncheon Seminar to which you are assigned. To become a Sergeant-at Arms volunteer, check the box on the registration form.



Optional Courses:

PC01

Saturday, October 24 1:00 – 5:00 PM
3-D Anatomy (Supratentorial)

PC03

Saturday, October 24 1:00 – 5:00 PM
National Institutes of Health Grant Writing Course *Complimentary!*

PC21

Sunday, October 25 8:00 AM – 12:00 PM
Introduction to Endovascular Neurosurgery: Hands-on Simulators and the Treatment of Intracranial and Extracranial Cerebrovascular Disease for Residents

PC29

Sunday, October 25 1:00 – 5:00 PM
3-D Anatomy (Infratentorial)

M01

Monday, October 26 12:00 – 1:30 PM
Resident/Honored Guest Luncheon – Complimentary to the CNS Resident Members!

T30

Tuesday, October 27 12:00 – 1:30 PM
Emerging Technologies in Treatment of Neurotrauma

Special Events:

CNS Resident SANS Challenge Finals

Tuesday, October 27 5:00 – 6:00 PM

CNS Resident Recruitment Social

Tuesday, October 27 6:00 – 7:00 PM

CNS Resident Members Enjoy the Following Benefits at the Annual Meeting:

- Complimentary registration to the first 100 Resident Members! Sponsored by Synthes.
- Complimentary Housing to Resident Members (Limited Availability – see page 72 for details).
- Reduced Rates on all Luncheon Seminars!

Become a Resident Member Today!

If you are not already a Resident Member of the CNS, you are missing out on valuable education and career development opportunities, like a complimentary subscription to **NEUROSURGERY**[®] and discounts on the CNS Annual Meeting.

Submit your completed membership application by August 1, 2009 to be eligible for complimentary resident housing at the Annual Meeting.



SATURDAY

October 24

Practical Courses

1:00 – 5:00 PM

PC01

\$425

3-D Anatomy (Supratentorial)

Course Director(s): *Albert L. Rhoton, Jr.*

Learning Objective: This course will provide three-dimensional microsurgical instruction on anterior and posterior cerebrum and temporal lobe corridors, third ventricle and pineal region, anterior skull base and cavernous sinus, and transsphenoidal, transmaxillary and transoral approaches. Upon completion of this course, participants will be able to describe the anatomy of these areas and identify the complexities of the three-dimensional neurovascular relationships of each region.

PC02

\$425

Operating in Eloquent Cortex

Course Director(s): *Michael M. Haglund*

Faculty: *Gerald A. Grant, Guy M. McKhann, II, A.N. Jha*

Learning Objective: This course will provide an in-depth review of techniques and technologies for the identification and manipulation of eloquent regions within the cerebral hemispheres. Upon completion of this course, participants will be able to list available technologies for performing safer and more effective procedures within and around eloquent cortex and describe their use.

PC03

Complimentary!

National Institutes of Health Grant Writing Course

Course Director(s): *Ralph G. Dacey, Jr., Robert M. Friedlander*

Special Speaker: *Story C. Landis, PhD*

Faculty: *Robert J. Dempsey, E. Antonio Chiocca, Murat Gunel, Gregory J. Zipfel, Edward R. Smith, Steven J. Korn, PhD*

Learning Objective: Balancing a research career and clinical neurosurgery is challenging. A key to success is to master the art of grant writing. This course is lead by faculty who have successfully obtained funding from the NIH and sit on NIH study sections that review grants. After this session, participants will be able to describe the methods for writing successful grants, both for the NIH and private foundations. Participants will be able to prepare their own grant applications based on tips and tricks that have helped the faculty write their own successful grants. Participants are encouraged to bring their own grants-in-progress; time will be set aside for the faculty to review these grants and provide individual instruction.

No CMEs will be awarded to physician participants.

PC04

\$425

Surgical Indications, Techniques and Alternatives for Cranial Vascular Malformations

Course Director(s): *Rafael J. Tamargo, E. Sander Connolly, Jr.*

Faculty: *H. Hunt Batjer, Philippe Gailloud, Christer A. Lindquist, Robert A. Mericle, R.N. Bhattacharya*

Learning Objective: Participants will be able to discuss the epidemiology and presentation of cranial arteriovenous malformations (AVMs) and arteriovenous fistulas (AVFs), as well as microsurgical, endovascular, and radiosurgical treatment options, and outcomes. The spectrum of transcranial microsurgical approaches, endovascular interventions, and radiosurgical treatments will be reviewed and compared, allowing participants to evaluate the advantages and disadvantages inherent in each approach. Participants will also be able to discuss complication avoidance and management or peri-operative and intraoperative challenges.

PC05

\$375

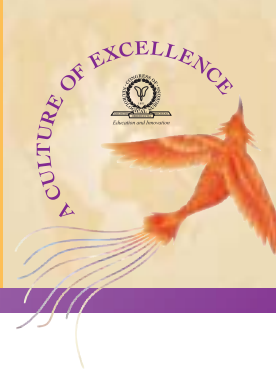
Practical Neurosurgical ICU Management: The Basics (for MDs in Training, RNs, APRNs and PAs)

Course Director(s): *Owen Samuels, Wendy Wright*

Faculty: *E. Sander Connolly, Jr., Jennifer Frontera, William M. Coplin*

Learning Objective: This course, focusing on ancillary care personnel, will provide a broad spectrum of information regarding the management of critically-ill neurosurgical patients. The attendee will be able to discuss the most up-to-date recommendations for ICP management, hemodynamic monitoring and measurement, ventilatory support, infection prevention and treatment, neurological examination, and EEG monitoring.

Nursing contact hours will be provided through AANN. The American Association of Neuroscience Nurses is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Physician assistants will receive credit for attendance. Each physician assistant will need to contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a confirmation of attendance. No CMEs will be awarded to physician participants.



NEW **PC06** **\$375**

UPDATE: CPT Coding: Fall 2009

Course Director(s): Robert R. Johnson

Faculty: William Mitchell, Mina Foroohar, Alexander Mason, Kimberly Pollock

Learning Objective: This course provides a summary of the anticipated CPT 2010 coding changes and also reviews the 2009 coding changes. Subspecialty areas of spine, intracranial, functional/pain and vascular surgery will be highlighted. Upon completion of this course, participants will be able to explain coding changes, their proper applications and compliance issues with regard to new regulations.

PC07 **\$425**

Cervical Spine Degenerative Disease

Course Director(s): Vincent C. Traynelis, Michael G. Kaiser

Faculty: John E. O'Toole, Kurt M. Eichholz, James S. Harrop, Langston T. Holly, Ari Chacko

Learning Objective: The pathophysiology, clinical presentation and current diagnostic modalities involved in the care of cervical degenerative disease will be discussed. The indications, techniques and complications associated with the operative management of cervical degenerative disease, including correction of degenerative deformities, will be reviewed through lectures, case-presentations and hands-on practical exercises. Upon completion of this course, participants will be able to discuss the appropriate indications and state-of-the-art techniques for surgical management of degenerative disease of the cervical spine, as well as steps to avoid complications.

PC08 **\$375**

Applied Spinal Biomechanics

Course Director(s): Edward C. Benzel

Faculty: Michael Y. Wang, Ajit A. Krishnaney, Praveen V. Mummaneni, Gregory R. Trost

Learning Objective: This course presents the physical principles and biomechanical foundations of spinal surgery and stabilization via didactic and interactive case discussion format. Upon completion of this course, participants will be able to discuss biomechanical principles and strategies to address clinical problems. Complication avoidance and management are emphasized.

The CNS Welcomes the Association of Neurosurgical Physician Assistants

*Announcing the 3rd Annual ANSPA CME Meeting
Hilton New Orleans Riverside
Saturday, October 24
7:00 AM – 5:30 PM
6:00 PM – 8:00 PM Reception
9 CME Credit Hours available.*

The meeting theme this year will be
“Comprehensive Neurosurgical Evaluation”.
Don't miss the wide range of topics geared to
Physician Assistants and those new to neurosurgery!

Topics include Functional Brain Anatomy, Imaging
Evaluation of the Cerebral Cortex, Clinical
Examination of the Cerebral Cortex, Functional
Anatomy of the Spine, Imaging Evaluation of the
Spine, and Clinical Exam of the Spine.

Registration Information will be available at
<http://www.ANSPA.org>

For more information please contact:
Lauren E. Alexander
ANSPA Executive Director
950 North Washington Street
Alexandria, VA 22314
888-94-ANSPA

TheANSPA@aol.com





SUNDAY

October 25

Practical Courses 8:00 AM – 5:00 PM

NEW PC09

\$475

UPDATE: Brain Tumor

Course Director(s): Frederick F. Lang, Andrew T. Parsa
Faculty: Manish K. Aghi, Frederick G. Barker, John A. Boockvar, Jeffrey Bruce, William T. Couldwell, Franco DeMonte, Michael K. Lim, Russell R. Lonser, Donald M. O'Rourke, Edward H. Oldfield, Ganesh Rao, Mark E. Shaffrey, Charles Teo, Philip V. Theodosopoulos, Jeffrey S. Weinberg, Suresh Nair

Learning Objective: This course will provide an up-to-date overview of current management strategies for major types of benign and malignant brain tumors. The seminar includes current research topics but emphasizes practical management issues. Upon completion of this course, participants will be able to discuss the state-of-the-art management of benign and malignant brain tumors including glial tumors, meningiomas, acoustic neuromas, skull base tumors, pediatric tumors and metastases, and discuss current concepts in glioma management including surgical techniques, adjuvant treatments, tumor biology and practical clinical management decisions.

PC10

\$800

Hands-on: Cerebral Revascularization

Course Director(s): Fady T. Charbel, Sepideh Amin-Hanjani
Faculty: Jacques J. Morcos, Gary K. Steinberg, David J. Langer, Gregory J. Zipfel, Ketan R. Bulsara, Michael Reinert, Daniel Hänggi, Frank Culicchia, Giovanni Broggi, Basant Kumar Misra

Learning Objective: This course will review the indications for cerebral revascularization in the setting of cerebral ischemia and aneurysm surgery. Extracranial-intracranial bypass procedures for revascularization in the anterior and posterior circulation will be reviewed, in addition to the latest advances in tools for performing bypass surgery. Participants will have the opportunity to practice micro-suturing and anastomosis skills. Upon completion of this course, participants will demonstrate capability with micro-suturing and anastomosis techniques, be able to discuss the indications for cerebral revascularization in ischemia and aneurysm surgery, and describe the different bypass procedures for revascularization of the anterior and posterior circulation. *This course will be held off-site – shuttle transportation will be provided.*

PC11

\$375

Inpatient and Outpatient Management Dilemmas: For Nurses, APRNs and Physician Assistants

Course Director(s): Mark E. Shaffrey, Andrea L. Strayer, MSN, APNP, CNRN
Faculty: Praveen V. Mummaneni, Christopher I. Shaffrey, David O. Okonkwo, Aaron S. Dumont, John A. Jane, Jr., W. Jeffrey Elias, Elena Farace, PhD

Learning Objective: Upon completion of this course, participants will be able to discuss clinical management for a variety of cranial and spinal conditions. Topics include new directions in functional neurosurgery, brain tumor treatment options, quality of life and end of life discussions, cervical disc arthroplasty, endoscopic approach to the skull base and ventricles, cervical and thoracolumbar spinal trauma, evidence based practice for neurotrauma patient care, and the vascular patient: clip versus coil. These topics will illustrate patient selection, clinical decision making, and patient outcomes for the allied health professional in outpatient and inpatient settings.

Nursing contact hours will be provided through AANN. The American Association of Neuroscience Nurses is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Physician assistants will receive credit for attendance. Each physician assistant will need to contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a confirmation of attendance. No CMEs will be awarded to physician participants.

PC12

\$375

Communication and Negotiation: Risk Avoidance, Stronger Negotiation, Increasing Your Bottom Line, Improving Your Efficiency

Course Director(s): Alan M. Scarrow, Deborah L. Benzil, Katie O. Orrico, JD, Edie E. Zusman, Michael P. Steinmetz

Faculty: Benjamin S. Carson, Robert F. Heary, Shelly D. Timmons, Tim Roberts, President-Elect, NERVES

Learning Objective: Following this course, participants will be able to demonstrate communication skills leading to improved efficiency, financial outcomes, and will identify negotiation strategies for the media, their job and insurance companies.

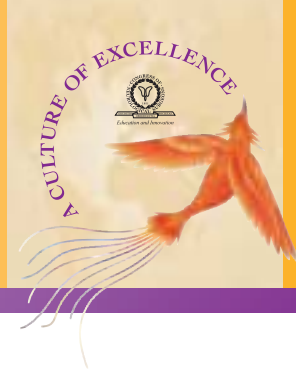
PC13 Cadaver Course!

\$1000

Nuances of Minimally Invasive Spinal Surgery

Course Director(s): Kevin T. Foley, Larry T. Khoo
Faculty: Donald L. Hilton, Jr., Muwaffak Abdulhak, Langston T. Holly, Farbod Asgarzadie, Paul Park, Jean-Pierre Mobasser, Sudhir Dubey

Learning Objective: This course will focus on minimally invasive procedures for cervical and lumbar spine surgery. Techniques for decompression, fixation and fusion will be discussed. Upon completion of this course, participants will be able to describe various minimally invasive techniques for cervical and lumbar spine surgery, and identify the indications, results and potential complications for these procedures.



NEW PC14 Cadaver Course! \$1000

Cranial Endoscopic Procedures in Neurosurgery

Course Director(s): David F. Jimenez, Mark G. Luciano

Faculty: Charles Teo, John G. Frazee, Peter Nakaji, Amin B. Kassam, Michael R. Gaab, E. Deopujari

Learning Objective: Upon completion of this course, participants will be able to describe the use of endoscopy for intracranial applications, including management of hydrocephalus, intraventricular tumors, microneurosurgery and transsphenoidal procedures. Participants will be able to describe the use of the latest endoscopic instrumentation available for both didactic and hands-on instruction using cadaveric models.

NEW PC15 Cadaver Course! \$1000

Minimally Invasive Approaches to the Anterior Skull Base and Parasellar Region

Course Director(s): John M. Tew, Jr., Jeffrey T. Keller, PhD, Phillip V. Theodosopoulos

Faculty: Charles Teo, Amin B. Kassam, Fred Gentili, Khaled M. Aziz, Sebastien Froelich, Robert G. Kerr, Mario Zuccarello, Lee A. Zimmer, Carl H. Snyderman

Learning Objective: Upon completion of this course, participants will be able to identify minimally invasive surgical approaches to the anterior skull base and parasellar area. Participants will be able to describe specific procedures including the endoscopic expanded transsphenoidal and supraorbital approaches. Participants will be able to discuss indications, nuances and complications of the approaches as well as reconstruction of the anterior skull base. Also, limitations of these approaches will be addressed.

Practical Courses 8:00 AM – 12:00 PM

NEW PC16 \$425

Neuromodulation for Pain

Course Director(s): Alon Mogilner, Jaimie M. Henderson

Faculty: Robert M. Levy, Konstantin Slavin, Joshua M. Rosenow, Giancarlo Barolat, Philip A. Starr, Kenneth A. Follett, Jeffrey A. Brown

Learning Objective: Upon completion of this course, participants will be able to discuss the current clinical applications of neuromodulation for pain, as well as new and emerging indications. Participants will be able to describe neurostimulation techniques of the brain, spinal cord and peripheral nerves, as well as identify intrathecal drug therapy for both chronic non-malignant pain as well as malignant pain. Participants will also be able to discuss patient selection, surgical technique, complication avoidance and evidence-based medicine approaches to neuromodulation.

NEW PC17 \$425

Spinal Deformity

Course Director(s): Christopher I. Shaffrey, Praveen V. Mummaneni

Faculty: Charles Kuntz, IV, James S. Harrop, Robert F. Heary, David O. Okonkwo, Frank La Marca, Tyler R. Koski, Peter D. Angevine

Learning Objective: Upon completion of this course, participants will be able to describe indications and surgical techniques for the correction of spinal deformity, to identify common and uncommon complications and salvage strategies in complex deformity cases, and to discuss spinal deformity case management using cases provided by the audience and by faculty.

NEW PC18 \$425

UPDATE: Traumatic Brain Injury

Course Director(s): Raj K. Narayan, Lori Anne Shutter

Faculty: Geoffrey T. Manley, Shelly D. Timmons, Jamshid Ghajar, Domenic P. Esposito, Jogi V. Pattisapu, Rocco Armonda, Jack Jallo, Tony Marmarou, PhD, Santosh Lad

Learning Objective: This course focuses on current thinking regarding the non-surgical and surgical treatment of traumatic brain injury. Newer monitoring techniques, as well as promising new therapies, will be discussed. Upon completion of this course, participants will be able to describe current management strategies which incorporate appropriate management guidelines.

Consider PC28 for a full-day of Trauma education!

NEW PC19 \$425

Future Spinal Technologies

Course Director(s): Russ P. Nockels, Domagoj Coric

Faculty: Praveen V. Mummaneni, Paul K. Kim, William J. Benedict, Jr., Satnam S. Chhabra

Learning Objective: After completion of this course, participants will be able to discuss the biomechanical concepts of dynamic stabilization, describe the various devices available for dynamic stabilization and discuss the theoretical and real advantages and disadvantages of dynamic stabilization.



SUNDAY

October 25

Practical Courses 8:00 AM – 12:00 PM

PC20

\$375

Neurosurgery 2009: Literature Review

Course Director(s): Paul C. McCormick, Joshua M. Rosenow

Faculty: Peter D. Angevine, E. Sander Connolly, Jr., Rajneesh Kachhara

Learning Objective: Designed for the practicing neurosurgeon, this workshop will critically analyze recent peer reviewed publications important to contemporary neurosurgical clinical practice. The faculty, comprised of editorial board members from **NEUROSURGERY®** and *Journal of Neurosurgery*, will describe and illustrate the process and structure of peer review as it applies to recent landmark publications in medical literature, including the SPORT Trial on lumbar disc herniation and the International Study of Unruptured Intracranial Aneurysms (ISUIA). These and other contemporarily relevant papers will be used to illustrate key aspects of study design, conduct, analysis that effect study validity and the generalizability of the studies' conclusions to individual patients. Participants will be provided with the relevant materials prior to the workshop, and a fundamental knowledge of the published papers will be assumed. Early registrants are encouraged to contact the course chairmen to submit suggestions of additional recent papers for inclusion in the workshop. After completion of this course, participants will be able to describe and discuss the elements of study design and how it may effect a study's validity and generalizability; discuss the strengths and limitations of the design and conduct of recent pivotal papers in the literature, including SPORT and ISUIA; explain the relevance and applicability of these studies to individual patients treated in neurosurgical practice; and apply the principles and techniques of structured peer reviewed assessment to investigational and observational clinical studies.

PC21

\$375

Introduction to Endovascular Neurosurgery: Hands-on Simulators and the Treatment of Intracranial and Extracranial Cerebrovascular Disease for Residents

Course Director(s): Elad I. Levy, Howard A. Riina, Bernard R. Bendok

Faculty: Erol Veznedaroglu, Pascal Jabbour, Daniel L. Surdell, Adnan H. Siddiqui, Brian L. Hoh, J.D. Mocco, Uday Limaye

Learning Objective: At the completion of this course, the participants will demonstrate proficiency using realistic simulators of carotid stenting, aneurysm coiling, and stroke thrombolysis, will be able to describe basic concepts and techniques in endovascular neurosurgery, and will be able to operate an endovascular device.

PC22

\$425

Surgical Approaches to the Ventricular System

Course Director(s): Alan Cohen, Mark M. Souweidane

Faculty: Richard G. Ellenbogen, Joseph M. Piepmeier, Albert L. Rhoton, Jr., M. Gazi Yasargil

Learning Objective: This case intensive course will incorporate didactic demonstrations of open surgical and endoscopic procedures supplemented with intraoperative video. The course will conclude with frank discussions of pearls, pitfalls, complication avoidance and management, and determination of when endoscopic or open surgical approaches are best utilized. At the completion of the course, the attendee will be able to discuss the best treatment alternatives for intraventricular tumors within the lateral, third and fourth ventricles, describe the pertinent neuroanatomy associated with each surgical procedure, discuss potential complications with various surgical routes to the ventricular system, outline the limitations of endoscopic approaches, and describe when to consider an alternative surgical option.

PC23

\$425

Open Aneurysm Surgery: A 3-D Practical Course

Course Director(s): Byron Gregory Thompson, Jr., Michael T. Lawton

Faculty: Ali F. Krisht, Jacques J. Morcos, Fady T. Charbel, Saleem I. Abdulrauf, Paul J. Camarata, Bhawani Sharma

Learning Objective: Participants will analyze case presentations of patients presenting with intracranial aneurysms to select the optimal (endovascular or microsurgical) approach. Participants will be able to interpret advanced preoperative imaging evaluation to maximize effectiveness of preoperative surgical planning. Participants will be able to describe skull base approaches for anterior and posterior circulation aneurysm surgery in order to optimize exposure for complex aneurysms and will discuss adjunctive intraoperative imaging techniques to optimize obliteration of cerebral aneurysms with preservation of parent and branch vasculature.

PC24

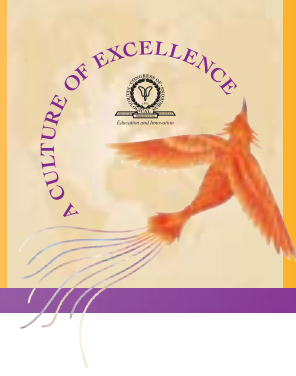
\$425

Entrepreneurship in Neurosurgery

Course Director(s): L. Nelson Hopkins, John M. Abrahams

Faculty: Vinay Deshmukh, Steven Feldman, Eric C. Leuthardt, John Adler

Learning Objective: Course participants will be able to discuss the basics of entrepreneurship in the biomedical device arena and list the challenges of bringing biomedical inventions to market. Lectures will cover the basics of (1) writing a business plan, (2) patents, (3) funding options for a start-up, (4) co-development and licensing strategies, and (5) executing a business strategy. During the last part of the course, participants will have the opportunity to present their non-confidential corporate strategy to the panel similar to a venture capital forum.



NEW **PC25** **\$425**

UPDATE: Cranial Radiosurgery

Course Director(s): *Michael W. McDermott, Andrew E. Sloan*

Faculty: *Antonio De Salles, V.P. Singh*

Learning Objective: This course will familiarize participants with the basic features of the most commonly used radiosurgery treatment platforms, and their similarities and differences. Upon conclusion of this course, participants will be able to apply basic principles for radiosurgery treatment planning for benign and malignant tumors, AVM's and functional disorders and be able to identify planning treatments with expert guidance using various radiosurgery treatment platforms.

Consider PC31 for a full-day of Radiosurgery education!

NEW **PC26** **\$425**

***UPDATE: Pediatric Neuro-Oncology**

Course Director(s): *James T. Rutka, Susan Chang, Ian F. Pollack*

Faculty: *Michael D. Taylor, Liliana Goumnerova, Amin B. Kassam, Douglas Kondziolka, Leslie N. Sutton, Frederick A. Boop, Ossama Al-Mefty, Karin M. Muraszko, Dattatraya Muzumdar*

Learning Objective: Upon completion of this course, participants will be able to discuss the biological aspects, clinical presentations and management of three common pediatric brain tumors: medulloblastoma, craniopharyngioma and ependymoma.

**Complimentary to the first 20 Course Registrants who register for both the CNS Annual Meeting and the Joint Meeting of the Society for Neuro-Oncology and the AANS/CNS Section on Tumors.*

Practical Courses **1:00 – 5:00 PM**

PC27 **\$375**

CNS - NSI Excellence in Global Neurosurgery

Course Director(s): *Laligam Sekhar, Basant Kumar Misra, James T. Rutka, Issam A. Awad*

Faculty: *John H. Sampson, Necmettin Pamir, Sanat N. Bhagwati, Chandra N. Sen, V.S. Mehta, Bernd Richling, Michael T. Lawton, Bhaskara Rao Malla, Youssef G. Comair, Amin B. Kassam, Ali R. Rezai*

Learning Objective: Using lecture, demonstration and question-and-answer sessions, this unique course will provide participants insight into the techniques of international neurosurgical masters in dealing with complex and common neurosurgical problems. The speakers are virtuosos in their particular fields, and state-of-the-art technology will be used to display refinements in operative techniques, complication avoidance and resident education. Upon completion of this course, participants will be able to describe novel and useful techniques for the management and surgical options involved in the care of common and complex neurosurgical problems.

Complimentary to NSI members with CNS Annual Meeting registration!

NEW **PC28** **\$425**

UPDATE: Spine Trauma

Course Director(s): *Michael G. Fehlings*

Faculty: *James S. Harrop, Christopher I. Shaffrey, Bizhan Aarabi, Steven Casha, Kambadoo N. Krishna*

Learning Objective: This course focuses on the non-surgical and surgical treatment of spinal trauma in adults and children. Indications for decompression, arthrodesis, instrumentation and bracing will be discussed. The management and identification of differences in spinal trauma in various sub-populations will be emphasized. Upon completion of this course, participants will be able to describe current management strategies which incorporate appropriate management guidelines.

Consider PC18 for a full-day of Trauma education!

PC29 **\$425**

3-D Anatomy (Infratentorial)

Course Director(s): *Albert L. Rhoton, Jr.*

Learning Objective: This course will provide three-dimensional microsurgical instruction on anatomy and approaches through the temporal bone; cerebellum and fourth ventricle; far lateral and transcondylar approaches; approaches to the cerebellopontine angle; and anatomy and approaches to the jugular foramen. Upon completion of this course, participants will be able to describe the anatomy of these areas and discuss the three-dimensional neurovascular relationships of each region.

PC30 **\$425**

Masters of Endovascular Neurosurgery

Course Director(s): *Andrew J. Ringer, Henry H. Woo*

Faculty: *Peter K. Nelson, David Fiorella, Anil Karapurakar*

Learning Objective: This advanced course discusses the most complex endovascular cases and complication management for practicing endovascular neurosurgeons. Participants will describe common pitfalls and their management and identify complex treatment strategies.

NEW **PC31** **\$425**

UPDATE: Spinal Radiosurgery

Course Director(s): *Peter C. Gerszten*

Faculty: *Mark H. Bilsky, Lilyana Angelov, Jason P. Sheehan, Jack P. Rock, Steven D. Chang*

Learning Objective: This course will provide the attendee with an exposure to the background of spinal radiosurgery, including radiobiological principles of hypofractionated radiotherapy. An emphasis will be placed on the indications and limitations of spinal radiosurgery. The various technologies available to perform spinal radiosurgery will also be described and compared. The attendee will be able to describe the most commonly used techniques for spinal radiosurgery; discuss the current indications for and preliminary outcomes after spine radiosurgery; describe the current relative contraindications to spine radiosurgery; and discuss the potential risks and complications of spine radiosurgery. The attendee will also have the opportunity for hands on experience by contouring actual cases.

Consider PC25 for a full-day of Radiosurgery education!



SUNDAY

October 25

Practical Courses 1:00 – 5:00 PM



PC32

\$425

UPDATE: Movement Disorder Surgery

Course Director(s): Robert E. Gross, Philip A. Starr

Faculty: Aviva Abosch, Joshua M. Rosenow, Alon Y. Mogilner, W. Jeffrey Elias, Michael G. Kaplitt, Paresh Doshi

Learning Objective: At the conclusion of this course, participants will be able to discuss the current indications for surgical treatment of movement disorders, types of procedures and technical approaches. Participants will be able to identify recent advances in surgical treatment, and be able to distinguish standard therapies from investigational ones.



PC33

\$425

UPDATE: Spinal Surgery Indications and Techniques

Course Director(s): Daniel K. Resnick, Michael Y. Wang

Faculty: Gregory R. Trost, Frank La Marca, Roger Hartl, Joseph S. Cheng, Paul G. Matz, Langston T. Holly, Juan S. Uribe, Richard P. Schlenk, Shashank S. Kale

Learning Objective: By the conclusion of this Practical Course, participants will be able to discuss new developments in the treatment of spinal cord injuries, review the latest techniques for minimally invasive spinal surgery, explain the evidence for and against cervical arthroplasty and describe the recent literature on the treatment of lumbar spondylosis.



PC34

\$425

UPDATE: Vascular Surgery Indications and Techniques

Course Director(s): L. Nelson Hopkins, Jacques J. Morcos

Faculty: Michael T. Lawton, Robert A. Mericle, Christopher S. Ogilvy, Bernard R. Bendok, Elad I. Levy, Robert E. Harbaugh, David J. Langer, Basant Kumar Misra

Learning Objective: The purpose of this course is to educate and update the participant on current management strategies, indications for intervention and techniques in the management of the broad spectrum of cerebrovascular disease. Topics to be reviewed include current management of ischemic cerebrovascular disease – both acute and chronic, intracranial aneurysm management – both unruptured and ruptured, cerebral revascularization for ischemia and aneurysms and treatment strategies in the management of AVMs. Upon completion of this course, participants will be able to identify specific roles for each type of therapy as well as the benefits and risks of each. Participants will be able to explain the nuances of decision-making and technique while emphasizing the benefits of a combined approach to the management of cerebrovascular disease. Participants will be able to discuss new technologies and ideas in both open and endovascular treatment.

PC35

\$425

Principles of Peripheral Nerve Surgery

Course Director(s): Rajiv Midha, Eric L. Zager

Faculty: Allen H. Maniker, Robert J. Spinner, Robert L. Tiel, Lynda J. Yang, Ketan Desai

Learning Objective: Participants will be able to describe the following: evaluation of patients with peripheral nerve lesions, including aspects of history, physical exam, electro-diagnostic tests and appropriate imaging modalities; the relevant biology of nerve injury and regeneration; selection of patients with nerve injury for operation including timing of intervention; nerve conditions that require emergency and urgent management; management of patients with peripheral nerve tumors; and management of patients with common entrapment neuropathies.

PC36

\$500

Mastering Spinal Disorders: Dealing with Complexities

Course Director(s): Charles Kuntz, IV

Faculty: Richard D. Fessler, Christopher I. Shaffrey, Tyler B. Koski, Praveen V. Mummaneni, Laurence D. Rhines, Brian R. Subach, P.S. Ramani

Learning Objective: Using lecture, question-and-answer and practical sessions, this unique course will provide participants insight into the mastery of complex spinal disorders, including the role of minimal access techniques and the artificial disc. Upon completion of this course, participants will be able to describe novel and useful surgical techniques for handling cases such as occipitocervical fusions, thoracic pedicle screws, spinal tumors and deformity, including strategies for complication avoidance and management.



PC37

\$925

Live 3-D Cadaveric Demonstration!

New this year! Master spine surgeons demonstrate surgical techniques using state of the art 3-D imaging technology.



Spine 3-D: Technique and Operative Anatomy

Course Director(s): Gerald E. Rodts, Jr.

Faculty: Regis W. Haid, Jr., Edward C. Benzel, Christopher I. Shaffrey, Paul C. McCormick, Kevin T. Foley, Vincent C. Traynelis

Learning Objective: Upon completion of this course, participants will be able to describe the surgical indications for C1-2 lateral mass, pars interarticularis, pedicle and transarticular screw fixation, thoracic pedicle fixation, Smith-Peterson and pedicle subtraction osteotomies, transoral resection of the odontoid, lateral extracavitary approach to the thoracic spine, open and minimally-invasive approaches to lumbar interbody fusion (TLIF). Emphasis will be placed on surgical nuances, important anatomical minutia, and complication avoidance. Recognized master surgeons will demonstrate these techniques on cadavers.

Opening Reception

*CNS Opening Reception
Sunday, October 25, 2009
6:30 – 8:30 PM
Hosted by the CNS
Hilton New Orleans Riverside*

Take a journey back in time to a night in Old New Orleans, while the strains of jazz waft through the air. Relax and enjoy an evening with your CNS colleagues and friends as you enter a slower time of inspiration and excellence.

Fabulous Creole cuisine and other favorites will delight you with varied flavors. Each registered attendee will receive one complimentary ticket to the Opening Reception. We invite you to enjoy an evening of Old New Orleans traditions – food, friends and jazz!



*The Congress of Neurological Surgeons
gratefully acknowledges*



*CNS Annual Meeting Leader
for providing an educational grant in support of the
2009 CNS Annual Meeting.*

A CULTURE OF EXCELLENCE

DEFINING EXCELLENCE

Monday Highlights

Exhibit Hall Open

9:00 AM – 3:00 PM

Book Signing with APJ Abdul Kalam, PhD

11:45 AM

The CNS Original Science Program

2:30 – 5:30 PM

Top Ten Abstracts

2:30 – 4:00 PM

Neurosurgical Forum

4:00 – 5:30 PM

SPECIAL COURSE I

Cerebral Metastases Guidelines

2:30 – 5:30 PM





GENERAL SCIENTIFIC SESSION I

7:00 – 11:45 AM

Defining Excellence in Neurosurgery

Moderators: *Ali R. Rezai, Daniel K. Resnick*

Presiding Officer: *Gerald E. Rodts, Jr.*

Learning Objective: Following participation in this program, participants will be able to describe the characteristics of excellence as they apply to neurosurgery in addition to the neurosurgery subspecialties: neuro-oncology, spinal surgery, pediatric, vascular, functional, and neurotrauma. Evidence-based medicine approaches to develop a plan to enhance and promote these characteristics within their own practices and neurosurgical care teams will be employed.

7:00 – 7:05 AM

Welcome and Introduction

Ali R. Rezai

7:05 – 7:25 AM

Defining Excellence in Surgical Neuro-Oncology

Mitchel S. Berger

7:25 – 7:45 AM

Defining Excellence in Spinal Neurosurgery

Volker K.H. Sonntag

7:45 – 8:05 AM

Defining Excellence in Pediatric Neurosurgery

A. Leland Albright

8:05 – 8:25 AM

Defining Excellence in Vascular Neurosurgery

Robert F. Spetzler

8:25 – 8:45 AM

Defining Excellence in Neurotrauma

Raj K. Narayan

8:45 – 8:55 AM

Defining Excellence in Evidence-based Medicine Guidelines

Mark E. Linskey

8:55 – 9:00 AM

Introduction of Honored Guest

James T. Rutka

P. David Adelson

9:00 – 9:30 AM

James T. Rutka

Honored Guest

Excellence in Neurosurgical Research: The Neuro-Oncology Paradigm



9:00 AM – 3:00 PM

Exhibit Hall Open

9:30 – 10:30 AM

Coffee with Exhibitors

10:30 – 10:35 AM

Introduction of Special Lecturer

APJ Abdul Kalam

Jogi V. Pattisapu

10:35 – 11:00 AM

APJ Abdul Kalam, PhD

Former President of India

International Leadership Oration



11:00 – 11:05 AM

Presentation of the Distinguished Service Award

11:05 – 11:10 AM

Fellowship Awards Presentation

Elad I. Levy

11:10 – 11:15 AM

Introduction of CNS President

P. David Adelson

Douglas Kondziolka

11:15 – 11:45 AM

P. David Adelson

Presidential Address

Defining Excellence in Neurosurgery



Join us for Coffee and Desserts in the Exhibit Hall!

1:30 – 2:30 PM

2009 CNS Exhibitors

AANS/CNS Sections	Cosman Medical	MicroVention	Sawbones
Accuray Incorporated	Covidien BioSurgery	Micrus Endovascular Corporation	Scanlan International, Inc.
ACIGI Relaxation/Fujiiryoki	DePuy Spine	minSURG Corporation	SeaSpine
Ad-Tech Medical Instrument Corporation	Designs For Vision, Inc.	Mizuho America, Inc.	Siemens Medical Solutions USA, Inc.
Aesculap Implant Systems	DFine, Inc.	Möller-Wedel GmbH	Spinal Elements
Allen Medical Systems	Eisai	Nadia International, Inc.	Spinal Simplicity
AllMeds	Elekta, Inc.	Neuro Diagnostic Devices	Spine Wave
Aloka Ultrasound	Elliquence, LLC	NeuroMatrix Group, The	SpineFrontier, Inc.
American Academy of Physician Assistants (AAPA)	Eminent Spine	New World Rarities	SpineMED-CERT Health Sciences, LLC
American Association of Neurological Surgeons	ev3 Inc.	Nexstim, Inc.	Spineology Inc.
American Surgical Sponges	February Point	NextGen Healthcare Information Systems, Inc.	Strenumed Inc.
Anspach Companies	Fehling Surgical Instruments, Inc.	Nutech Medical	Stryker
Anulex Technologies	FHC, Inc.	Oceania Properties	Surgical Acuity
ApaTech, Inc.	Genesis HealthCare System	Ochsner Health System	SurgiTel/General Scientific Corporation
Apex Medical, Inc.	Globus Medical	Olsen Medical	SurgiVision Inc.
ArthroCare Spine	Gore & Associates	OmniGuide, Inc.	Symmetry Medical, Inc.
Aspen Medical Products	HydroCision, Inc.	Orthofix, Inc.	Synthes
Biomet Spine	IMRIS	Ossur Americas	TeDan Surgical Innovations
Biotronic NeuroNetwork	Industrial Pharmacy Management	OsteoMed L.P.	Thieme Publishers
Blue Chip Partners - Surgery Centers	Integra	Osteotech, Inc.	ThinkFirst National Injury Prevention Foundation
Borgess Health	Invivo	PainDX, Inc.	Thompson Surgical Instruments
Boston Scientific-Neuromodulation	Journal of Neurosurgery	Penumbra, Inc.	TranS1, Inc.
Brain Aneurysm Foundation, The	K2M, Inc.	Performance Grafts, LLC	Transonic Systems Inc.
BrainLAB	Kaiser Permanente	PeriOptix, Inc.	TrueVision Systems, Inc.
Buxton BioMedical	Karl Storz Endoscopy-America, Inc.	Pioneer Surgical Technology	Ulrich Medical® USA, Inc.
Cape Fear Valley Health System	Kinamed, Inc.	PMT Corporation	Verticor Ltd. (Formerly Interbody Innovations)
Carl Zeiss Meditec, Inc.	Kirwan Surgical Products, LLC	Porex Surgical, Inc.	Vertos Medical
Castle Biosciences, Inc.	KLS - MARTIN L.P.	Priority Consult, LLC	Weatherby Locums
CCV	Koros USA, Inc.	Pro Med Instruments, Inc.	Wolters Kluwer Health-Lippincott Williams and Wilkins
Cervitech, Inc.	Lanx Inc.	Pulse Medical	Xoran Technologies
ChoiceSpine	Leica Microsystems	Quality Life, The	Zimmer Spine
CMF Medicon Surgical, Inc.	Life Instrument Corporation	Riverside Health System	
Codman, a Johnson & Johnson Company	Life Spine	RosmanSearch, Inc.	
Congress of Neurological Surgeons	LifeNet Health	RSB Spine	
	Market Access Partners	Salient Surgical Technologies	
	Medtech	Saunders/Mosby - Elsevier	
	Medtronic		

As of April 2009

Make the Exhibit Hall the Place to be for the 2009 CNS Annual Meeting!

The 2009 CNS Exhibition offers attendees an opportunity to learn about the latest technological innovations from around the world and meet with recruiters from across the United States.

Stop by the exhibition, Monday – Wednesday between 9:00 AM – 3:00 PM, to catch up with your current corporate contacts and make new connections. This year's exhibition also features these additional opportunities for education and networking:

► **The New CNS Attendee Lounge.**

The CNS Attendee Lounge is an ideal location for attendees to be a part of the CNS Exhibition. The Attendee Lounge will feature comfortable lounge seating, e-mail stations, book signings and daily desserts.

► **Enhanced CNS Video Theatre.**

View neurosurgical techniques demonstrated by master neurosurgeons. This video series will play continuously in the CNS Attendee Lounge.

► **SANS Lifelong Learning.**

Maintain and improve your neurosurgical decision making proficiency and prepare for written/oral board examinations or the MOC cognitive examination. Demonstrations of SANS: Pediatrics, SANS: Spine, SANS *Competencies* and SANS *Neurosurgery* also available.

► **CNS University of Neurosurgery.**

Test or develop your knowledge with courses on epilepsy, spine techniques, revascularization and non-clinical core competencies. You can also view lectures from last year's CNS Annual Meeting and access the extremely successful 2009 webinar series.

► **The CNS Job Placement Service (JPS).**

The perfect opportunity may be looking for you! Browse listings from across the country, upload a current CV or resume and create a job agent to notify you when new jobs are added.



► **CNS Digital Poster Center.**

The 2009 CNS Original Science Program is bigger and better than ever!

- View the latest research in neurosurgery.
- Find posters faster and easier than ever.
- Communicate with poster authors during and after the Annual Meeting using online threaded discussions.
- View color photos and short videos that will enhance your experience.
- Make instant printouts of the scientific information most important to you.

Admittance to the Exhibit Hall is by the CNS name badge only. Children under 18 years of age are not permitted inside the Exhibit Hall.



MONDAY

October 26

Luncheon Seminars 12:00 – 1:30 PM

All Luncheon Seminars include a seated lunch served in the seminar room. Luncheon Seminar fees are \$60 each (\$45 each for Residents/Fellows/Nurses/Physician Extenders).

M01 Complimentary to CNS Resident Members!

Resident/Honored Guest Luncheon

Moderator: Zachary N. Litvack

Faculty: James T. Rutka

Learning Objective: Participants and the CNS Honored Guest will review and discuss challenges and changes in neurosurgical education, career development and lifelong learning. At the conclusion of the session, participants will be able to identify successful career development and professional strategies, and list methods by which they can enhance their own training and lifelong learning.

NEW M02

Craniosynostosis: Open vs. Endoscopic Management

Moderator: Robert F. Keating

Faculty: James T. Goodrich, David F. Jimenez, Mark R. Proctor, Dale Swift

Learning Objective: At the conclusion of this seminar, participants will be able to list various forms of syndromic and non-syndromic cranial synostosis and explain various techniques available for repair of craniosynostosis.

M03

Disk Arthroplasty of the Cervical and Lumbar Spine

Moderator: Regis W. Haid, Jr.

Faculty: Wayne Gluf, Praveen V. Mummaneni, Nicholas Theodore, Bipin S. Walia

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the state-of-the-art cervical and lumbar disc arthroplasty technology and be able to discuss the indications use of for this technology.

M04

Minimally Invasive Spine Surgery

Moderator: Richard G. Fessler

Faculty: Luiz Pimenta, Meic Schmidt, Krishnamurthy Sridhar, Michael Y. Wang

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the current indications and techniques appropriate for minimally invasive spinal surgery and be able to describe the expected outcomes and complications associated with these techniques.

M05

Pseudoarthrosis of the Cervical and Lumbar Spine

Moderator: William C. Welch

Faculty: Joseph S. Cheng, Michael G. Kaiser, Gregory R. Trost, Christopher E. Wolfla

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the appropriate imaging modalities to accurately diagnosis a pseudoarthrosis of either the cervical or lumbar spine and management strategies to increase the potential for successful clinical outcome, including the results and potential complications of current salvage techniques.

NEW M06

Ruptured Aneurysm Treatment: Open and Endovascular Management

Moderator: Robert H. Rosenwasser

Faculty: Adam S. Arthur, Aaron A. Cohen Gadol, Jacques J. Morcos, A. Raja

Learning Objective: At the conclusion of this seminar, participants will be able to explain the indications for treatment of ruptured aneurysms, as well as differentiate between the indications for open management of ruptured aneurysms and the indications for endovascular management of ruptured aneurysms.

M07

Hematology and Coagulation for Neurosurgeons: Pitfalls and Solutions

Moderator: Charles J. Prestigiacomo

Faculty: William T. Couldwell, David Fiorella, Mark G. Hamilton, Sean D. Lavine

Learning Objective: Neurosurgeons commonly face acute peri- and intraoperative decisions regarding the diagnosis and management of coagulopathy that are crucial to patient safety and excellent outcomes. Participants will review important coagulation mechanisms, parameters, indications and clinical pearls, list important screening guidelines and define the key points of emergency and intraoperative coagulation management.

NEW M08

Management of Cranial Vascular Malformations

Moderator: Michael T. Lawton

Faculty: Chandrashekhar E. Deopujari, Robert A. Mericle, Peter Nakaji, Ashish Suri

Learning Objective: At the conclusion of this seminar, participants will be able to recognize the surgical and non-surgical methods for managing AVMs, recall the surgical techniques employed for treatment of AVMs and understand the non-surgical adjuncts available for treating AVMs.

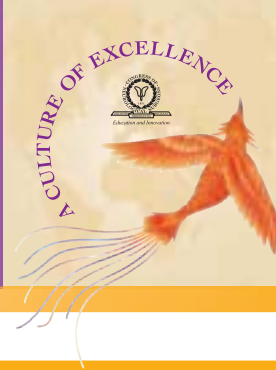
M09

Movement Disorders: Surgical Management Options

Moderator: Ron L. Alterman

Faculty: Paresh Doshi, Michael G. Kaplitt, B. Ravi M. Rao, Philip A. Starr

Learning Objective: At the conclusion of this seminar, participants will be able to describe the major movement disorders amenable to surgical treatment, and will be able to discuss the surgical techniques, indications and outcomes for treating specific movement disorders.



NEW M10

TBI/ICP Management for Allied Health Professionals

Moderator: *Shelly D. Timmons*

Faculty: *Odette Harris, Andrea L. Strayer, MSN, APNP, CNRN, D. Roxanne Todor, Eve C. Tsai*

Learning Objective: At the conclusion of this seminar, participants will be able to describe the newest technologies available for allied health professionals in managing traumatic brain injury, recognize the advancements in management of intracranial pressure including new technologies and the utility of monitoring intracranial pressure for successful management of patients with traumatic brain injury.

Nursing contact hours will be provided through AANN. The American Association of Neuroscience Nurses is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Physician assistants will receive credit for attendance. Each physician assistant will need to contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a confirmation of attendance. No CMEs will be awarded to physician participants.

NEW M11

Surgery for Tumors in Eloquent Cortex

Moderator: *Frederick F. Lang*

Faculty: *Mitchel S. Berger, Hugues Duffau, Ajaya N. Jha, Joerg-Christian Tonn*

Learning Objective: At the conclusion of this seminar, participants will be able to describe the unique anatomic and functional considerations required for surgical resection of tumors in eloquent cortex, express the utility of adjunctive tools in preparing for surgery in eloquent cortex and identify the indications for surgery for tumors in eloquent cortex.

M12

Vestibular Schwannoma Management

Moderator: *Johnny B. Delashaw*

Faculty: *Mario Ammirati, Franco DeMonte, L. Dade Lunsford, Basant Kumar Misra*

Learning Objective: At the conclusion of this seminar, participants will be able to identify the surgical indications for managing vestibular schwannoma, recognize the anatomic considerations during surgery and discuss the non-surgical methods for treating vestibular schwannoma.

M13

Intracranial Endoscopy vs. Ventricular Endoscopy

Moderator: *Charles Teo*

Faculty: *Amin B. Kassam, Mark G. Luciano, Daljit Singh, Stephen E. Sullivan*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the available techniques relevant to minimally invasive intraventricular neuroendoscopy in adults and pediatrics and discuss the key technical steps and outcomes for a variety of minimally invasive intraventricular procedures.

M14

Meningioma Management

Moderator: *Ian E. McCutcheon*

Faculty: *Nicholas Bambakidis, Sunil Gupta, Michael W. McDermott, Anil Nanda*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the various modalities appropriate for the treatment of benign and malignant meningiomas, as well as current research on topics related to meningiomas and their treatment.

NEW M15

Pediatric Neurotrauma Update

Moderator: *Thomas G. Luerksen*

Faculty: *Ann-Christine Duhaime, Anthony A. Figaji, Shenandoah Robinson, Roland A. Torres*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the latest advancements in pediatric neurotrauma research, identify the emerging technologies being developed for managing pediatric brain injury and describe the latest surgical techniques available for treating pediatric brain injury.

M16

How to Develop an Academic Career in Neurosurgery

Moderator: *Nicholas M. Boulis*

Faculty: *Walter A. Hall, Douglas Kondziolka, Daniel Yoshor, Kevin A. Walter*

Learning Objective: Experts in various niches of academic neurosurgery and research will identify for participants the optimal accomplishments to achieve during residency training in terms of research, teaching and publications. Participants will be able to describe the essential elements of curriculum vitae preparation, research grant application, academic job search, personal marketing and the interview process.

M17

Peripheral Nerve Board Review

Moderator: *Allen H. Maniker*

Faculty: *Allan J. Belzberg, W. Jeffrey Elias, Robert J. Spinner, Lynda J. Yang*

Learning Objective: At the conclusion of this seminar, participants will be able to describe the important peripheral nerve injuries frequently presented on board examinations, demonstrate the peripheral nerve physical examination and explain how to manage peripheral nerve injury/disease surgically and non-surgically.

M18

Surgery for Psychiatric Disorders

Moderator: *Ali R. Rezai*

Faculty: *Emad N. Eskandar, Kelly D. Foote, Robert E. Gross, Brian H. Kopell*

Learning Objective: At the conclusion of this seminar, participants will be able to describe the latest developments in the treatment of psychiatric disorders, explain the indications for surgical treatment of these disorders and identify the common psychiatric disorders amenable to surgical intervention.

2009 CNS ORIGINAL SCIENCE PROGRAM

FEATURING THE TOP TEN ABSTRACTS AND THE NEUROSURGICAL FORUM.

Monday, October 26

2:30 – 5:30 PM



The centerpiece of the Original Science Program, the Top Ten Abstracts and the Neurosurgical Forum offer the highest-impact original science in one multi-subspecialty assembly.

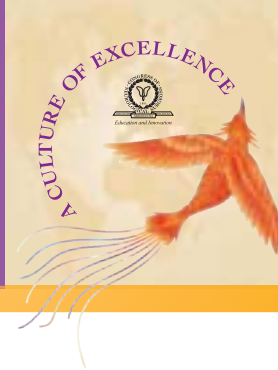
The **Top Ten Abstracts** session presents the highest ranked abstracts from each neurosurgical subspecialty in platform presentations followed by expert and audience discussion.



After the Top Ten Abstracts, join us for wine and cheese in the **Neurosurgical Forum**. The Neurosurgical Forum authors make dynamic oral presentations to small groups in an interdisciplinary session.

The outpouring of new ideas, techniques and findings is the culmination of scientific exchange.

Additional abstracts are available via Digital Poster format. Visit the Digital Poster Center, Monday – Wednesday, 9:00 AM – 3:00 PM in the Exhibit Hall.



CNS ORIGINAL SCIENCE PROGRAM

TOP TEN ABSTRACTS SESSION AND THE NEUROSURGICAL FORUM

Learning Objective: At the conclusion of this interactive educational session, participants will be able to discuss the findings of novel neurosurgical scientific studies, critique the design and methodology of these studies, list important areas for further knowledge development and research and identify the most important ongoing clinical trials.

2:30 – 4:00 PM

Top Ten Abstracts – Council Of State Neurosurgical Societies

Moderators: Deborah L. Benzil, Alan M. Scarrow

2:30 – 2:39 PM

901

Post-residency Survey Reveals Critical Education Issues: Results of the Council of State Neurosurgical Society (CSNS) Survey

Darlene Angela Lobel; Catherine A. Mazzola; Satish Krishnamurthy; Deborah L. Benzil; Gary M. Bloomgarden

2:39 – 2:48 PM

902

Disparities in Referral to Neuro-oncological Surgery in the United States

Debraj Mukherjee; Thomas Kosztowski; Hasan Zaidi; David Chang; George I. Jallo; Benjamin S. Carson; Henry Brem; Alfredo Quinones-Hinojosa

Julius Goodman Resident Award

2:48 – 2:57 PM

903

Trends in Instrumented Spine Procedures in the United States from 1993-1999 to 2000-2006

Joseph Chia Yu Hsieh; Richard G. Fessler

2:57 – 3:06 PM

904

Potential Financial Impact of Restriction in “Never Event” and Peri-procedural Hospital Acquired Condition Reimbursement at a Tertiary Neurosurgical Center

Sonia Teufack; Pascal Jabbour; Mitchell Gil Maltenfort; James J. Evans; John K. Ratliff

3:06 – 3:15 PM

905

Trends in Neurosurgical Procedures for the United States by Category, 1993-1999 and 2000-2006

Joseph Chia Yu Hsieh; Richard G. Fessler

3:15 – 3:24 PM

906

Patents and Research in Spine Fusion and the Artificial Intervertebral Disc: Implications for Procedure Volume 1993-2006

Joseph Chia Yu Hsieh; Richard G. Fessler

Sam Hassenbusch Young Neurosurgeon Award

3:24 – 3:33 PM

907

Enhancing Competence in Graduates Through a Transition to Practice Program in Neurological Surgery

Gregory J. Murad; J. Richard Lister; William A. Friedman; Gwen Lombard

3:33 – 3:42 PM

908

Socio-economic Impact of Networking with Chiropractic Providers

Thomas G. Spurlock; Mark N. Hadley

3:42 – 3:51 PM

909

Impact of Postoperative Fever on Length of Stay and Hospital Cost in Spine Surgery Patients

Mohammad Sami Walid; Gulnur Sahiner; Cemre Robinson; Mohammed Ajjan; Joe S. Robinson

3:51 – 4:00 PM

910

Inaccuracy of the Administrative Database: Comparative Analysis of Two Databases for the Diagnosis and Treatment of Intracranial Aneurysms

Graeme F. Woodworth; Clint John Baird; Giannina L. Garces-Ambrossi; James Tonascia; Rafael J. Tamargo

4:00 – 5:30 PM

Neurosurgical Forum – Council Of State Neurosurgical Societies

Moderator: Gary M. Bloomgarden

2:30 – 4:00 PM

Top Ten Abstracts – Section On Cerebrovascular Surgery

Moderators: E. Sander Connolly, Jr., Christopher S. Ogilvy

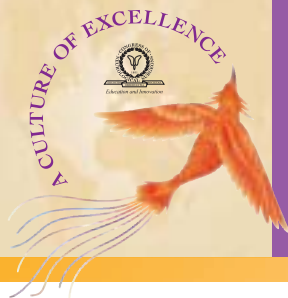
Galbraith Award

2:30 – 2:39 PM

911

Trends in Outcome for the Treatment of Intracranial Aneurysms in New York State: A 3-year Population Based Study

Brad E. Zacharia; Andrew F. Ducruet; Zachary Lee Hickman; Bartosz T. Grobelny; E. Sander Connolly, Jr.



2:39 – 2:48 PM

912

Natural History in Patients with Spetzler-Martin Grade IV and V Arteriovenous Malformations

Aki Laakso; Reza Dashti; Seppo Juvela; Puchong Isarakul; Mika Niemela; Juha Antero Hernesniemi

2:48 – 2:57 PM

913

Are Ventriculostomy Infections Reduced by Standardized Protocols or by Antibiotic-impregnated Catheters?

James S. Harrop; Mitchell Gil Maltenfort; John K. Ratliff; Ashwini D. Sharan

2:57 – 3:06 PM

914

Unruptured Intracranial Aneurysms (UIAs): Natural History and Treatment Outcome in Patients with Ischemic Cerebrovascular Disease (CVD) – A Subgroup Analysis from the International Study of Unruptured Intracranial Aneurysms (ISUIA)

Giuseppe Lanzino; James Torner; Irene Meissner; David G. Piepgras; ohn Huston; David F. Kallmes; Elizabeth Cozzie; Robert D. Brown

3:06 – 3:15 PM

915

Genome Wide Association Study Identifies Intracranial Aneurysm Genes

Genetics of Intracranial Aneurysm Trial Investigators (GIANT); Murat Gunel

3:15 – 3:24 PM

916

Long-term Follow-up Survey Reveals a 65% Rate of De Novo Aneurysm Formation More than 10 Years after Ruptured Intracranial Aneurysms Clipping

Michael Bruneau; Boris Lubicz; Michal A. Rynkowski; Karina Smida-Rynkowska; B. Pirotte; Olivier Jean De Witte

3:24 – 3:33 PM

917

Unruptured Cerebral Aneurysms do not Shrink When They Rupture: Multi-center Collaborative Aneurysm Study Group

Maryam Rahman; Christopher S. Ogilvy; Gregory J. Zipfel; Ketan R. Bulsara; Louis J. Kim; Adnan Hussain Siddiqui; Brian Lim Hoh

3:33 – 3:42 PM

918

Impact of International Subarachnoid Aneurysm Trial Results on Treatment of Ruptured Intracranial Aneurysms in the United States

Muhammad Zeeshan Memon; Gabriela Vazquez; Ramachandra P. Tummala; Adnan I. Qureshi

3:42 – 3:51 PM

919

Early and Late Postoperative Hemorrhage in Moyamoya Angiopathy: Preoperative Predictive Clinical Indicators and Angiographic Correlations

Nadia Khan; Teresa Bell-Stephens; Joli Vavao; Gary K. Steinberg

3:51 – 4:00 PM

920

Community and Individual Equipoise for Ruptured Intracranial Aneurysm Clipping versus Coiling: Results from Integrated Medical Learning® (IML)

Frederick George Barker; E. Sander Connolly, Jr.; Brian Lim Hoh; Nathan R. Selden; Anthony L. Asher; Douglas Kondziolka; Nicholas M. Boulis

4:00 – 5:30 PM

Neurosurgical Forum – Section On Cerebrovascular Surgery

Moderators: Jacques J. Morcos, John A. Wilson, Jr., Joshua B. Bederson

2:30 – 4:00 PM

Top Ten Abstracts – Section On Disorders Of The Spine And Peripheral Nerves

Moderators: Eric L. Zager, Christopher I. Shaffrey

2:30 – 2:39 PM

921

BRYAN® Cervical Disc Replacement: 4-year Follow-up Results from the United States Prospective Randomized Clinical Trial

Richard G. Fessler; Rick Sasso; Paul Anderson; Stephen Papadopoulos; John Heller

2:39 – 2:48 PM

922

3-year and 5-year Results from a Prospective, Randomized US IDE Study of the PRESTIGE ST Cervical Disc

Praveen V. Mummaneni; Regis W. Haid, Jr.; Thomas A. Zdeblick; J. Kenneth Burkus; Vincent C. Traynelis

2:48 – 2:57 PM

923

Effectiveness of Surgical Treatment for Cervical Spondylotic Myelopathy: 2-year Follow-up Results of the Multicenter AOSpine North America Study in 300 Subjects

Michael G. Fehlings; Branko Kopjar; Tim Yoon; Paul M. Arnold; Eric M. Massicotte; Alexander R. Vaccaro; Darrel S. Brodtko; Eric J. Woodard; Jens Chapman; Rick Sasso; Christopher I. Shaffrey; Michael Janssen

2:57 – 3:06 PM

924

Primary and Revision Suboccipital Decompression for Adult Chiari I Malformation: Analysis of Long-term Outcomes in 393 Patients

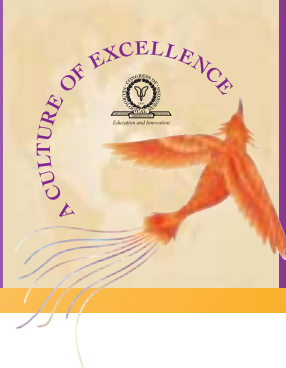
Matthew J. McGirt; Giannina L. Garces-Ambrossi; Scott Parker; Jason Liauw; Mohamad Bydon; George I. Jallo; Ziya L. Gokaslan; Jon D. Weingart

3:06 – 3:15 PM

925

Rates of Infection following Spine Surgery Based on 108,419 Procedures

Justin S. Smith; Christopher I. Shaffrey; Charles A. Sansur; Sigurd Berven; Paul A. Broadstone; Theodore Choma; Michael Goytan; Hilali Noordeen; D. Raymond Knapp; Robert Hart; Rienhard D. Zeller; William F. Donaldson, III; David W. Polly, Jr.; Joseph Perra; Oheneba Boachie-Adjei



3:15 – 3:24 PM

926

A Comparison of Clinical Outcomes and Adjacent Level Fractures in Patients Receiving Vertebroplasty for Osteoporotic Compression Fractures Using Cortoss or PMMA: Prospective, Randomized Trial

Pierce D. Nunley; Ajay Jawahar

3:24 – 3:33 PM

927

Major Complications Following Adult Spinal Deformity Surgery: Is There a High Risk Patient Profile?

Virginie Lafage; Nicola Hawkinson; Frank Schwab; Beverly Kelly; Jean Pierre Farcy; Gregory Mundis; Matthew E. Cunningham; Behrooz A. Akbarnia; Richard A. Hostin; Robert Hart; Oheneba Boachie-Adjei; Douglas C. Burton; Eric Klineberg; Christopher I. Shaffrey; Shay Bess; International Spine Study Group

3:33 – 3:42 PM

928

DuraSeal™ Spinal Sealant as an Adjunct to Sutured Dural Repair in the Spine: Results of a Prospective, Multi-Center, Randomized Controlled Study

Neill Marshall Wright; Kee Duk Kim; Rees Cosgrove; John M. Tew, Jr.; Michael G. Kaiser; Paul C. McCormick; Randall Chestnut; Richard G. Ellenbogen; Harry R. Van Loveren; Fernando L. Vale; Mark Edwin Shaffrey; Thomas C. Chen; Michael Y. Wang; Marc R. Mayberg; Ashwini D. Sharan; Peter C. Gerszten; William Charles Welch; R. Scott Graham; Frederick D. Brown; Richard G. Fessler; Harel Deutsch; Mitesh Vipin Shah; Ian E. McCutcheon; Dean G. Karahalios; Donlin M. Long; L. Nelson Hopkins, III; Jack Jallo; Johnny B. Delashaw; Stephen L. Ondra; Robert E. Gross

3:42 – 3:51 PM

929

Neuroprotection with Minocycline after Spinal Cord Injury: Results of a Double Blind Randomized Controlled Pilot Study

Steven Casha; David Zygun; Dan McGowan; V. Wee Yong; R. John Hurlbert

3:51 – 4:00 PM

930

Rates of Neurological Injury Associated with Spine Surgery Based on 108,419 Procedures: A Report of the Scoliosis Research Society Morbidity and Mortality Committee

D. Kojo Hamilton; Justin S. Smith; Christopher I. Shaffrey; Charles A. Sansur; Sigurd Berven; Paul A. Broadstone; Theodore Choma; Michael Goytan; Hilali Noordeen; D. Raymond Knapp; Robert Hart; Rienhard D. Zeller; William F. Donaldson, III; David W. Polly, Jr.; Joseph Perra; Oheneba Boachie-Adjei

4:00 – 5:30 PM

Neurosurgical Forum – Section On Disorders Of The Spine And Peripheral Nerves

Moderators: Daniel K. Resnick, Christopher I. Shaffrey

2:30 – 4:00 PM

Top Ten Abstracts – Section On Neurotrauma And Critical Care

Moderators: Shelly D. Timmons, Michael G. Fehlings

Synthes Award for Resident Research on Brain and Craniofacial Injury

2:30 – 2:39 PM

931

Biochemical Serum Markers in Head Injury: An Emphasis on Clinical Utility

Samit Satish Mehta

Synthes Award for Resident Research on Spinal Cord and Spinal Column Injury

2:39 – 2:48 PM

932

Immunomodulation Using Peripheral Macrophage Depletion and cAMP Elevation Promotes Neuroprotection and Improves Locomotor Recovery following Contusive SCI

Christopher A. Iannotti; Megan Clark; Nico van Rooijen; Michael P. Steinmetz

2:48 – 2:57 PM

933

Phase I Clinical Trial of Autologous Bone Marrow Mononuclear Cells for Pediatric Severe Traumatic Brain Injury

Charles S. Cox, Jr.; James E. Baumgartner; Laura Worth; Matthew T. Harting; Linda Ewing-Cobbs; Adrian Gee; Khader Hasan; Shinil Shah; Peter Walker; Mary-Clare Day

2:57 – 3:06 PM

934

Cerebrospinal Proteomic Analysis following Aneurysmal Subarachnoid Hemorrhage: The Role of New Biomarkers

Shivanand P. Lad; Florian Deissenhammer; Marco B. Lee; Raphael Guzman; Tim E. Darsaut; Gary K. Steinberg

3:06 – 3:15 PM

935

The Role of Hemodilution Coagulopathy in Bleeding Progression after Isolated Blunt Head Injury

Natalia B. Kouzminova; Roland A. Torres; Sangeeta Aggarwal; John Sherck

3:15 – 3:24 PM

936

Treatment of Traumatic Brain Injury with Velcade Improves Functional Outcome in Rats

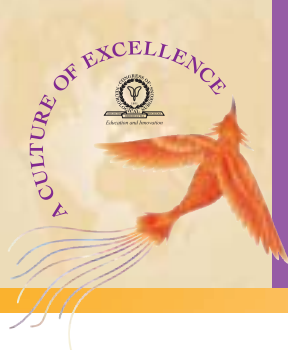
Asim Mahmood; Changsheng Qu; Michael Chopp

3:24 – 3:33 PM

937

Simvastatin Provides Long-lasting Benefits after Traumatic Brain Injury in Rats

Asim Mahmood; Anton Goussev; Humaira Kazmi; Changsheng Qu; Dunyue Lu; Michael Chopp



3:33 – 3:42 PM

938

Polyethylene Glycol in the Treatment of Experimental Diffuse Brain Injury

Shannon P. McCanna; Jamie L. Bradbury; Philip Yoder Smucker; Andrew Koob; Scott A. Shapiro; Richard B. Borgens

3:42 – 3:51 PM

939

Mechanism of Primary Blast Injury: Insight from Microexplosive Generated Shock Wave-induced Brain Injury Animal Model and Engineering Experiments

Atsuhiko Nakagawa; Miki Fujimura; Hironobu Okuyama; Tokitada Hashimoto; Kaoruko Kato; Mika Watanabe; Kazuyoshi Takayama; Teiji Tominaga

3:51 – 4:00 PM

940

Is There a Gender Difference in Mortality Risk Among Traumatic Brain Injury Patients?

Menarvia K. C. Nixon; David Chang; Tolulope Oyetunji; Stephanie Downing; Debraj Mukherjee; Henry Brem; Edward E. Cornwell, III; Alfredo Quinones-Hinojosa

4:00 – 5:30 PM

Neurosurgical Forum – Section On Neurotrauma And Critical Care

Moderators: Michael G. Fehlings, Jamie S. Ullman

2:30 – 4:00 PM

Top Ten Abstracts – Section On Pain

Moderators: Joshua M. Rosenow, Konstantin V. Slavin

Ronald Tasker Award

2:30 – 2:39 PM

941

Development and Psychometric Testing of the Brief Pain Inventory – Facial for Patients with Facial Pain

John Y.K. Lee; H. Isaac Chen; Chris Urban; Anajita Hojat; Ephraim Church; John T. Farrar

2:39 – 2:48 PM

942

Neurotrophin-3 Has Protective Effects in a Neuropathic Pain Rat Model

Gabriel Claudiu Tender; Jian-Guo Cui

2:48 – 2:57 PM

943

In-depth Analysis of the Improvement in Pain, Function and Quality of Life in Patients with Failed Back Surgery Syndrome (FBSS) following Spinal Cord Stimulation (SCS) and Conventional Medical Management (CMM)

Krishna Kumar; S. Eldabe; E. Buchser; R. Taylor

2:57 – 3:06 PM

944

Patient Perspectives on the Efficacy and Ergonomics of Rechargeable Spinal Cord Stimulators

Carson K. Lam; Joshua M. Rosenow

3:06 – 3:15 PM

945

DTI Correlates of Pain and Possible Pathogenetic Mechanisms in Trigeminal Neuralgia

Mojgan Hodaie; David Qixiang Chen

3:15 – 3:24 PM

946

Involvement of the Middle Short Gyrus of the Insula in Pain Processing: Study by Electric Stimulation Intracerebral of the Epileptic Patients

Afif Mohammad Afif; Dominique Hoffmann; Lorella Minotti; Alim Louis Benabid; Philippe Kahane

3:24 – 3:33 PM

947

Sphenopalatine Ganglion Block in Traumatic Trigeminal Neuralgia and the Outcome to Radiosurgical Ablation: 1-year Results

Christopher J. Zarebinski; Steven Graff-Radford; Ajay Ananda; Behrooz Hakimian; Howard Rosner

3:33 – 3:42 PM

948

Minimally Invasive DREZ Operation: Experimental Surgical Evidence

Milan Spaic; David Houlden; Michael Schwartz

3:42 – 3:51 PM

949

Peripheral Nerve Stimulation for Chronic Pain: One Institution's Experience

Sumeet Vadera; Andre Machado; Nicholas M. Boulis; Milind S. Deogaonkar

3:51 – 4:00 PM

950

Radiosurgery for Cluster Headache: Report of the North American Gamma Knife Consortium

Hideyuki Kano; Douglas Kondziolka; David Mathieu; Scott L. Stafford; Thomas J. Flannery; Ajay Niranjani; Bruce E. Pollock; Anthony M. Kaufmann; John Flickinger; L. Dade Lunsford

4:00 – 5:30 PM

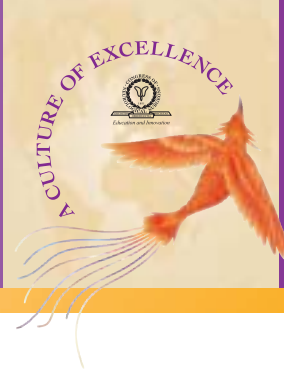
Neurosurgical Forum – Section On Pain

Moderator: Alon Y. Mogilner

2:30 – 4:00 PM

Top Ten Abstracts – Section On Pediatric Neurological Surgery

Moderators: Jeffrey P. Blount, Mark M. Souweidane



2:30 – 2:39 PM

951

Targeted Delivery of TRAIL-producing Human Adipose Tissue-derived Mesenchymal Stem Cells into Experimental Brain Stem Glioma

Seung-Ki Kim; Seung Ah Choi; Sung-Kyun Hwang; Byung-Kyu Cho; Ji Hoon Phi; Kyu-Chang Wang

2:39 – 2:48 PM

952

Identification of Rho Guanine Nucleotide Exchange Factors as Novel Therapeutic Targets for Medulloblastoma Invasion

Salvatore M. Zavarella; Jordan Smith; Yuping Yang; Shawn A. Belverud; Ahmad Latefi; Mark Mittler; Steven J. Schneider; Marc H. Symons

2:48 – 2:57 PM

953

Impact of 5,10-methylenetetrahydrofolate Reductase Gene Polymorphism on Neural Tube Defects

P.N. Harisha; B Indira Devi; Rita Christopher

2:57 – 3:06 PM

954

Morphometric Analysis of Posterior Fossa after in Utero Myelomeningocele Repair

Ryan Grant; Gregory G. Heuer; Geneive Carrion; N. Scott Azdick; Erin Simon; Phillip B. Storm; Leslie N. Sutton; Sherman C. Stein

3:06 – 3:15 PM

955

Dural-splitting Decompression for Chiari I Malformation: Safety, Efficacy and Cost Analysis

Zachary N. Litvack; Rebecca A. Lindsay; Nathan R. Selden

3:15 – 3:24 PM

956

Mutations in the Type IV Collagens, COL4A1 and COL4A2 are Associated with Intraventricular Hemorrhage in Preterm Infants

Michael L. DiLuna; Kaya Bilguvar; Angeliki Louvi; Matthew Bizzarro; Fatih Bayrakli; Yasar Bayri; Mohamad Bydon; Karen Schneider; Charles C. Duncan; Matthew State; Richard P. Lifton; Laura R. Ment; Murat Gunel

3:24 – 3:33 PM

957

Pediatric Neurosurgeons' Thresholds for Shunting Asymptomatic Children: Survey of Attendees at the 2008 Meeting of the Joint Section on Pediatric Neurosurgery of the AANS/CNS

Mark S. Dias; Mark Iantosca; Kenneth L. Hill, Jr.

3:33 – 3:42 PM

958

Effects of Antibiotic-impregnated External Ventricular Drains on Bacterial Culture Results: An in Vitro Analysis

Edwin A. Stevens; Elizabeth L. Palavecino; Robert J. Sherertz; Zakariya K. Shihabi; Daniel E. Couture

3:42 – 3:51 PM

959

Decompressive Craniectomy in Children with Severe Traumatic Brain Injury and Nonaccidental Trauma: Indications and Outcomes

Chima Oluigbo

3:51 – 4:00 PM

960

Outcome Analysis of Initial 100 Cases of Spring-mediated Cranioplasty for Treatment of Scaphocephaly

Daniel E. Couture; Steven S. Glazier; Lisa R. David

4:00 – 5:30 PM

Neurosurgical Forum – Section On Pediatric Neurological Surgery

Moderators: Frederick A. Boop, Jeffrey H. Wisoff, Ann-Christine Duhaime

2:30 – 4:00 PM

Top Ten Abstracts – Section On Stereotactic And Functional Neurosurgery

Moderators: Philip A. Starr, Ali R. Rezai

Stereotactic and Functional Neurosurgery Resident Award

2:30 – 2:39 PM

961

Motor Cortex Plasticity Driven by Artificial Feedback from an Autonomous, Closed-loop Neural Implant

Timothy H. Lucas, II; Eberhard E. Fetz

2:39 – 2:48 PM

962

Prefrontal and Caudate Neurons Solve the Temporal Credit Assignment Problem

Wael Asaad; Emad N. Eskandar

2:48 – 2:57 PM

963

Localization of Language Cortex by High Frequency Electrocorticography

Taylor J. Abel; Kai Miller; Tim Blakely; Adam Olding Hebb; Erik Edwards; Shahin Hakimian; Jeffrey G. Ojemann

2:57 – 3:06 PM

964

Longitudinal Magnetic Resonance Imaging Analysis of a Dose-escalation Study of Human Embryonic Stem Cell-derived Human Neural Stem Cells in Experimental Model of Stroke

Marcel M. Daadi; Ahmet Arac; Gary K. Steinberg

3:06 – 3:15 PM

965

Predictors of Successful Memory Encoding in the Human Hippocampus and Amygdala

Adam N. Mamelak; Ueli Rutishauser; Ian B. Ross; Erin Schuman



MONDAY

October 26

3:15 – 3:24 PM

966**STN Neuronal Firing Rate Increases with Parkinson's Disease Progression**

Michael S. Rempke; Courtney H. Hayes; Chang Qing Kao; P. David Charles; Joseph Samir Neimat; Peter Konrad

3:24 – 3:33 PM

967**Enhanced Orexin Neuropeptide Signaling Prevents Features of Metabolic Syndrome in Mice**

Jon T. Willie; Hiromasa Funato; Takeshi Sakurai; Masashi Yanagisawa

3:33 – 3:42 PM

968**Non-resective Hippocampal Surgery for Epilepsy**

Arun-Angelo Patil

3:42 – 3:51 PM

969**An Evaluation of Neuroplasticity and Behavior with Deep Brain Stimulation in the Nucleus Accumbens of the Rat**

Steven M. Falowski; Ashwini D. Sharan

3:51 – 4:00 PM

970**Deep Brain Stimulation of the Pedunculopontine Nucleus in Combination with the Caudal Zona Incerta for the Treatment of Axial Symptoms in Parkinson's Disease**

Sadaqate Khan; Shazia Javed; Puneet Plaha; Alan Whone; Steven Gill

4:00 – 5:30 PM

Neurosurgical Forum – Section On Stereotactic And Functional Neurosurgery

Moderators: Philip A. Starr, Robert E. Gross

2:30 – 4:00 PM

Top Ten Abstracts – Section On Tumors

Moderators: Frederick F. Lang, Linda M. Liau

American Brain Tumor Association Young Investigator Award

2:30 – 2:39 PM

971**Identifying Mechanisms of Bevacizumab Evasion in Human Glioblastoma**

Manish Kumar Aghi; Samuel D. Rose; Scott R. VandenBerg; Gabriele Bergers

2:39 – 2:48 PM

972**Genome Mapping of Glioblastoma Identifies a Novel Epigenetically-silenced, Migration-related Gene, Adherens Junctional Associated Protein, Whose Restoration of Expression by Demethylating Agents Can Inhibit Cell Migration**

David C. Adamson; Ningjing Lin; Chunhui Di; Kathy Bortoff; Jinrong Fu; Peter Truszkowski; Patrick Killela; Chris Duncan; Roger McLendon; Darell Bigner

38 **SCIENTIFIC PROGRAM**

2:48 – 2:57 PM

973**Chordoma Radiosurgery: Report of the North American Gamma Knife Consortium**

L. Dade Lunsford; Hideyuki Kano; Ajay Niranjani; John Flickinger; Fawaad O. Iqbal; Bruce E. Pollock; Scott L. Stafford; Jason P. Sheehan; David Mathieu; Gail Linskey Rosseau; Douglas Kondziolka

2:57 – 3:06 PM

974**Glioma Induce and Exploit Microglial MT1-MMP Expression for Tumor Expansion**

Michael Synowitz; Darko Markovic; Sridar Chirasani; Katyayni Vinnakota; Ken Holmbeck; Selja Lehnardt; Nico van Rooijen; Frank Heppner; Bojena Kaminska; Helmut Kettenmann; Rainer Glass

Journal of Neuro-Oncology Award

3:06 – 3:15 PM

975**Trial To Survive: The Impact of Enrollment in Clinical Trials on Survival of Patients with GBM**

Tal Shahar; Erez Nossek; Deborah T. Blumenthal; Felix Bokstein; Sigal Freedman; Carmit Ben Harosh; Razi Sitt; Benjamin W. Corn; Andrew A. Kanner; Zvi Ram

3:15 – 3:24 PM

976**A Phase I Trial of Tumor Associated Antigen-pulsed Dendritic Cell Immunotherapy for Patients with Glioblastoma**

John S. Yu; Jeremy Rudnick; Ray M. Chu; Mia Mazer; Hongqiang Wang; Natalia Serrano; Maritess Francisco; Christopher J. Wheeler; Manish Singh; Keith L. Black; Surasak Phuphanich

National Brain Tumor Society Mahaley Clinical Research Award

3:24 – 3:33 PM

977**Solving Radiation Effects versus Tumor Progression: "T1/T2 Matching" to Differentiate Tumor Growth from Radiation Effects after Stereotactic Radiosurgery**

Hideyuki Kano; Douglas Kondziolka; Javier Lobato; Oscar Zorro; John Flickinger; L. Dade Lunsford

BrainLAB Community Neurosurgery Award

3:33 – 3:42 PM

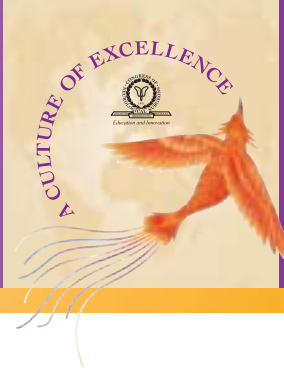
978**Markers Distinguishing Cancer Stem Cells from Normal Human Neuronal Stem Cell Populations in Malignant Glioma Patients**

Melvin Field; Sergey Bushnev; Angel A. Alvarez; Nicholas Avgeropoulos; Kimi Sugaya

3:42 – 3:51 PM

979**Morbidity of Transcallosal and Transcortical Approaches to Lesions in and around the Lateral and Third Ventricles**

Brian D. Milligan; Fredric B. Meyer



3:51 – 4:00 PM

980

Efficacy of a Novel Intratumoral Radio Immunotherapeutic Agent Cotara Delivered via Convection Enhanced Delivery in Recurrent Glioblastoma Multiforme: An Initial Single Institutional Experience with 8 Cases

Deepak Kumar Gupta

4:00 – 5:30 PM

Neurosurgical Forum – Section On Tumors

Moderators: *Michael W. McDermott, Frederick F. Lang, Jeffrey Bruce*

2:30 – 5:30 PM

SPECIAL COURSE I

Cerebral Metastases Guidelines

Learning Objective: At the conclusion of this course, participants will be able to identify a range of therapeutic options for treating brain metastases, describe the existing evidence used to guide decision-making and its limitations, describe the range of diversity in practice patterns and the various demographic factors that influence clinical decisions, and list the impact of expert reviews of published clinical evidence on practice regarding treatment options for brain metastases.

2:30 – 4:00 PM

Part 1:

Guidelines for the Treatment of Cerebral Metastases

Course Directors: *Mark E. Linskey, Steven N. Kalkanis*

2:30 – 2:40 PM

Introduction to a Systematic Review and Evidence-Based Clinical Practice Guideline for Brain Metastases

Steven N. Kalkanis, Mark E. Linskey

2:40 – 2:55 PM

The Role of Whole Brain Radiation Therapy (WBRT) in the Management of Newly-Diagnosed Brain Metastases

Laurie Elizabeth Gaspar

2:55 – 3:10 PM

The Role of Surgical Resection in the Management of Newly-Diagnosed Brain Metastases

Timothy C. Ryken, Steven N. Kalkanis

3:10 – 3:25 PM

The Role of Stereotactic Radiosurgery in the Management of Newly-Diagnosed Brain Metastases

Douglas Kondziolka, Mark E. Linskey

3:25 – 3:35 PM

The Medical Management of Brain Metastases: The Role of Chemotherapy, Steroids and Anticonvulsants

Timothy C. Ryken

3:35 – 3:45 PM

What Are the Best Re-treatment Options for Recurrent and/or Progressive Brain Metastases?

Charles S. Cobbs, Mario Ammirati

3:45 – 3:55 PM

Emerging and Investigational Therapies for Brain Metastases: New Horizons

Jeffrey J. Olson

3:55 – 4:00 PM

Summary, Conclusions and Discussion

Steven N. Kalkanis

4:00 – 5:30 PM

Part 2:

IML: The Science of Practice

Course Director: *Nicholas M. Boulis*

4:00 – 4:30 PM

IML: Defining Existing Knowledge and Practice Patterns

Frederick G. Barker

4:30 – 5:00 PM

IML Results for Cerebral Metastases

Michael A. Vogelbaum

5:00 – 5:30 PM

IML Online and Outcomes: Future Directions

Nicholas M. Boulis

A CULTURE OF EXCELLENCE

PURSUING EXCELLENCE

Tuesday Highlights

Exhibit Hall Open
9:00 AM – 3:00 PM

Book Signing with Walter Isaacson 11:45 AM

SPECIAL COURSE II
Global Disease: Infections
2:30 – 5:30 PM

CONSENSUS SESSIONS

2:30 – 4:00 PM

**The Role of Mid-level Health Care Providers in
Modern Neurosurgery Practice**

4:00 – 5:30 PM

**Individual Practice Options for
Insurance Plan Participation**

INTEGRATED MEDICAL LEARNING® CLINICAL SCIENCE SESSIONS

2:30 – 4:00 PM

SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

**What is the Best Management Strategy for Single
Level Medically Refractory Cervical Radiculopathy?**

4:00 – 5:30 PM

SECTION ON STEREOTACTIC AND FUNCTIONAL NEUROSURGERY

**Anterior Temporal Lobectomy vs. Selective
Amygdalohippocampectomy: Is There an Advantage
in Seizure or Neuropsychological Outcomes?**

5:00 – 6:00 PM

CNS Resident SANS Challenge Finals

5:30 – 6:30 PM

CNS Annual Business Meeting

6:00 – 7:00 PM

CNS Resident Recruitment Social





GENERAL SCIENTIFIC SESSION II

7:00 – 11:45 AM

Pursuing Excellence in Neurosurgery

Moderator: *Russell R. Lonser, Ganesh Rao*

Presiding Officer: *Joel D. MacDonald*

Learning Objective: Following participation in this program, participants will be able to describe the mechanisms for pursuing excellence in clinical neurosurgery, basic science and clinical neurosurgical research and in the delivery of neurosurgical care to a variety of populations.

7:00 – 7:05 AM

Introduction

Gerald E. Rodts, Jr.

9:00 AM – 3:00 PM

Exhibits Open

10:55 – 10:57 AM

Introduction of NSI President

Ashwini D. Sharan

7:05 – 7:25 AM

Pursuing Excellence in Neurosurgical Training

Edward C. Benzel

9:00 – 9:30 AM

James T. Rutka
Honored Guest
Excellence in Clinical Neurosurgery: Practice and Judgment Make Perfect



10:57 – 11:12 AM

Basant Kumar Misra
Neurological Society of India President
Lecture



7:25 – 7:45 AM

Pursuing Excellence in Neurosurgical Science

Ralph G. Dacey, Jr.

9:30 – 10:30 AM

Coffee with Exhibitors

11:12 – 11:15 AM

Introduction of Walter E. Dandy Orator

Walter Isaacson

Nathan R. Selden

7:45 – 8:05 AM

Pursuing Excellence in Neurosurgical Innovation

L. Nelson Hopkins

10:30 – 10:35 AM

Introduction of Invited Third Annual Julian T. Hoff Lecturer Governor Bobby Jindal

Anil Nanda

11:15 – 11:45 AM

Walter Isaacson
2009 Walter E. Dandy Orator



8:05 – 8:25 AM

Pursuing Excellence in Health Care Delivery

Frederick G. Barker

10:35 – 10:55 AM

Governor Bobby Jindal
Invited Third Annual Julian T. Hoff Lecturer



8:25 – 8:45 AM

Pursuing Excellence in Delivery of Neurosurgical Care in a Resource Limited Environment (India)

Prakash Narain Tandon

8:45 – 9:00 AM

CNS Resident Award
Randomized Controlled Trial of the Use of Drains versus No Drains after Burr Hole Evacuation of Chronic Subdural Hematoma

Thomas Santarius

Join us for Coffee and Desserts in the Exhibit Hall!
1:30 – 2:30 PM



TUESDAY

October 27

Luncheon Seminars 12:00 – 1:30 PM

All Luncheon Seminars include a seated lunch served in the seminar room. Luncheon Seminar fees are \$60 each (\$45 each for Residents/Fellows/Nurses/Physician Extenders).

T19

Treatment of Peripheral Nerve and Brachial Plexus Trauma

Moderator: *Rajiv Midha*

Faculty: *Ketan Desai, Daniel H. Kim, Neal J. Naff, Robert L. Tiel*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss practical strategies for the management of various peripheral nerve injuries. Participants will also be able to discuss various diagnostic paradigms, treatment indications and timing, as well as surgical techniques used in the management of peripheral nerve injury.

T20

Surgical Management of Chiari and Syringomyelia

Moderator: *Neil Feldstein*

Faculty: *Richard G. Ellenbogen, John D. Heiss, Bermans Iskandar, David I. Sandberg*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss various medical and surgical treatment options in the management of Chiari I malformations, their controversies and the differences in management of pediatric vs. adult Chiari I malformations. Participants will also be able to describe new research relevant to the treatment of Chiari I malformations and syringomyelia.

T21

Spinal Cord Tumor Management

Moderator: *George I. Jallo*

Faculty: *Jacques Brotchi, Ehud Mendel, Suresh Nair, Robert A. Sanford*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the major types of spinal cord tumors, diagnostic and therapeutic alternatives and complication avoidance and management related to surgical treatment of these lesions.

T22

Surgical Intervention for Lumbar Spine: What the Literature Supports

Moderator: *Charles L. Branch, Jr.*

Faculty: *Iain H. Kalfas, P.S. Ramani, Christopher I. Shaffrey, Marjorie Wang*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the current literature on surgical treatment of degenerative lumbar spine disease. Participants will also be able to discuss the indications and expected outcomes for various lumbar spine surgical procedures.

T23

Cervical Spondylotic Myelopathy: Guidelines for Surgical Management

Moderator: *Andrew T. Dailey*

Faculty: *Michael G. Kaiser, Paul K. Maurer, Stephen Papadopoulos, V. Rajsekhar*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss diagnosis and differential diagnosis of cervical spondylotic myelopathy and evaluate the treatment options available. Participants will also be able to discuss outcomes of treatment in patients with cervical spondylotic myelopathy.

T24

Intraoperative Salvage Techniques: Getting Out of Trouble in Spinal Surgery

Moderator: *Edward C. Benzel*

Faculty: *Joseph T. Alexander, Michael W. Groff, Michael P. Steinmetz, Gregory R. Trost*

Learning Objective: At the conclusion of this seminar, participants will identify operative events dictating the need for intraoperative salvage techniques in spinal surgery and be able to discuss the specific techniques necessary to rectify intraoperative difficulties.

T25

Unruptured Aneurysm Management Strategies

Moderator: *Daniel L. Barrow*

Faculty: *Felipe Albuquerque, Anil K. Karapurkar, Aman B. Patel, Laligam N. Sekhar*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the epidemiology and natural history of unruptured intracranial aneurysms and will describe appropriate treatment algorithms for these lesions.

T26

Cerebral Ischemic Disease: Management Options

Moderator: *Saleem I. Abdulrauf*

Faculty: *Fady T. Charbel, Shastry Kolluri, Elad I. Levy, Henry H. Woo*

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the indications for both surgical and endovascular management of cerebral ischemic disease, including the evidence-based results and possible complications.



T27

Treatment of Cerebral Vasospasm

Moderator: Joel D. MacDonald

Faculty: E. Sander Connolly, Jr., Aaron S. Dumont, Jay M. Findlay, Adnan H. Siddiqui

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the natural history and current therapies to treat cerebral vasospasm, including medical management and endovascular techniques, with an emphasis on evidence-based outcomes and possible complications.

NEW T28

Management Strategies for Trigeminal Neuralgia

Moderator: Jeffrey A. Brown

Faculty: Oren Sagher, Marc Sindou, Keki E. Turel

Learning Objective: At the conclusion of this seminar, participants will be able to identify the surgical and non-surgical options available for managing trigeminal neuralgia, describe the indications for treating trigeminal neuralgia and discuss the differences between trigeminal neuralgia and other facial pain syndromes.

T29

Surgery for Epilepsy

Moderator: Guy M. McKhann

Faculty: Jean M. Regis, Atom Sarkar, Ashwini D. Sharan, V.P. Singh, Howard L. Weiner

Learning Objective: At the conclusion of this seminar, participants will be able to describe the clinical features of seizure disorders and be able to discuss various techniques in the preoperative, intraoperative and postoperative management of patients with epilepsy.

NEW T30

Emerging Technologies in Treatment of Neurotrauma

Moderator: Roland A. Torres

Faculty: Roger Hartl, Peter D. LeRoux, Geoffrey T. Manley, Alex B. Valadka

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the latest technological advancements in managing patients with traumatic brain injury, describe how these new technologies can improve outcomes and identify the latest surgical strategies for traumatic brain injury.

NEW T31

Skull Base Approaches

Moderator: John M. Tew, Jr.

Faculty: Atul Goel, Ossama Al-Mefty, Ali F. Krisht, Mitesh V. Shah, Bhawani Sharma

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the common pathologies affecting the skull base, describe the various surgical approaches available for treating skull base lesions and identify the available surgical adjuncts in managing patients with skull base lesions.

T32

State-of-the-Art Management of Brain Metastases

Moderator: Antonio A. De Salles

Faculty: John Adler, Anthony L. Asher, Randy L. Jensen, Steven A. Toms, Robert J. Weil

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the current status of research pertaining to the treatment of brain metastases and describe surgical and radiosurgical treatment options appropriate for treating intracranial metastases, their complications and results.

T33

Pituitary Surgery

Moderator: Nelson M. Oyesiku

Faculty: Deepu Banerji, Ian E. McCutcheon, Edward H. Oldfield, Theodore H. Schwartz

Learning Objective: At the conclusion of this seminar, participants will identify the technical fundamentals and nuances in performing pituitary surgery, and be able to discuss new techniques and advances in treatment.

T34

Management of Low Grade Gliomas: Current Strategies and Dilemmas

Moderator: Linda M. Liau

Faculty: Mitchel Berger, Subhash R. Dharker, John K. Park, John H. Sampson, Manfred Westphal

Learning Objective: At the conclusion of this seminar, participants will be able to describe various surgical and medical modalities appropriate for the treatment of low grade gliomas, as well as current research pertaining to the management of these tumors.



TUESDAY

October 27

T35

Management Strategies for Adult Hydrocephalus

Moderator: Peter McLaren Black

Faculty: Ramesh C. Mishra, Jogi V. Pattisapu, Daniele Rigamonti, Richard Schmidt

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the available and emerging technologies relevant to the treatment of hydrocephalus. Participants will also be able to identify complications, list techniques to avoid them and describe outcomes in the treatment of hydrocephalus.

NEW T36

Current Issues in Medical Liability

Moderator: Alan M. Scarrow

Faculty: Deborah L. Benzil, Stanley W. Fronczak, Catherine A. Mazzola, Michael K. Rosner

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the current crisis in medical liability, describe the common weaknesses in most medical practices with regard to medical liability and identify ways to protect practices from the current medical liability atmosphere.

NEW T37

Management of Congenital Abnormalities in the Developing World

Moderator: Marion L. Walker

Faculty: Samuel R. Browd, Benjamin S. Carson, James T. Goodrich, A.K. Mahapatra

Learning Objective: At the conclusion of this seminar, participants will be able to discuss unique presentations of congenital abnormality in the developing world, describe their unique surgical considerations and identify optimal postoperative management strategies.

Your Meeting. Your Agenda.

IMIL

Integrated Medical Learning®

Be a part of the CNS Annual Meeting by participating in Integrated Medical Learning® (IML). IML participants define the content and direction of these sessions by participating in pre-meeting surveys and reviewing relevant literature. During on site sessions, learners evaluate key evidence, interact with faculty and define current and future practice through interactive polling.

- Experts debate the issues of the day.
- Evidence competes with practice.
- Neurosurgery advances with your participation.

Be a part of this dynamic and novel learning paradigm Tuesday and Wednesday afternoons!

Attention Residents!

CNS Resident **SANS** Challenge



The 2009 CNS Resident SANS Challenge offers your program the chance to compete in a live game show-style contest at the 2009 CNS Annual Meeting.

Preliminary Rounds	Sunday, October 25	3:00 – 6:00 PM
Final Round	Tuesday, October 27	5:00 – 6:00 PM

Contend for

- ▶ **Bragging rights**
- ▶ **Trophies**
- ▶ **A cash prize for your program**

1st Place Team \$2,500

2nd Place Team \$1,500

3rd Place Team \$1,000

Take the online quiz at www.cns.org! The nine highest-scoring training programs will each send their top two players to live rounds at the 2009 CNS Annual Meeting in New Orleans, Louisiana. (Travel expenses to the CNS Annual Meeting must be covered by program or individual.)

**All North American Residents are eligible.
All scores are confidential.**

Log on to play: July 15 – August 5, 2009 www.cns.org



TUESDAY

October 27

2:30 – 5:30 PM

SPECIAL COURSE II

Global Disease: Infections

Course Directors: *Ajik K. Banerji, Abdeslam El Khamlichi*

Learning Objective: At the conclusion of this course, participants will identify patterns of infectious disease complications affecting the central nervous system in the developing and developed world, list the contrasts between disease patterns in these settings, describe treatment options for these infectious diseases and identify possible complications and their management.

2:30 – 3:00 PM

Neurocysticercosis

Vedantam Rajshekhar, Jaime Torres-Corzo

3:00 – 3:15 PM

Discussion

3:15 – 3:45 PM

Cranial and Spinal Manifestations of Tuberculosis

Mazhar Husain, Shashank Sharad Kale

3:45 – 4:00 PM

Discussion

4:00 – 4:30 PM

Fungal Diseases of the CNS

Ravi Ramamurthi

4:30 – 4:45 PM

Discussion

4:45 – 5:15 PM

Neurosurgical Manifestations of HIV

Ravi Ramamurthi, Graham A. Fieggen

5:15 – 5:30 PM

Discussion

2:30 – 4:00 PM

CONSENSUS SESSION I

The Role of Mid-level Health Care Providers in Modern Neurosurgery Practice

Moderators: *Edward C. Benzel, Richard P. Schlenk*

Technology Moderator: *Bradley T. Bagan*

Learning Objective: At the conclusion of this session, participants should be able to describe the current the utilization of midlevel health care providers in modern Neurosurgery practice, describe the roles of Nurse Practitioners, Physician Assistants and Advanced Practice Nurses in modern Neurosurgery practice, list the parameters by which one can determine the best model on a practice-specific basis, and identify the likely impact of each model on both the quality and volume of Neurosurgery care provided.

2:30 – 2:40 PM

Introduction and Audience Polling

2:40 – 2:55 PM

Mid-level Health Care Providers – Scope of Practice

Andrea L. Strayer, MSN, APNP, CNRN

2:55 – 3:10 PM

Mid-level Health Care Providers – Limitations of Practice

Brenda Hill, PA-C

3:10 – 3:25 PM

Solutions – Practice Models

Debra Kangisser

3:25 – 4:00 PM

Positions/Strategies

3:25 – 3:30 PM

Role of MLPs in Hospital Based Private Practice

Steven A. Toms

3:30 – 3:35 PM

Role of MLPs in Non-hospital Based Private Practice

Alexander Mason

3:35 – 3:40 PM

Role of MLPs in Academic Neurosurgery Practice

Carlo M. de Luna

3:40 – 3:55 PM

Interactive Discussion

Edward C. Benzel, Richard P. Schlenk

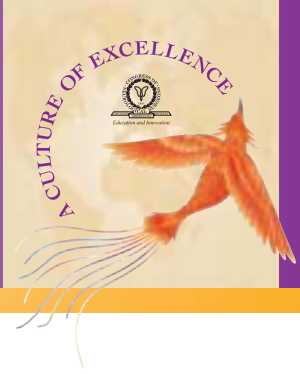
3:55 – 4:00 PM

Audience Polling

Let Your Voice Be Heard.

Consensus Sessions offer attendees a chance to contribute to the advancement of organized neurosurgery by weighing in on critical socioeconomic issues and public policy topics.

Available Tuesday and Wednesday, these unique workshops allow attendees the opportunity to truly be a part of the CNS Annual Meeting and the future of neurosurgery!



2:30 – 4:00 PM

IML

INTEGRATED MEDICAL LEARNING® CLINICAL SCIENCE SESSION: SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

What Is the Best Management Strategy for Single Level Medically Refractory Cervical Radiculopathy?

Moderators: James S. Harrop, Praveen V. Mummaneni

Technology Moderators: W. Jeffrey Elias, Mark H. Bilsky, Hugh D. Moulding

Learning Objective: At the conclusion of this session, participants will be able to list the surgical options for treatment of cervical radiculopathy, describe contraindications to cervical arthroplasty and discuss the management benefits and indications for cervical foraminotomy, arthrodesis and arthroplasty.

Case Presentations

Audience Polls

- Current Opinion
- Evidence
- Practice

Digitally Submitted Questions

Expert Discussion: What is the Best Management Strategy for Single Level Medically Refractory Cervical Radiculopathy?

Regis W. Haid, Jr., John A. Jane, Sr., Michael G. Fehlings

2:30 – 4:00 PM

SECTION ON PAIN

Intrathecal Drug Therapy for Non-malignant Pain: Excellence in Pain Relief

Moderators: Julie G. Pilitsis, Alon Y. Mogilner

Learning Objective: At the conclusion of this session, participants will be able to describe patient selection for IDT for non-malignant pain, to identify the role of IDT in the multidisciplinary approach to the pain patient and be able to discuss current reimbursement issues in IDT.

2:30 – 2:55 PM

Case for Intrathecal Drug for Non-malignant Pain: Excellence in Pain Relief

Richard D. Penn

2:55 – 3:20 PM

Case Against Intrathecal Drug for Non-malignant Pain: Excellence in Pain Relief

Joshua M. Rosenow

3:20 – 3:45 PM

Socioeconomics of Implantable Devices for Pain Control

Richard B. North

3:45 – 4:00 PM

Panel Discussion

2:30 – 4:00 PM

SECTION ON CEREBROVASCULAR SURGERY

The Pursuit of Excellence in Neurovascular Surgery: Translating Science into Clinical Practice

Moderators: Carlos A. David, Kevin M. Cockroft

Learning Objective: At the conclusion of this session, participants will be able to describe the pursuit of excellence in neurovascular surgery through the process of translating clinical and basic science research into day-to-day clinical practice, discuss the process by which clinical and technical excellence is achieved, and evaluate how current technologies affect treatment for cerebrovascular disease.

2:30 – 2:35 PM

Introduction of Drake Lecturer

John A. Wilson, Jr.

2:35 – 2:55 PM

Annual Drake Lecture

Robert E. Harbaugh

2:55 – 3:00 PM

Defining Excellence

John A. Wilson, Jr.

3:00 – 3:15 PM

Impact of Recent Clinical Trials on the Treatment of Intracranial Aneurysms

Jacques J. Morcos

3:15 – 3:30 PM

Pursuing Excellence in the Treatment of Brain AVMs: Influence of Clinical Trials and Natural History

Michael T. Lawton

3:30 – 3:45 PM

Ischemic Stroke Intervention: Technology vs. Efficacy

Byron Gregory Thompson

3:45 – 4:00 PM

Embracing the Future/Maintaining a Culture of Excellence in Cerebrovascular Surgery

L. Nelson Hopkins

4:00 – 5:30 PM

CONSENSUS SESSION II

Individual Practice Options for Insurance Plan Participation

Moderators: Joshua M. Rosenow, Richard W. Byrne

Technology Moderator: Aaron S. Dumont

Learning Objectives: At the conclusion of this session, participants should be able to describe the current reimbursement environment for neurosurgery, list different options for participation in Medicare and private insurance plans and identify the impact of participation choices on patient volume and practice revenue.

4:00 – 4:10 PM

Introduction and Audience Polling: Current Attitudes, Knowledge and Practice Regarding Participation in Insurance Plans

4:10 – 4:25 PM

Current Status of Medicare and Insurance Reimbursement and Possible Future Scenarios With and Without National Health Reform

Monica C. Wehby

4:25 – 4:40 PM

Individual Practice Options for Participation in Insurance Plans and Implications for Patient Flow and Reimbursement

Michael B. Sisti

4:40 – 4:55 PM

Individual Practice Options for Participation in Medicare and Medicare Advantage Plans and Implications for Patient Flow and Reimbursement

Katie O. Orrico, JD

4:55 – 5:10 PM

Consensus Development – Individual Practice Options

4:55 – 5:00 PM

Accept All Patients for the Good of Society

Alan M. Scarrow

5:00 – 5:05 PM

Withdraw from Medicare but Continue to Accept Insurance

David McKalip

5:05 – 5:10 PM

Withdraw from Medicare and Insurance Plans

Stanley W. Fronczak

5:10 – 5:30 PM

Interactive Discussion and Consensus Development

Joshua M. Rosenow, Richard W. Byrne

4:00 – 5:30 PM

IML

INTEGRATED MEDICAL LEARNING® CLINICAL SCIENCE SESSION: SECTION ON STEREOTACTIC AND FUNCTIONAL NEUROSURGERY

Anterior Temporal Lobectomy vs. Selective Amygdalohippocampectomy: Is There an Advantage in Seizure or Neuropsychological Outcomes?

Moderators: Guy M. McKhann, II, Robert E. Gross

Technology Moderators: Emad N. Eskandar, W. Jeffrey Elias

Learning Objective: Upon completion of this session the participants will be able to list the indications for temporal lobe surgery in the treatment of epilepsy, assess the advantages and disadvantages of anterior temporal lobectomy versus selective amygdalohippocampectomy in the treatment of epilepsy, and describe conditions that favor the use of one or the other of these procedures.

Case Presentations

Audience Polls

Current Opinion

Evidence

Practice

Digitally Submitted Questions

Expert Discussion: Anterior Temporal Lobectomy vs. Selective Amygdalohippocampectomy: Is There an Advantage in Seizure or Neuropsychological Outcomes?

G. Rees Cosgrove, Nicholas M. Barbaro

4:00 – 5:30 PM

SECTION ON NEUROTRAUMA AND CRITICAL CARE

Excellence Outside the Box: Bringing the Future into the Now

Moderators: David O. Okonkwo, Dilantha B. Ellegala

Learning Objective: At the conclusion of this session, participants will be able to describe the value of new spinal cord imaging techniques, evaluate the effectiveness of emergency hypothermia for traumatic brain injury and assess whether pharmacogenomics can be applied to neurotrauma.

4:00 – 4:05 PM

Introduction of Integra Foundation Lecturer Patrick M. Kochanek

P. David Adelson

4:05 – 4:45 PM

Integra Foundation Lecture: Emergency Preservation and Resuscitation

Patrick M. Kochanek

4:45 – 5:00 PM

Pharmacogenomics in TBI

Geoffrey T. Manley

5:00 – 5:15 PM

Spinal Cord Injury Biomarkers

Steven Casha

5:15 – 5:30 PM

Diffusion Tensor Imaging in Traumatic Spinal Cord Injury

Eve Tsai



4:00 – 5:30 PM

SECTION ON PEDIATRIC NEUROLOGICAL SURGERY

Excellence in Pediatric Neurosurgery: Avoiding Complications

Moderators: Mark D. Krieger, John Wellons, III

Learning Objective: At the conclusion of this session, participants will be able to discuss the avoidance of complications associated with surgery for: pediatric brain tumors, movement disorders (including intrathecal baclofen pump placement, rhizotomy and deep brain stimulator placement), hydrocephalus, pediatric spinal trauma and congenital spinal disorders.

4:00 – 4:30 PM

Brain Tumor Surgery

Jeffrey H. Wisoff, Corey Raffel

4:30 – 4:45 PM

Treatment of Hydrocephalus: Shunts and Endoscopy

James M. Drake

4:45 – 5:15 PM

Spasticity and Movement Disorders

A. Leland Albright

5:15 – 5:30 PM

Pediatric Spine

Arnold H. Menezes

5:00 – 6:00 PM

CNS RESIDENT SANS CHALLENGE FINALS

See page 45 for details.

5:30 – 6:30 PM

CNS ANNUAL BUSINESS MEETING

6:00 – 7:00 PM

CNS RESIDENT RECRUITMENT SOCIAL

You're invited to the

2009 CNS Resident Recruitment Social

Tuesday, October 27

6:00 – 7:00 PM

Come build relationships at this relaxed and informal networking event.

Residents

If you are within 2-3 years of completing your residency, you don't want to miss this complimentary opportunity. Make new connections and establish a network of contacts with recruiters and practicing physicians who are looking to add to their practice.

Recruiters

This event is open to official exhibitors of the CNS Annual Meeting who are looking to fill positions. Meet the best and brightest young neurosurgeons from across the country and around the world. Post open positions on the CNS Job Placement Service for even more exposure prior to the Annual Meeting.

This is one event you don't want to miss!



MEASURING EXCELLENCE

Wednesday Highlights

Exhibit Hall Open
9:00 AM – 3:00 PM

Book Signing with Terry Orlick, PhD 11:45 AM

**Operative Techniques with the Masters:
3-D Live Cadaveric Demonstration of
Surgical Techniques**
2:30 – 5:30 PM

CONSENSUS SESSIONS

2:30 – 4:00 PM

Regionalizing Emergency Cerebrovascular Care

4:00 – 5:30 PM

Defining Quality Measures in Neurosurgery

INTEGRATED MEDICAL LEARNING® CLINICAL SCIENCE SESSIONS

2:30 – 4:00 PM

SECTION ON PEDIATRIC NEUROLOGICAL SURGERY

**What Extent of Decompression Is
Necessary in the Surgical Management of
Chiari I Malformations?**

4:00 – 5:30 PM

SECTION ON CEREBROVASCULAR SURGERY

**Small Hemispheric AVMs: To Treat or Not Treat
and Surgery vs. Radiosurgery**





GENERAL SCIENTIFIC SESSION III

7:00 – 11:45 AM

Measuring Excellence in Global Neurosurgery

Moderators: Michael A. Vogelbaum, Ashok R. Asthigiri

Presiding Officer: Christopher E. Wolfla

Learning Objective: Following participation in this program, participants will be able to describe the use of measurement to promote excellence in clinical neurosurgery, neurosurgical research and delivery of neurosurgical care.

7:00 – 7:05 AM

Introduction

Christopher C. Getch

7:05 – 7:25 AM

Measuring Excellence in Neurosurgical Care

Robert E. Harbaugh

7:25 – 7:45 AM

Measuring Excellence in Neurosurgical Competency and Certification

Nelson M. Oyesiku

7:45 – 8:05 AM

Measuring Excellence in Clinical Translational Research

Andres M. Lozano

8:05 – 8:20 AM

Measuring Excellence in Health Care Delivery – United States

Stephen L. Ondra

8:20 – 8:40 AM

Measuring Excellence in Health Care Delivery – Canada

Alan R. Hudson

8:40 – 9:00 AM

Measuring Excellence in Health Care Delivery – India

Vijay K. Kak

9:00 AM – 3:00 PM

Exhibits Open

9:00 – 9:05 AM

Introduction of Fourth Annual John Thompson History of Medicine

Lecturer Peter Agre, MD

Geoffrey T. Manley

9:05 – 9:30 AM

Peter Agre, MD

Fourth Annual John Thompson History of Medicine Lecturer



9:30 – 10:30 AM

Coffee with Exhibitors

10:30 – 10:55 AM

James T. Rutka

Honored Guest Excellence in Neurosurgical Program Building: Enhancing the Academic Mission



10:55 – 11:00 AM

Presentation of the Founders' Laurel

11:00 – 11:10 AM

Presidential Acknowledgment

P. David Adelson

11:10 – 11:15 AM

Introduction of the CNS Michael L.J. Apuzzo Lecturer on Creativity and Innovation Terry Orlick, PhD

James T. Rutka

11:15 – 11:45 AM

Terry Orlick, PhD

CNS Michael L.J. Apuzzo Lecturer on Creativity and Innovation



Join us for Coffee and Desserts in the Exhibit Hall!

1:30 – 2:30 PM



WEDNESDAY

October 28

Luncheon Seminars 12:00 – 1:30 PM

All Luncheon Seminars include a seated lunch served in the seminar room. Luncheon Seminar fees are \$60 each (\$45 each for Residents/Fellows/Nurses/Physician Extenders).

NEW W38

Treatment of the Aging Spine

Moderator: Praveen V. Mummaneni

Faculty: Peter D. Angevine, Daniel R. Fassett, Adam S. Kanter, Anthony H. Sin

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the characteristics of spinal disorders unique to elderly patients and describe surgical considerations for treating spinal disorders in the aging population.

NEW W39

Sports Related Spinal Injuries

Moderator: Larry T. Khoo

Faculty: Robert C. Cantu, Langston T. Holly, Iain H. Kalfas, Joseph C. Maroon

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the unique spine injuries associated with various sporting activities, describe surgical and non-surgical management of sports related spinal injuries, and identify the variability in sports related spine and spinal cord injuries across different age groups.

W40

Metastatic Spine Disease Management Options

Moderator: Ziya L. Gokaslan

Faculty: Lilyana Angelov, Mark H. Bilsky, Satnam Chhabra, Laurence D. Rhines

Learning Objective: At the conclusion of this seminar, participants will be able to list current diagnostic and treatment strategies for metastatic tumors of the spine and will describe a conceptual framework for decision making about surgery, conventional radiation, radiosurgery and vertebral augmentation for these disorders.

W41

Spine Trauma and Spinal Cord Injury

Moderator: Mark N. Hadley

Faculty: Sarat P. Chandra, Michael G. Fehlings, Barth A. Green, Nicholas Theodore

Learning Objective: At the conclusion of this seminar, participants will be able to discuss advances in the medical treatment of traumatic spinal cord injury, as well as state of the art surgical management of cervical spine trauma and spinal cord injury. Participants will also be able to outline protocols for identifying and assessing cervical spine injury in the comatose patient.

W42

Anterior vs. Posterior Approaches for Cervical Radiculopathy

Moderator: Gregory R. Trost

Faculty: Andrew T. Dailey, Michael W. Groff, Allan D. Levi, Ravi Ramamurthi

Learning Objective: At the conclusion of this seminar, participants will be able to identify the advantages and disadvantages of the various surgical approaches for the management of cervical disc herniation with radiculopathy, including the anterior foraminotomy approach as well as more traditional approaches.

W43

Adult Spinal Deformity Management

Moderator: Christopher I. Shaffrey

Faculty: Robert F. Heary, Charles Kuntz, IV, Frank LaMarca, Michael K. Rosner

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the various types of spinal deformity, appropriate diagnostic evaluation and management strategies, with an emphasis on surgical planning and the use of current operative techniques to improve clinical outcome.

NEW W44

Pediatric Brain Tumor Treatment Strategies

Moderator: Frederick A. Boop

Faculty: Sandip Chatterjee, Michael H. Handler, Mark M. Souweidane, John Wellons, III

Learning Objective: At the conclusion of this seminar, participants will be able to identify the various types of pediatric brain tumors and discuss current modalities of surgical and medical therapy for them.

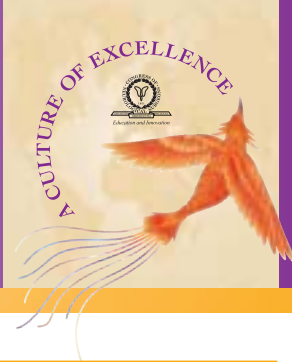
NEW W45

Pediatric Spine Management (Traumatic and Congenital)

Moderator: Arnold H. Menezes

Faculty: Douglas L. Brockmeyer, Andrew Jea, David W. Pincus, Luis F. Rodriguez

Learning Objective: At the conclusion of this seminar, participants will be able to identify the various traumatic spine and spinal cord injuries and the various congenital spine and spinal cord diseases affecting the pediatric population. Participants will also be able to describe the various surgical and non-surgical management techniques available for managing traumatic and congenital spine and spinal cord injuries in the pediatric population.



NEW W46

Management of Complications in Aneurysm Surgery

Moderator: Robert M. Friedlander

Faculty: Vijendra K. Jain, Giuseppe Lanzino, Michael T. Lawton, Christian Raftopoulos

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the common complications in aneurysm surgery, describe management of complications occurring during aneurysm surgery, and list the different techniques available to manage complications with adjunctive technologies.

W47

New Innovations in Open and Endovascular Neurosurgery

Moderator: Henry H. Woo

Faculty: David Fiorella, David J. Langer, Peter Kim Nelson, Uday Limaye

Learning Objective: At the conclusion of this seminar, participants will be able to discuss emerging technologies in open vascular neurosurgery, list emerging technologies in endovascular neurosurgery, and describe how to apply these technologies to managing patients with intracranial vascular disease.

W48

Common and Uncommon Peripheral Nerve Entrapment Syndromes

Moderator: Eric L. Zager

Faculty: Line Jacques, Michel Kliot, Christopher J. Winfree

Learning Objective: At the conclusion of this seminar, participants will be able to discuss basic nerve entrapment syndromes and their medical and surgical management, as well as indications and techniques for peripheral nerve surgery. Participants will also list strategies for augmenting peripheral nerve surgery in their practices.

W49

Neuromodulation for Pain

Moderator: Alon Y. Mogilner

Faculty: Giovanni Broggi, Alexandre N. Francisco, Andre Machado, Konstantin V. Slavin

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the use of motor cortex stimulation for pain, movement disorders and stroke. Participants will also be able to describe the current literature on motor cortex stimulation, as well as ongoing studies.

NEW W50

Management of Head Injury in the US and Internationally

Moderator: Raj K. Narayan

Faculty: Harjinder S. Bhatoo, Richard G. Ellenbogen, Jamshid Ghajar, David O. Okonkwo

Learning Objective: At the conclusion of this seminar, participants will be able to discuss current practice standards for managing traumatic brain injury in the United States, describe the practical issues surrounding management of traumatic brain injury around the world, and identify the unique challenges facing patients with traumatic brain injury in the developing world.

NEW W51

Management of Complications in Skull Base Surgery

Moderator: William T. Couldwell

Faculty: Ossama Al-Mefty, Jon H. Robertson, Laligam N. Sekhar, Harry Van Loveren

Learning Objective: At the conclusion of this seminar, participants will be able to describe the common complications occurring in skull base surgery, various techniques available for managing complications during skull base surgery and the role of adjunctive technologies in managing complications during and after skull base surgery.

W52

Malignant Gliomas: Future Treatment Strategies

Moderator: E. Antonio Chiocca

Faculty: Gene H. Barnett, Amy B. Heimberger, Zvi Ram, Jeffrey S. Weinberg

Learning Objective: At the conclusion of this seminar, participants will be able to discuss current and emerging techniques for treating patients with malignant gliomas and their impact on treatment strategies for these patients.

W53

radiosurgery in Neuro-Oncology

Moderator: Bruce E. Pollock

Faculty: John G. Golfinos, Aditya Gupta, Jean M. Regis, Jason P. Sheehan

Learning Objective: At the conclusion of this seminar, participants will be able to describe the evidence in the medical literature evaluating the use of radiosurgery for neurosurgical disorders including tumors, vascular lesions, and functional applications.

NEW W54

Strategies for Maximizing Reimbursement

Moderator: Joseph S. Cheng

Faculty: Jeffrey W. Cozzens, Holly Gilmer, Clarence Watridge, John A. Wilson

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the pressures in the current economic environment affecting medical reimbursement, describe strategies available for maximizing reimbursement in the existing economic environment and identify approaching challenges in medical reimbursement.

NEW W55

Managing Intracranial Mass Lesions in the Developing World

Moderator: Manas Panigrahi

Faculty: Sanjay Behari, Aadil Chagla, Anthony Figaji, Bhawani S. Sharma, Mazhar Husain

Learning Objective: At the conclusion of this seminar, participants will be able to identify common intracranial pathologies in the developing world, describe various surgical strategies available for treating these pathologies, and recognize challenges to postoperative management in these patients.

Special Travel Awards are available to NSI Members through AASAN.

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For more information please contact Praveen V. Mummaneni, MD at vmum@aol.com.

You're Invited

In Honor of our International Colleagues,
the Congress of Neurological Surgeons invites
all International Attendees to the

**CNS International Reception,
Wednesday, October 28, 2009, 6:30 – 8:00 PM at
The Audubon Aquarium of the Americas**

The CNS invites our International colleagues to join us for a night of adventure and camaraderie as we explore the world under, and above, the sea at the Audubon Aquarium of the Americas, exclusively reserved for the CNS International attendees. Join your international colleagues as you view the sights and sounds of the exhibition and enjoy sumptuous hors d'oeuvres and beverages.

Discover unusual and endangered species like Spots, a rare white alligator, and two adorable Sea Otters – Buck and Emma! Penguins, sting rays, sharks and other deep sea creatures also eagerly await your visit. Journey down the Mississippi River, walk beneath the vivid Caribbean Reef and marvel at the lush beauty of the Amazon Rainforest during this exciting event.

Please join us to celebrate at the
2009 CNS Annual Meeting International Reception.





2:30 – 5:30 PM

**OPERATIVE TECHNIQUES WITH THE MASTERS:
3-D LIVE CADAVERIC DEMONSTRATION OF
SURGICAL TECHNIQUES**

Course Director: *Saleem I. Abdulrauf*

Learning Objective: Upon completion of this course, participants will be able to discuss the microsurgical principles for trajectories used to approach lesions in the basal cisterns, mesial temporal lobe, and brainstem. Participants will be able to describe the microsurgical principles of surgery involving the Sylvian fissure and clipping of a complex middle cerebral artery aneurysm, for lesions involving the suprasellar region, for subtemporal approaches to the upper basilar region and clipping of a complex wide necked basilar apex aneurysm, for transtemporal approaches to the mesial temporal lobe for performance of an amygdalohippocampectomy, for accessing brainstem lesions including resection of a cavernous malformation involving the pons, and for lateral skull base surgery and the microsurgical resection of a petroclival meningioma. Participants will also be able to discuss methods of avoiding complications during basal cistern surgery, vascular surgery, mesial temporal lobe surgery, skull base surgery, and surgery of brainstem lesions. By the end of the session, participants will be able to identify the critical anatomical landmarks, list each technical step, and identify the potential pitfalls of each of these approaches.

Cranio-orbital-zygomatic Approach for a Parasellar Meningioma
Ossama Al-Mefty

Endoscopic Extended Transsphenoidal Approach for a Pituitary Adenoma
William T. Couldwell

Transsylvian and Pretemporal Approach for a Wide Neck Basilar Apex Aneurysm
Daniel L. Barrow

Percutaneous Rhizotomy for Trigeminal Neuralgia
Kim J. Burchiel

Petrosal Approach for a Brainstem Cavernous Malformation
Laligam N. Sekhar

Far Lateral Approach for a Complex Vertebral Artery-PICA Aneurysm
H. Hunt Batjer

3-D Cadaveric Demonstrations Live from the GSS Stage!



This popular session brings neurosurgical masters together to demonstrate six microsurgical principles live on the GSS stage. Join us for this innovative session which features cadaveric demonstrations using state-of-the-art 3-D imaging technology, followed by cutting edge videos.



WEDNESDAY

October 28

2:30 – 4:00 PM

CONSENSUS SESSION III

Regionalizing Emergency Cerebrovascular Care

Moderators: *Jamie S. Ullman, Henry H. Woo*

Technology Moderator: *Bradley T. Bagan*

Learning Objective: At the conclusion of this session, participants should be able to examine the rationale for regionalizing cerebrovascular and stroke care, identify the impact of endovascular care on operative management of cerebrovascular disease, and list the arguments for and against regionalization of cerebrovascular care and surgery.

2:30 – 3:10 PM

Regionalizing Cerebrovascular Care and Designated Stroke Centers: Rationale

Alex B. Valadka

3:10 – 3:20 PM

The Endovascular Revolution in Stroke and SAH Care

Elad I. Levy

3:20 – 3:30 PM

What Remains for the Operating Neurosurgeon in Stroke and SAH Care

H. Hunt Batjer

3:30 – 3:50 PM

Regionalization: Yes/No

Yes: *Joshua B. Bederson*

No: *Craig A. Van Der Veer*

3:50 – 4:00 PM

Audience Polling and Discussion

2:30 – 4:00 PM

IML

INTEGRATED MEDICAL LEARNING® CLINICAL SCIENCE SESSION: SECTION ON PEDIATRIC NEUROLOGICAL SURGERY

What Extent of Decompression Is Necessary in the Surgical Management of Chiari I Malformations?

Moderators: *Hugh Garton, John D. Heiss*

Technology Moderators: *Brian T. Ragel, Philipp R. Aldana, Jogi V. Pattisapu*

Learning Objective: At the conclusion of this session, participants will be able to identify the clinical and physiologic arguments for, and against, extensive vs. limited decompressive procedures in the management of symptomatic Chiari Malformation in pediatric and adult patients. Participants will also be able to describe available extra- and intraoperative adjuncts that may assist in evaluating the extent of Chiari decompression required in individual patients, and the level of evidence supporting their use.

Case Presentations

Audience Polls

- Current Opinion
- Evidence
- Practice

Digitally Submitted Questions

Expert Discussion: What Extent of Decompression Is Necessary in the Surgical Management of Chiari I Malformations?

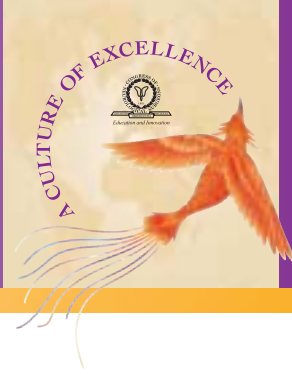
W. Jerry Oakes, Neil A. Feldstein, Ulrich Batzdorf

*The Congress of Neurological Surgeons
gratefully acknowledges*

Codman
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*for providing an educational grant in support of complimentary
NEUROSURGERY® subscriptions for the CNS Resident Members.*



2:30 – 4:00 PM

SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

New Developments in the Management of Spinal Trauma

Moderators: Charles L. Branch, Jr., Christopher E. Wolfa

Learning Objective: At the conclusion of this session, participants will be able to discuss the management of complex spinal column injuries, describe the latest development in experimental trials in spinal cord injury, and discuss the fixation of the spinal column at different anatomical levels.

2:30 – 2:45 PM

Spinal Cord Injury Trials Outside the United States

Allan D. Levi

2:45 – 2:59 PM

New Frontiers in Peripheral Nerve Repair

Allen H. Maniker

2:59 – 3:13 PM

Occipito-atlanto-axial Fixation

Regis W. Haid, Jr.

3:13 – 3:27 PM

Complex Thoracolumbar Dislocations

Michael W. Groff

3:27 – 3:41 PM

Sacropelvic Injuries

Christopher I. Shaffrey

3:41 – 3:55 PM

Lessons from the Military Management of Spinal Trauma

Michael K. Rosner

3:55 – 4:00 PM

Discussion

2:30 – 4:00 PM

SECTION ON TUMORS

Achieving Excellence in Craniopharyngioma

Moderators: Paul A. Gardner, John A. Jane, Jr.

Learning Objective: At the conclusion of this session, participants will be able to describe the indications for surgery and/or radiation therapy for patients with craniopharyngioma, to identify both open and endoscopic surgical approaches to craniopharyngioma, and discuss the impact of surgery and radiation on disease control and long-term cognitive outcome for patients with craniopharyngioma.

2:30 – 2:40 PM

Opening Presentation and Perspective

James T. Rutka

2:40 – 2:55 PM

Discussion of Open Surgical Approaches

Jeffrey Bruce

2:55 – 3:10 PM

Discussion of Endoscopic Surgery for Craniopharyngioma

Charles Teo

3:10 – 3:25 PM

Discussion of Radiation Therapy and Outcomes

Thomas Merchant

3:25 – 3:40 PM

Discussion of Surgery and Outcomes

Jeffrey H. Wisoff

3:40 – 4:00 PM

Panel Questions

**4:00 – 5:30 PM****CONSENSUS SESSION IV****Defining Quality Measures in Neurosurgery**

Moderators: Todd Vitaz, Robert J. Weil

Technology Moderator: Shivanand P. Lad

Learning Objective: At the conclusion of this session, participants should be able to identify the differences between outcomes measures and quality measures, explain the importance of incorporating quality measures into professional practice, describe the approaches used by other specialties and discuss the impact of these models on future trends in healthcare delivery and reimbursement.

4:00 – 4:10 PM

Introduction and Audience Polling

Todd Vitaz

4:10 – 4:25 PM

Quality Measures in Medicine: Past, Present and Future

Daniel K. Resnick

4:25 – 4:40 PM

Quality Measures Should Be General and Bridge Across all of Neurosurgery

David McKalip

4:40 – 4:55 PM

Quality Measures Should Be Subspecialty Specific and I Suggest Using a Standardized Clinical Outcome Metric for Spine Surgery

Charles L. Branch, Jr.

4:55 – 5:10 PM

Quality Measures Should Be Specialty Specific, or Have a Sufficient Subspecialty Evidence Base to Insure External Quality

Mark E. Linskey

5:10 – 5:20 PM

Questions and Discussion

Robert J. Weil

5:20 – 5:25 PM

Audience Polling

Robert J. Weil

5:25 – 5:30 PM

Summary

Robert J. Weil, Todd Vitaz

4:00 – 5:30 PM**IML****INTEGRATED MEDICAL LEARNING® CLINICAL SCIENCE SESSION: SECTION ON CEREBROVASCULAR SURGERY****Small Hemispheric AVMs: To Treat or Not Treat and Surgery vs. Radiosurgery**

Moderators: Erol I. Veznedaroglu, Jacques J. Morcos

Technology Moderators: Brian T. Ragel, Adnan H. Siddiqui

Learning Objective: At the conclusion of this session, participants will be able to describe the natural history, epidemiology and medical and surgical management of small intracerebral AVMs, list current treatment options for these lesions, including observation, surgical resection, and radiosurgery, and summarize current evidence-based recommendations for their evaluation and treatment.

Case Presentations**Audience Polls**

Current Opinion

Evidence

Practice

Digitally Submitted Questions**Expert Discussion: Small Hemispheric AVMs: To Treat or Not Treat and Surgery vs. Radiosurgery**

H. Hunt Batjer, Douglas Kondziolka, Kevin M. Cockroft

4:00 – 5:30 PM**SECTION ON STEREOTACTIC AND FUNCTIONAL NEUROSURGERY****Socioeconomic Factors in Functional and Stereotactic Neurosurgery**

Moderators: Michael G. Kaplitt, Aviva Abosch

Learning Objective: At the conclusion of this session, participants will be able to discuss financial aspects of neuromodulatory devices, including deep brain, vagal nerve and spinal cord stimulators, which are an expanding part of neurosurgical practice throughout the world; describe the economic impact of neuromodulatory implants on current practice; and enumerate the economic impact of neuromodulatory implants on society.

4:00 – 4:20 PM

How Much Does Reimbursement Affect DBS Technique?

Donald M. Whiting

4:20 – 4:40 PM

The Economics of Functional Neurosurgery in the United States

Alon Y. Mogilner

4:40 – 5:10 PM

Congressional Outlook for 2010

David Charles

5:10 – 5:30 PM

Panel Discussion



4:00 – 5:30 PM

COUNCIL OF STATE NEUROSURGICAL SOCIETIES

AANS/CNS NeuroPoint Alliance Project: Getting Started with Neurosurgical Practice Outcomes Reporting

Moderators: Gary M. Bloomgarden, Darlene A. Lobel

Learning Objective: At the conclusion of this session, participants will be able to understand the purpose and benefit of NeuroPoint Alliance, the AANS/CNS joint project on practice outcomes reporting, to analyze the political landscape for and implications of outcomes reporting, and explain the role of NeuroPoint Alliance in MOC and value-based medical practice.

4:00 – 4:10 PM

Introduction / NeuroPoint Alliance

P. David Adelson

4:10 – 4:30 PM

Why Should We be Involved in Quality Reporting Efforts?

Rachel Groman

4:30 – 4:50 PM

How Do We Define and Measure Quality: Challenges and Opportunities

Robert E. Harbaugh

4:50 – 5:10 PM

Organized Neurosurgery's Approach

Christopher E. Wolffa

5:10 – 5:30 PM

Discussion and Talking Points

Anthony L. Asher

Don't Miss Thursday's Cases and Coffee with the Masters

Thursday, October 29

9:00 – 10:30 AM



Share your most interesting cases with colleagues. Experts from each neurosurgical subspecialty review the cases to discuss management strategies, identify risk factors and offer techniques for complication avoidance. For consideration, upload your case to w3.cns.org/meetings/2009/attendees/scienceCase.asp prior to the Annual Meeting.

Visit us in the
Attendee Lounge,
Booth 617, to browse available
opportunities and post your resume!



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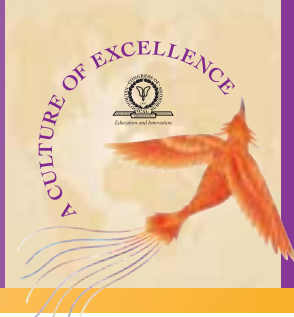
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GENERAL SCIENTIFIC SESSION IV

8:00 – 11:30 AM

Moderators: *Brian T. Ragel, John G. Golfinos*
Presiding Officer: *Daniel K. Resnick*

Learning Objective: After completing this educational activity, participants should be able to identify new methods of intervention for cerebral aneurysms, describe new methods for treatment of complex skull base lesions, and list new methods for treatment of complex spine disorders. Correlation between operative anatomy and surgical treatment strategies will be emphasized, using presentation of surgical video by subspecialty expert surgeons.

8:00 – 9:00 AM

Digital Masters Video Symposium

8:00 – 8:10 AM

Skull Base

Laligam N. Sekhar

8:10 – 8:20 AM

Endoscopic Pituitary

Amin B. Kassam

8:20 – 8:30 AM

Endovascular

Cameron G. McDougall

8:30 – 8:40 AM

Vascular

Saleem I. Abdulrauf

8:40 – 8:50 AM

Tumor

Edward H. Oldfield

8:50 – 9:00 AM

Pain

Kim J. Burchiel

9:00 – 10:30 AM

Cases and Coffee with the Masters

Vascular/Endovascular Discussants:

*Cameron G. McDougall,
Saleem I. Abdulrauf, Laligam N. Sekhar*

Spine/Peripheral Nerve Discussants:

*Christopher I. Shaffrey,
Praveen V. Mummaneni, Lynda J. Yang*

Tumor Discussants:

*Edward H. Oldfield, Joerg-Christian Tonn,
Amin B. Kassam*

Functional/Epilepsy and Pain Discussants:

*Kim J. Burchiel, Aviva Abosch,
James T. Rutka*

Trauma Discussants:

*Randall M. Chesnut, Roland A. Torres,
Jamie S. Ullman*

Pediatric Discussants:

*Alan Cohen, Hugh Garton,
Douglas L. Brockmeyer*

10:30 – 11:30 AM

Digital Masters Video Symposium

10:30 – 10:40 AM

Epilepsy

James T. Rutka

10:40 – 10:50 AM

Spine

Christopher I. Shaffrey

10:50 – 11:00 AM

Pediatric

Alan Cohen

11:00 – 11:10 AM

Functional

Aviva Abosch

11:10 – 11:20 AM

Tumor

Joerg-Christian Tonn

11:20 – 11:30 AM

Peripheral Nerve

Robert J. Spinner

11:30 AM

Adjourn



AUXILIARY PROGRAM

Dear Auxiliary Member:

We invite you to join us in the extraordinary City of New Orleans. Located at the mouth of the Mississippi River, New Orleans is one of America's treasures – with a distinct history, culture and identity all its own. Come experience the rebirth of this great city for yourself – enjoy jazz in its most pure form, southern hospitality that reflects a time gone by and, of course, culinary delights blended from the many cultures that call New Orleans home. You will find that many of New Orleans most treasured venues and sights shine and welcome visitors with renewed energy.

The CNS has many exciting events and tours lined up during your stay. On Sunday evening, October 25, be sure to join us for the CNS Opening Reception at the Hilton New Orleans Riverside as we take a trip to old New Orleans. Relish the atmosphere as jazz wafts through the night. Reconnect with old acquaintances and meet new friends while enjoying sumptuous hors d'oeuvres and refreshing beverages.

On Monday, October 26, join us for the 2009 CNS Auxiliary Luncheon and Program. This year we are pleased to present Dr. Terry Orlick, world-renowned expert on performance enhancement and excellence. In the magnificent surroundings of the world-renowned Windsor Court Hotel, you won't want to miss his presentation "*Positive Living Skills: Creating a Better World for Children, Teens and Adults,*" complete with a fabulous lunch.

Throughout the week, the CNS offers a powerful lineup of Special Lectures at the Ernest N. Morial Convention Center that all registered Auxiliary guests are invited to attend. Dr. APJ Abdul Kalam, the 11th President of India; Walter Isaacson, Albert Einstein biographer; and Peter Agre, 2003 Nobel Prize winner in Chemistry, are among the highlighted speakers who will share their stories of excellence and achievement. In addition, the Governor of Louisiana, Bobby Jindal has been invited to deliver the 3rd Annual Julian T. Hoff Lecture.

We encourage you to visit us at the CNS Spouse Hospitality Suite at the Hilton New Orleans Riverside Hotel, Monday through Wednesday from 7:00 to 10:30 AM in the River Room. You can come to relax or simply enjoy a continental breakfast before you head out to explore the excitement that the CNS has prepared for you in New Orleans. A representative from the City of New Orleans will be available to answer any questions you might have about the region or the CNS abundant offerings.

Once again, we encourage you to join us for the 2009 CNS Annual Meeting, October 24 – 29. Share with us this vibrant and exciting setting and enjoy the many opportunities and experiences offered by the CNS to enhance your stay.

Sincerely,



Barbara Jean Adelson, RN
CNS Auxiliary President



Karen Selden, MD
CNS Auxiliary Chairperson

AUXILIARY PROGRAM AT-A-GLANCE



Saturday, October 24

OE01	7:00 – 10:00 PM	Dinner and Jazz at The Palm Court Café	\$148
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Sunday, October 25

AT01	9:30 – 11:30 AM	Gospel Brunch at the House of Blues	\$55
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AT02	10:00 AM – 2:30 PM	A Day Along the Historic New Orleans Trace with Lunch	\$94
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AT03	11:30 AM – 12:30 PM	New Orleans Welcome Session	Hosted by the CNS.
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AT04	1:00 – 3:30 PM	A Tale of Two Cities	\$37
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AT05	2:00 – 4:30 PM	Creole Promenade	\$51
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Open	6:30 – 8:30 PM	CNS Opening Reception	Hosted by the CNS.
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Monday, October 26

Open	7:00 – 10:30 AM	CNS Spouse Hospitality Suite	Hosted by the CNS.
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AT06	9:00 AM – 12:00 PM	The Traditions of Mardi Gras World	\$79
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AT07	9:00 AM – 3:00 PM	Louisiana Swamplands and Plantations, including Lunch at Oak Alley	\$111
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AT08	10:30 AM – 2:30 PM	Grand Manors of the Garden District with Lunch at Commander's Palace	\$118
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AT09	12:30 – 3:00 PM	CNS Auxiliary Luncheon and Program (Hosted in part by the CNS.)	\$50
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AT10	1:00 – 5:00 PM	Architectural Renaissance	\$95
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AT11	1:30 – 4:30 PM	Arts and Antiques in the French Quarter	\$40
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OE02	7:00 – 10:00 PM	Revelry on the River ... a Dinner Jazz Cruise on the Creole Queen	\$73
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Tuesday, October 27

Open	7:00 – 10:30 AM	CNS Spouse Hospitality Suite	Hosted by the CNS.
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AT12	9:30 AM – 12:30 PM	Mignon Faget ... Studio Tour and Gallery Shopping	\$32
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AT13	10:30 AM – 3:30 PM	Southern Splendor at the Sugar Palace with Lunch	\$109
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AT14	1:30 – 4:30 PM	An Airboat Adventure into the Cajun Country	\$88
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OE03	6:00 – 10:00 PM	Live on Frenchman Street	\$164
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Wednesday, October 28

Open	7:00 – 10:30 AM	CNS Spouse Hospitality Suite	Hosted by the CNS.
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AT15	9:30 AM – 12:00 PM	A Promenade Down St. Charles Avenue with High Tea at the Elms Mansion	\$59
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AUXILIARY PROGRAM

OE01 Dinner and Jazz at the Palm Court Café

Saturday, October 24
7:00 – 10:00 PM
\$148



When thinking of New Orleans, two things always come to mind ... the famous cuisine and JAZZ!!! The Palm Court Café is the perfect place to enjoy both. Jazz enthusiasts and novices alike will enjoy traditional live jazz performed by New Orleans legends who still play with vigor and enthusiasm in their seventies and eighties, as well as young musicians who represent the future of New Orleans Jazz. Dining at this New Orleans restaurant offers an elegant throwback to early jazz supper clubs and the upscale Creole cuisine is absolutely divine.

For a true New Orleans experience, put the Palm Court Café on the list for a perfect combination of traditional jazz and New Orleans cuisine!

AT01 Gospel Brunch at the House of Blues

Sunday, October 25
9:30 – 11:30 AM
\$55



Feed the body and soul at the popular Sunday Gospel Brunch, featuring rousing and uplifting gospel performances. See renowned artists like Davell Crawford, One A Chord, Soulful Heavenly Stars, the Zulu Gospel Ensemble and the legendary Zion Harmonizers. The lavish Southern-style brunch buffet will cause taste buds to sing as the music lifts the spirit!!

The House of Blues is conveniently located in the French Quarter. Transportation is not included for this tour. Please pick-up tickets at the tour registration desk.

AT02 A Day Along the Historic New Orleans Trace with Lunch

Sunday, October 25
10:00 AM – 2:30 PM
\$94

Follow the path of the first New Orleans settlers in this journey along the Historic New Orleans Trace! Travel down this picturesque route along Esplanade Avenue, passing the beautiful historic homes once frequented by the founding Spanish colonials and French explorers. The first stop along the “trace” will be the New Orleans Museum of Art, located in beautiful City Park. The museum permanently houses a spectacular collection of Faberge' jewels, including the exquisite Faberge' eggs, created for the Czar and Czarina of Russia. Other permanent collections of special interest are the Chapman H. Hyams Collection of 19th-century French Art, the Morgan Whitney Collection of Chinese Jades, the Melvin Billups Glass Collection and the Victor K. Kiam Bequest of African and Oceanic Art.



Following the visit to New Orleans Museum of Art, enjoy lunch at Ralph's on the Park. Ralph Brennan and Chef Gerard Maras have opened the doors to the restaurant after a stunning renovation of the landmark 1860's property.

AT03 New Orleans Welcome Session

Sunday, October 25
11:30 AM – 12:30 PM
Hosted by the CNS.

A local historian will give a 60-minute presentation in the CNS Spouse Hospitality Suite at the Hilton Riverside on New Orleans including an informative overview of what this great Louisiana city has to offer—the dynamic history, shopping opportunities, entertainment options, and of course, restaurant information. This brief orientation, hosted the by the CNS, is the perfect way to get acquainted with New Orleans.

AT04 A Tale of Two Cities

Sunday, October 25
1:00 – 3:30 PM
\$37

The story of New Orleans begins almost 300 years ago in the historic and charming Vieux Carré, or the French Quarter, where the French first settled. The tour begins in Jackson Square, located within the French Quarter, where the guide will share fascinating tales of Creole courtyard soirees, quadrone balls and midnight duels.

The story continues with the hard work to renew the city as colorful homes are passed in the newly built Musician's Village and Brad Pitt's Global Green Project. The next venture of the tour travels along the route of the beautiful St. Charles Avenue streetcar line, passing picturesque Tulane and Loyola Universities. Known as “the Avenue,” St. Charles Street is lined with rows of magnificent homes and mansions. As the tour ends, realization dawns that this incredible city is one of spirit, hope and rebirth, and that the story of New Orleans is still being written!

AT05 Creole Promenade

Sunday, October 25
2:00 – 4:30 PM
\$51



Stroll the narrow streets of the French Quarter as a licensed tour guide reconstructs life as it was over 150 years ago. In this complete walking tour of this historical New Orleans neighborhood, visit Jackson Square, site of the magnificent St. Louis Cathedral, and the Pontalba, the oldest apartments in the United States, which were built in the 1700s by Baroness Pontalba for visiting European royalty. Behold the lacy ironwork balconies, lush tropical patios and mule-drawn carriages that are just some of the charming hallmarks of the Vieux Carré. Hear the rich history behind the prominent landmarks along the tour, including a visit to a Creole mansion, authentically restored and furnished with beautiful antiques created by Louisiana craftsmen over two centuries ago.

Comfortable shoes are recommended for this walking tour.



CNS Spouse Hospitality Suite

Monday, October 26
7:00 – 10:30 AM
 Hosted by the CNS.

Continental breakfast and beverages will be served each morning in the CNS Spouse Hospitality Suite in the River Room of the Hilton New Orleans Riverside.

AT06 The Traditions of Mardi Gras World

Monday, October 26
9:00 AM – 12:00 PM
\$79



Mardi Gras has been called the “Greatest Free Show on Earth.” Hundreds of artists work year-round to complete the dazzling floats that are used in the Mardi Gras parades. Guides will share the insider’s story of the history and traditions of this spectacular carnival. Just a short drive is the place where the fantasy of Mardi Gras begins – Blaine Kern’s famous Mardi Gras World! Upon arrival at Mardi Gras World, see the actual parade floats being created by Blaine Kern’s team of artists. Traditional New Orleans king cake will be served. Before departing Mardi Gras World, guests will be introduced to a Mask Making Specialist, who will facilitate the creation of a fanciful Mardi Gras Mask.

CNS Opening Reception

Sunday, October 25
6:30 – 8:30 PM



Take a journey back in time to a night in Old New Orleans.
 Hosted by the CNS.

See page 25 for more details.

AT07 Louisiana Swamplands and Plantations, including Lunch at Oak Alley

Monday, October 26
9:00 AM – 3:00 PM
\$111



Travel to Louisiana’s Bayou Country and Plantation Country in this special swampland and plantation tour. First, get an up-close glimpse of Louisiana’s mystical swamps and bayous on a unique swampboat tour, where exotic tropical plants and wildlife indigenous to the Louisiana wetlands are seen. After the cruise through Louisiana’s Bayou Country, reboard the motor coach for a brief ride along the picturesque old River Road, where the guide will provide the fascinating background of the plantation days of the Old South and the beautiful old plantation homes along River Road. Before long, guests arrive at Oak Alley Plantation, known for its spectacular setting along the Mississippi River and enjoy a Southern-style plantation luncheon. Guides will be on hand to provide tours of the restored home and ample time will be given for strolling the lovely grounds.

AT08 Grand Manors of the Garden District with Lunch at Commander’s Palace

Monday, October 26
10:30 AM – 2:30 PM
\$118

The homes in the Garden District were built by American settlers to rival those of the Creole French Quarter. They are surrounded by lovely semi-tropical gardens and exhibit a strong influence of Greek Revival-style architecture. This tour of the Upper Garden District strolls past many exquisite mansions provides a rare opportunity to tour a private home that has been beautifully restored. Stop to visit Lafayette Cemetery where guides will explain New Orleans’ unique above ground burial system, utilized because of the city’s location below sea level. Finally, our tour concludes with lunch at the famed Commander’s Palace, the jewel in the crown of the Brennan family’s culinary dynasty. Dress code at Commander’s Palace is upscale with no shorts allowed.

AT09 CNS Auxiliary Luncheon and Program

Monday, October 26
12:30 – 3:00 PM
Windsor Court Hotel
\$50; Hosted in part by the CNS.



Join us for a luncheon dedicated to excellence with Dr. Terry Orlick, as he presents “Positive Living Skills: Creating a Better World for Children, Teens and Adults.”

Enjoy an upscale luncheon in the lush surroundings of the Windsor Court Hotel while experiencing this in-depth presentation that will focus on his Positive Living Skills Program which he has developed and refined over a period of 30 years. Teaching Positive Living Skills to children is all about making better people and better performers, by giving children the tools for enhanced performance and enhanced quality of life. Dr. Orlick aims to provide people from all walks of life with effective tools to achieve higher levels of excellence and a higher quality of life and this luncheon will provide the perfect opportunity to get you and your children on the path to more positive living.



Following a fantastic lunch, Dr. Orlick will share his insights on how to add quality to everyday living and joyfulness to every life through positive focus, connected focus, appreciation, caring,

harmony and less stress while embracing the simple joys of every day. Terry Orlick, PhD, is a world-renowned leader in focus training and high-level performance psychology. Dr. Orlick is a Professor and Performance Enhancement Researcher in the Faculty of Health Sciences – School of Human Kinetics at the University of Ottawa, Canada, and Founder and Editor of the innovative online Journal of Excellence.

Join us at the historic Windsor Court Hotel, just a short walk from the French Quarter, for a fabulous lunch and an incredible learning experience.

AUXILIARY PROGRAM

AT10 Architectural Renaissance
Monday, October 26
1:00 – 5:00 PM
\$95



The City of New Orleans is graced with a fabulous history, distinctive neighborhoods, unique architecture, lush gardens and a potpourri of people with heritages from around the world. This fascinating guided tour explores two of New Orleans' oldest residential neighborhoods, the Faubourg Marigny and the Lower Garden District. These neighborhoods have evolved over the past few decades from decay to renaissance. Both "The Faubourg" and Lower Garden District were annexed to the City of New Orleans in 1850, but were settled by two diverse cultures, the Creoles and the Americans. Tour two private homes in each of the distinct neighborhoods and get up-close and personal with New Orleans' beautiful and diverse architectural heritage! A stop will be made for light refreshments in a quaint neighborhood coffee shop.

AT11 Arts and Antiques in the French Quarter
Monday, October 26
1:30 – 4:30 PM
\$40



The French Quarter is a small "village" filled with many lovely sights, sounds and treasures to experience. Strolling through the narrow streets of the Vieux Carré brings sites of lacy ironwork balconies, lush tropical gardens and patios. Chartres and Royal Streets are world-renowned for their art and antiques, and

each feature a range of collectibles that span the continents as well as the centuries. The antique shops of the French Quarter are acclaimed for their extensive collections of 18th and 19th century European and American art, porcelain artifacts, chandeliers, estate jewelry and glass. An Antique Specialist will present a personalized tour through preeminent French Quarter art and antique galleries. At each stop, learn about the gallery's history and collections, as well as the rich tales behind the buildings themselves, which are every bit as antique as their furnishings!

Comfortable shoes are recommended for this walking tour.

OE02 Revelry on the River ... a Dinner Jazz Cruise on the Creole Queen
Monday, October 26
7:00 – 10:00 PM
\$73



The majestic Paddlewheeler Creole Queen offers guests an evening of hot jazz and famous New Orleans' cuisine. The Captain and Crew give an invitation to board and provide an escort to reserved seats for a fabulous dinner jazz cruise. As dusk settles on the river and the vessel departs the dock, get a glimpse of an era gone by, when mighty paddlewheelers choked the river delivering all types of trade and when New Orleans was one of the world's busiest ports. Enjoy the sounds of the New Orleans Spice Jazz Band and be certain to explore the upper Promenade Level for the most optimum viewing of the New Orleans skyline.

Creole Queen boarding is near the French Quarter and Downtown Hotels. Transportation is not included. Please pick-up tickets at the tour registration desk.

CNS Spouse Hospitality Suite
Tuesday, October 27
7:00 – 10:30 AM
Hosted by the CNS.

Continental breakfast and beverages will be served each morning in the CNS Spouse Hospitality Suite in the River Room of the Hilton New Orleans Riverside.

AT12 Mignon Faget ... Studio Tour and Gallery Shopping
Tuesday, October 27
9:30 AM – 12:30 PM
\$32

Mignon Faget is a highly acclaimed designer and winner of many awards for her extraordinary jewelry designs. From the beginning of her career, Ms. Faget has worked closely with natural forms, never simply duplicating but always extracting the substance, the essence of a particular shape refining it to perfection. Special arrangements have been made for a private tour and jewelry-making demonstration by Mignon Faget's Designers at her studio.



AT13 Southern Splendor at the Sugar Palace with Lunch
Tuesday, October 27
 10:30 AM – 3:30 PM
 \$109



Houmas House Plantation and Gardens is much more than just a tour of a grand antebellum estate; experience the southern splendor of the Sugar Palace with its 16 rooms filled with period antiques and Louisiana artwork. Enjoy 12 lush acres of gardens and ponds, feel the breeze off the Mississippi, and navigate through the shadows of ancient oaks. The Gardens of Houmas House Plantation have been developed to reflect the unique beauty of each season in New Orleans and to beckon visitors to extend their stay. After the tour enjoy lunch at the plantation.

AT14 An Airboat Adventure into the Cajun Country
Tuesday, October 27
 1:30 – 4:30 PM
 \$88



Come for an exhilarating journey into the mystical swamps and bayous of Southern Louisiana. On this airboat adventure, delve deep into Cajun country, where tales of the descendants of the Acadian immigrants are told. They subsisted on everything the land has to offer: trapping nutria, hunting otter, muskrat, frogs and alligators and fishing for catfish and crabs. The swamp's favorite son, the alligator, will be witnessed in its glory, easing quietly through the murky, cypress-shrouded waters of Louisiana. It's easy to pass a good time cher' on the bayou! Casual dress and shoes are recommended for this outdoor adventure.

OE03 Live on Frenchman Street
Tuesday, October 27
 6:00 – 10:00 PM
 \$164



The Faubourg Marigny is one of the oldest neighborhoods in New Orleans, established in the early 1800's when Bernard Marigny subdivided his plantation to develop one of the first suburbs. Today, this district is more vibrant than ever, and has become arguably the most innovative music scene in the city. Each night on Frenchman Street seems to bring a carnival of sights and sounds with live music pouring out of barroom and restaurant doors as colorful characters stroll down these narrow streets. Along Frenchman Street proper, the diversity and proximity of businesses in a three-block stretch create a highly energized and vividly colorful street scene. Walking down a block on a typical evening brings encounters with a reggae band jamming at the Caribbean restaurant Café Negril, or a visiting movie star or two ducking into Snug Harbor, the city's premier venue for contemporary jazz. It won't be long before more and more visitors will outnumber locals along the Faubourg's buzzing streets, but for now at least, visitors can savor a unique and thriving modern day bohemia representing authentic New Orleans culture, just one block outside the French Quarter. This evening tour will focus on the history of Jazz in New Orleans and the Frenchman Street corridor to experience this unique area. Enjoy dinner at one of the neighborhood restaurants before hearing some amazing music at one of the local clubs.

Comfortable shoes are recommended for this walking tour.

CNS Spouse Hospitality Suite
Wednesday, October 28
 7:00 – 10:30 AM
 Hosted by the CNS.

Continental breakfast and beverages will be served each morning in the CNS Spouse Hospitality Suite in the River Room of the Hilton New Orleans Riverside.

AT15 A Promenade Down St. Charles Avenue with High Tea at the Elms Mansion
Wednesday, October 28
 9:30 AM – 12:00 PM
 \$59



Southern-style soirée is presented on one of the most prestigious boulevards in America, St. Charles Avenue. A wonderful tour, reminiscent of old New Orleans' society gatherings, awaits visitors at the stately Van Benthuyzen Elms Mansion. Built in 1869, this grandiose Italianate home is an elaborate showplace on the Avenue. Reflecting the elegance of a bygone era, each room is furnished with antiques from different periods in history. Designed by architect Louis E. Reynolds, the mansion was originally owned by a Confederate tax chairman and later occupied by the President of the streetcar company that operated the St. Charles line. Light refreshments will be served in one of the exquisite parlors or lush gardens of the mansion. A lovely walking tour of the Garden District will complete this excursion!



GENERAL INFORMATION

Airlines

Louis Armstrong New Orleans International Airport (MSY) is located approximately sixteen miles from the CNS Annual Meeting Hotels and the Ernest N. Morial Convention Center. For information on available shuttle and taxi services from the New Orleans International Airport, refer to www.flymsy.com.

Americans with Disabilities Act

The Morial Center provides the following services: ramps to entrances and elevated areas, an array of passenger elevators, restroom facilities for the disabled, brailled instructions/directions at strategic locations throughout the building and a full bank of pay phones located at each level of the facility with (TDD) hearing-impaired functions.

Please let us know if, under the ADA, you require special accommodations or services in order to attend the 2009 CNS Annual Meeting. We want to ensure that no individual with a disability is excluded because of the absence of auxiliary aids and services. Your requirements should be sent directly to the CNS Housing and Registration Center at: cns@jspargo.com or call 877 585 6001. Please provide any requests at least 30 days prior to the Annual Meeting to guarantee accommodation.

Wheelchair/Scooter Rentals: Attendees who need assistance getting around the convention center must order a scooter in advance of the meeting. For ordering information, go to <http://www.rhinobiz.com/scooterattendee.html> and then follow the instructions to the scooter reservation form. Rhino Business Services (located in Lobby F of the Convention Center) will have a scooter waiting for you upon arrival in New Orleans and can recharge the battery for you overnight if you do not wish to drive the scooter to your hotel.

Attire

Professional attire is appropriate at the Annual Meeting and the Exhibit Hall. Some New Orleans restaurants require coats and ties for gentlemen. Please check each restaurant's policy when making reservations.

Auxiliary Tours, Optional Evening Events and CNS Social Activities

Auxiliary Tours provide spouses and guests with an opportunity to explore the more interesting attractions in the New Orleans area.

All tours will depart from the CNS headquarters hotel, the Hilton New Orleans Riverside (Convention Entrance). Please arrive 15 minutes prior to the scheduled departure time.

All registered CNS Annual Meeting spouses and guests are invited to use the Spouse Hospitality Suite, Monday through Wednesday, including daily continental breakfast from 7:00 – 10:30 AM. (Please note that admittance to the Spouse Hospitality Suite is by Spouse/Guest or Nurse/Spouse badge only.) The Spouse Hospitality Suite is located in the River Room at the Hilton New Orleans Riverside.

Optional Evening Events are available to all registered attendees and our exhibit partners. Complete details and fees for all planned Optional Activities can be found on pages 63-67. We encourage you to share this information with your spouse or guest for their convenience when registering for the week's extensive programming.

Children

Children over the age of 12 may register as a guest at the Guest Registration fee. This will allow full participation in Auxiliary Program activities. (Please note that children under the age of 18 are not allowed in the Exhibit Hall.)

Should you require babysitting services, please contact the concierge desk at your hotel. The CNS has no control over and assumes no responsibility for the care that is provided through hotels or these services. This information is provided solely to assist participants in identifying possible sources for childcare.

Climate

One of the area's biggest attractions is its year-round mild weather. October temperatures average a high of 80 degrees and a low of 59 degrees.

Course Agendas and Faculty

Agendas are occasionally subject to change. As we continue to strive to improve the quality of your educational experience, the CNS may substitute faculty with comparable expertise when necessary.

Disclaimer

The material presented at the 59th Annual Meeting has been made available by the Congress of Neurological Surgeons for educational purposes only. The material is not intended to represent the only, nor necessarily the best, method or procedure appropriate for the medical situations discussed, but rather is intended to present an approach, view, statement or opinion of the faculty which may be helpful to others who face similar situations.

Neither the content (whether written or oral) of any course, seminar or other presentation in the program, nor the use of a specific product in conjunction therewith, nor the exhibition of any materials by any parties coincident with the program, should be construed as indicating endorsement or approval of the views presented, the products used, or the materials exhibited by the CNS or by its Committees or Affiliates.

The CNS disclaims any and all liability for injury or other damages resulting to any individual attending the Annual Meeting, and for all claims which may arise out of the use of the techniques demonstrated therein by such individuals, whether these claims shall be asserted by physicians or any other person.

No reproductions of any kind, including audiotapes and videotape, may be made of the presentations at the CNS Annual Meeting. CNS reserves all of its rights to such material, and commercial reproduction is specifically prohibited.

Digital Posters

Digital Posters will be displayed electronically and can be sorted by author, topic or keyword. They will be available Monday through Wednesday in the Exhibit Hall.

E-mail Stations

You will be able to check your e-mail from the E-mail Stations in the Attendee Lounge (located in the Exhibit Hall). Please be sure to have your mail server URL, e-mail account username and password.



Exhibition

The CNS Exhibit Hall will be located in Halls D and E of the Ernest N. Morial Convention Center.

Hours are:

Monday, October 26	9:00 AM – 3:00 PM
Tuesday, October 27	9:00 AM – 3:00 PM
Wednesday, October 28	9:00 AM – 3:00 PM

Admittance to the Exhibit Hall is by the CNS name badge only. Children under the age of 18 are not allowed in the CNS Exhibit Hall.

Future Meetings

San Francisco, CA	October 16-21, 2010
Washington, DC	October 1-6, 2011
Chicago, IL	October 6-11, 2012

Housing Information

See pages 72-73.

Member Services Center

Designed to increase the visibility of the CNS activities, the CNS Member Services Center is located in Exhibit Halls D and E. Staff members will be available to assist you and answer any questions you may have about the CNS, **NEUROSURGERY**[®] or your CNS Membership and its member services.

Press Room

Press activities will take place at the Ernest N. Morial Convention Center. Please stop by the Registration area for details.

Registration Information

Registration Hours:

Saturday, October 24	7:00 AM – 5:30 PM
Sunday, October 25	7:00 AM – 5:30 PM
Monday, October 26	6:30 AM – 5:30 PM
Tuesday, October 27	6:30 AM – 5:30 PM
Wednesday, October 28	6:30 AM – 5:30 PM
Thursday, October 29	7:00 – 11:00 AM

For additional information see page 70-71.

Restaurant Reservations

Pat on the Town Concierge Service provides complementary restaurant reservation assistance through their guest services desk in the lobby of the Convention Center.

Shuttle Services

Shuttle services to the Ernest N. Morial Convention Center will be available to all of the CNS official hotels, except the New Orleans Marriott at the Convention Center. A shuttle schedule will be posted at each hotel and at the Convention Center.

Speaker Ready Room

The Speaker Ready Room will be available Saturday, October 24 through Wednesday, October 28, from 6:30 AM – 6:00 PM and Thursday, October 29 from 6:30 AM – Noon at the Ernest N. Morial Convention Center. All speakers and abstract presenters should visit the Speaker Ready Room prior to their presentations.

Smoking

The Ernest N. Morial Convention Center is a non-smoking facility. In the interest of public health, the convention center has adopted a non-smoking policy. There are designated areas outside the building where smoking is permitted.

Visa Information

The State Department of the United States encourages international participants to apply for their visas as early as possible – at least 3 months before the meeting. Some consulates may have backlogs in scheduling visa interviews so applicants should first contact the consulate to find out how long the wait is for an interview. Visa wait times are available at: http://travel.his.com/visa/tempvisitors_wait.php

For information on the Visa process, please visit www.nationalacademies.org/visas. The US State Department's visa site contains the official information on the visa application process: www.travel.state.gov/visa.

Who Should Attend

Neurological surgeons, neurosurgery nurses, physician assistants, orthopedic surgeons, primary care physicians, gerontologists, radiologists, hospital administrators, oncologists, neurologists, pediatricians, physiatrists and infectious disease specialists are welcome and encouraged to attend the 2009 CNS Annual Meeting.



REGISTRATION INFORMATION

The CNS offers you one-stop services for all your hotel and registration needs.

For your convenience, you can register for courses, reserve your hotel room and more via these four methods:

ONLINE:
www.cns.org

- ▶ Internet booking is available 24 hours a day, seven days a week.
- ▶ Credit card only.
- ▶ Receive immediate Registration and Housing Confirmation Notification.

FAX:
703 502 0257

- ▶ Credit card only.
- ▶ Allow seven business days for Registration and Housing Confirmation Notification.

PHONE:
703 449 6418

- ▶ Credit card only.
- ▶ Not available for Ticketed Events.
- ▶ Allow three business days for Registration and Housing Confirmation Notification.

MAIL:
CNS Registration and Housing Center
11208 Waples Mill Road, Suite 112
Fairfax, VA 22030

- ▶ Credit card or check (no wire transfers).
- ▶ Allow seven business days for Registration and Housing Confirmation Notification.

Fax & Mail

- ▶ Type or print all information on the registration/housing form in black ink. Do not use a cover sheet.
- ▶ The CNS Registration and Housing Center is not responsible for faxes not received due to mechanical failure or circumstances beyond our control.
- ▶ Due to the high volume of forms received, the CNS Registration and Housing Center cannot confirm receipt of faxed or mailed forms.

Phone

- ▶ Have your completed registration/housing form and credit card information in front of you when placing your call.

Credit Card Payments

- ▶ Visa.
- ▶ MasterCard.
- ▶ American Express.

Payment by Check

- ▶ Checks must be payable in US dollars and drawn on a US bank. Make checks payable to: CNS Registration and Housing Center.
- ▶ Include \$250 per unit hotel deposit plus appropriate fees for registration and any optional items purchased.

IMPORTANT DATES TO REMEMBER

September 23

- ▶ Advance Registration Discount and Housing Deadline.

September 30 Cancellation Deadline

- ▶ \$100 Processing fee will be charged for written cancellation requests received during this time.
- ▶ Course, event and tour tickets will be refunded in full until this date.
- ▶ No refunds given after this date.

September 30 at 11:00 AM EST

- ▶ Any changes to hotel reservations must be made directly with hotel from this date on.

Materials Pick Up

All materials should be picked up on site at the Ernest N. Morial Convention Center.

Items included in Registration Fee

- ▶ One ticket to the Opening Reception on Sunday, October 25.
- ▶ Admission Monday – Thursday General Scientific Sessions.
- ▶ Admission Monday – Wednesday Original Science Program. 3-D Cadaveric Demonstration. Special Courses. Consensus Sessions. Section Sessions.
- ▶ Morning Coffee and Afternoon Beverage Breaks in Exhibit Hall: Monday – Wednesday.

(Note: Children under the age of 18 are not allowed on the exhibit floor.)

- ▶ Thursday Morning Coffee Break.

REGISTRATION CANCELLATION POLICY

All refund requests must be received in writing prior to September 30.

Requests accepted via:

E-mail:
cns@jspargo.com

Fax:
703 502 0257

Mail:
CNS Annual Meeting
CNS Registration and Housing Center
11208 Waples Mill Road, Suite 112
Fairfax, VA 22030

Cancellation Date Schedule

Before September 30

Registration, Course, Event and Tour Tickets = Full Refund less \$100 processing fee.

After September 30 and No Shows

Absolutely no refunds will be issued after this date, for Registration, Course, Event and Tour Tickets, regardless of cause.

REGISTRATION INFORMATION



Registration Rates	ADVANCE On or before September 23, 2009	After September 23, 2009	Special Advance CNS Annual Meeting Rates for the Society for Neuro-Oncology and the AANS/CNS Section on Tumors Joint Meeting Registrants***
CNS Member (Active, International, Transitional, Vista)	\$575	\$675	\$350
CNS Resident Member*	\$150	\$250	\$100
CNS Fellow Member**	\$150	\$250	\$100
CNS Medical Student Member	\$150	\$250	\$100
CNS Retired Senior Member	\$250	\$350	\$200
Non-Member (Neurosurgeons, Physicians [MDs, DOs, etc.], Non-Physicians)	\$675	\$775	\$350
Member of Armed Forces	\$475	\$575	\$350
Non-Member Resident*	\$250	\$350	\$200
Non-Member Fellow**	\$250	\$350	\$200
Non-Member Medical Student	\$250	\$350	\$200
Allied Health	\$400	\$500	\$200
Physician Assistant/Physician Extender	\$400	\$500	\$200
Nurse/Nurse Practitioner	\$400	\$500	\$200
Spouse/Guest/Child (13 and Over)	\$115	\$115	\$115
Resident/Fellow Spouse	\$75	\$75	\$75
Child (12 and Under)	\$0	\$0	\$0

Non-Member registration categories are open to domestic and international registrants.

* All domestic and international Residents must have their Program Director sign registration form if registering via fax or mail only. If registering online, a letter from your Program Director certifying that you are a Resident in a neurosurgical training program accredited by the ACGME and the residency Review Committee for Neurosurgery must be faxed to 703 502 0257 or e-mailed to cns@jspargo.com.

** All domestic and international Fellows must attach letter from Program Coordinator verifying Fellow status.

***To receive these special rates for the CNS Annual Meeting attendees must register separately for the 2009 Joint Meeting of the Society of Neuro-Oncology and the AANS/CNS Section on Tumors at <http://w3.cns.org/snosot> prior to September 23, 2009. You will be charged separately for your Joint Meeting registration.

2009 Joint Meeting of the Society for Neuro-Oncology and the AANS/CNS Section on Tumors

October 22-24, 2009 – Hilton New Orleans Riverside



Attention Neuro-Oncology and Tumor Specialists: Special Registration Rates!

The CNS is proud to announce its alliance with the Joint Meeting of the Society for Neuro-Oncology and the AANS/CNS Section on Tumors. Maximize your educational experience at an even better value. Individuals registered for both the 2009 CNS Annual Meeting and the Joint Meeting of SNO and the AANS/CNS Section on Tumors will receive a special rate at both meetings – up to 25% savings!

HOTEL INFORMATION

Contact the official CNS Registration and Housing Center to reserve your guest rooms. Hotels will not accept reservations from CNS meeting attendees directly.

Reservations can be made online or via fax, phone or mail – See page 70.

Be sure to complete the entire housing section of the registration form.

Hotel Reservation Information and Deadlines

Hotel reservations are only available to registered CNS attendees. You must first register for the CNS Annual Meeting before making your hotel arrangements – see pages 70-71. Rooms subject to availability. Reserve your room by September 23, 2009.

Deposits

A \$250 deposit is due at the time your hotel reservation is made. This payment must be submitted with your registration fees. Credit cards will be charged immediately. All rooms are subject to applicable state and local taxes, currently at 13% plus a hotel occupancy tax. A small portion of your room rate will be used to help defray the cost of registration and housing services. Hotel reservations requested without deposit will not be processed.

Hotel Confirmations, Cancellations or Changes

Through September 30, 2009, 11:00 AM EST

- ▶ All changes and cancellations must be made in writing through the CNS Registration and Housing Center.
- ▶ Rooms are not transferable.
- ▶ Refunds for deposits will be issued by the CNS Registration and Housing Center if reservation is cancelled.

Beginning September 30, 2009, 11:00 AM EST

- ▶ All changes and cancellations must be made directly with the hotel.
- ▶ If cancellation notice is not received according to the hotel policy, the deposit may be forfeited.
- ▶ Check your hotel confirmation and contact the hotel directly for information.

Complimentary Housing for CNS Resident Member Attendees

Complimentary housing at the CNS Annual Meeting is available to CNS Resident Members on a first-come, first-served basis.

To be considered for this program, CNS Resident Members must:

- ▶ Complete a separate CNS Resident Housing Form (Included with Resident Member registration materials and can also be found at www.cns.org). This form is to be sent directly to CNS via fax to 847 240 0804 or mail to 10 N. Martingale Road, Suite 190, Schaumburg, IL 60173-2294.
- ▶ Register for the CNS Annual Meeting by September 15.
- ▶ Become a Resident member by August 1.

Residents who choose to reserve a room through the CNS Registration and Housing Center and are later accepted into the CNS Resident Housing Program are responsible for cancelling their extra room.



HOTEL INFORMATION



Thank You for Your Continued Support of the CNS!

The CNS thanks you for your support in reserving your guest room through the official CNS Housing and Registration Bureau. The CNS, in negotiating contracts with convention centers and hotels, must commit to a minimum number of guest rooms. This commitment helps guarantee the availability of meeting space and helps control the cost of the meeting. A history of high utilization of our room block enables the CNS to negotiate better room rates for future meetings.

Hotel Room Rates:

	Single	Double
Hilton New Orleans Riverside (Headquarters)	\$260	\$260
Loews New Orleans Hotel	\$249	\$249
New Orleans Marriott at the Convention Center	\$259	\$259
Windsor Court Hotel	\$245	\$245

All rates are subject to applicable state and local taxes, currently at 13% plus a hotel occupancy tax.

A small portion of your room rate will be used to help defray the cost of housing and registration services.



The Hilton New Orleans Riverside Hotel is the official CNS Headquarter Hotel
2 Poydras Street

Presiding over the mighty Mississippi, the Hilton New Orleans Riverside is adjacent to the Ernest N. Morial Convention

Center and Riverwalk Marketplace and a short distance from the French Quarter. This full-service luxury complex offers excellent service and an array of services for your convenience and comfort.

- Concierge services.
- Fitness center.
- Gift shop.
- Business center.
- Pool.
- High-speed internet.
- Restaurant.
- Room service.

1



New Orleans Marriott at the Convention Center
859 Convention Center Boulevard

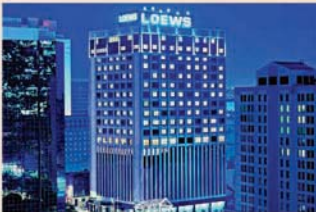
Experience a legendary riverfront hotel in New Orleans, located in the Warehouse & Arts District, across from the Convention Center and Port of New Orleans. Housed in a

renovated cotton mill built in the 1800s, the New Orleans Marriott offers everything you'd expect from a riverfront New Orleans hotel.

- Concierge services.
- Fitness center.
- Gift shop.
- Business center.
- Pool.
- High-speed internet.
- Restaurant.
- Room service.

Due to the close proximity to the Convention Center, this hotel will not be on the shuttle route.

3



Loews New Orleans Hotel
300 Poydras Street

Discover the Big Easy spirit at Loews New Orleans Hotel, where the plush accommodations of a

fine luxury hotel are complimented by warm Loews hospitality and fabulous food.

- Concierge services.
- Fitness center.
- Gift shop.
- Business center.
- Pool.
- High-speed internet.
- Restaurant.
- Room service.

2



Windsor Court Hotel
300 Gravier Street

Just a short walk from the French Quarter, the Windsor Court Hotel offers the luxury and level of

service that creates memories of indulgence and pampering.

- Concierge services.
- Fitness center.
- Gift shop.
- Business center.
- Pool.
- High-speed internet.
- Restaurant.
- Room service.

4



REGISTRATION INSTRUCTIONS

B1-B2

Advanced Registration and Housing Form

PRINT or TYPE your personal information. Please include phone, fax and e-mail. If international, please include country code for phone and fax.

PRINT or TYPE any spouse, guest or children's badge information.

Spouse/guest/child registration includes one ticket to the Opening Reception on October 25, admission to the Exhibit Hall (children under 18 are not allowed in Exhibit Hall), ability to register for tours and optional evening events, admission to the General Scientific Sessions and access to the CNS Spouse Hospitality Suite.

Hotel Reservations: Indicate your hotel choices. List your arrival and departure dates. Check your room preference. Indicate with whom and where you will be staying if you are not making a hotel reservation. Should your room preference not be available you will automatically be placed in the room type most similar to your requested room type. All requests will be handled first-come, first-served. Reserve early!

Resident Registration: Check the box that corresponds to your registration status. Residents must have their registration form signed by Program Director. If registering online, a letter from your Program Director certifying that you are a Resident in a neurosurgical training program accredited by the ACGME and the residency Review Committee for Neurosurgery must be faxed to 703 502 0257 or e-mailed to cns@jspargo.com. Fellows (domestic and international) must attach a letter from the Program Coordinator verifying their status. If registering online, a letter from your Program Coordinator verifying your status must be faxed to 703 502 0257 or e-mailed to cns@jspargo.com.

Add the \$250 Hotel Deposit to the cost of your registration – this is the balance due for the Annual Meeting Housing Deposit. Housing requests received without deposit payment will not be processed.

Note: Residents who apply and are later accepted for the CNS Resident Housing program are responsible for cancelling their extra rooms.

Payment: If paying by check, please make check payable to CNS Registration and Housing Center. Checks must be payable in U.S. dollars and drawn on a U.S. bank. Any checks returned for insufficient funds are subject to additional charges. If you are paying by credit card, write in full credit card number and expiration date; print the cardholder name and billing address (if different from the registrant); and sign.

B3-B4

Practical Course and Luncheon Seminar Ticket Forms

Due to the popularity and limited space in many sessions, please indicate several choices where applicable.

Practical Courses and Luncheon Seminars are optional and each has a separate fee. If the Practical Course and/or Luncheon Seminar you select is open, your credit card will be charged accordingly. You may purchase and register for tickets online, fax or mail. Phone orders will not be accepted.

Practical Course Registration (B3)

Saturday, October 24

Afternoon Practical Courses are available.

Sunday, October 25

Full-day, morning and afternoon Practical Courses are available.

Luncheon Seminar Tickets (B4)

You may attend one Luncheon Seminar per day. Fee includes a seated lunch served in the seminar room.

Luncheon Seminars are offered:

Monday, October 26

Tuesday, October 27

Wednesday, October 28

B5

Optional/Evening/Auxiliary Tour Registration Form

(See pages 62-67 for details about these programs)

Please check the event tickets you would like to purchase, indicate quantity and total your purchase.



Accreditation

The Congress of Neurological Surgeons is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

CME Credit

US Physicians: The CNS designates this educational activity for a maximum of 44.25 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

The same number of category 1 credits awarded will be applied toward the Continuing Education Award in Neurosurgery.

* A maximum of 23.75 *AMA PRA Category 1 Credits™* may be earned for general sessions only.

Allied Health Professionals: CNS cannot designate its Annual Meeting as meeting the criteria for credit for nurses and other allied health professionals. For credit that may be acceptable to state medical associations, specialty societies or state boards for medical licensure, please contact those organizations directly.

Additional CME Credits can be earned by attending the following:

Practical Courses

Attendees will receive a maximum of four (4) *AMA PRA Category 1 Credits™* for all eligible half-day Practical Courses and a maximum of eight (8) *AMA PRA Category 1 Credits™* for each eligible full-day Practical Course. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Luncheon Seminars

Attendees will receive a maximum of one-and-a-half (1.5) *AMA PRA Category 1 Credits™* for all eligible Luncheon Seminars. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Integrated Medical Learning®

An additional (4) hours of *AMA PRA Category 1 Credits™* (at no extra charge) can be earned by participating in the IML pre-meeting surveys and attending the sessions.

Posters

Physicians may claim a maximum of five (5) *AMA PRA Category 1 Credits™* directly from the AMA for preparing a poster presentation, which is also included in the published abstracts. Physicians may claim them on their *AMA PRA* certificate application or apply directly to the AMA for an *AMA PRA Category 1 Credits™* certificate.

Physicians may claim *AMA PRA Category 2 Credits™* for viewing scientific posters. Physicians should self-claim credit on their *AMA PRA* certificate application form.

Claiming CME Credit

New for 2009! CME Credit may be claimed by visiting www.cns.org. Click on the "Claim CME Credit for the 2009 Annual Meeting" link and use your registration ID number to login (see six digit number in your confirmation e-mail and your badge). If you do not have access to your registration ID, then you will be able to log into the system with your first and last name and the e-mail address from which you registered. You will need to enter the number of hours you are claiming for each general session including the Original Science Program, Special Courses, Section Sessions and 3-D. Credit for any ticketed sessions you have purchased (i.e. Luncheon Seminars, Practical Courses) will automatically be included based on tickets turned in on site.

CME Certificates

CME Certificates can be printed directly from the online CME system once you have entered the hours you are claiming. Certificates will also be mailed in December 2009, approximately six weeks after the meeting.

Physicians should only claim credit for the number of credits for the learning activities at the Annual Meeting in which they actively participated.

Meeting Purpose

The purpose of the 2009 Annual Meeting of the Congress of Neurological Surgeons is to provide continuing medical education for practicing neurosurgeons, neurosurgical residents in training, and postgraduate neurosurgical fellows, as well as allied health professionals including nurses, physician assistants and clinical specialists.

Disclosures

The Accreditation Council for Continuing Medical Education Updated Standards for Commercial Support requires that anyone in a position to control the content of the educational activity has disclosed all financial relationships with any commercial interest. Failure or refusal to disclose or the inability to satisfactorily resolve the identified conflict may result in the withdrawal of the invitation to participate in any of the CNS educational activities. The ACCME defines a "commercial interest" as any entity producing, marketing, re-selling or distributing healthcare goods or services consumed by, or used on, patients.

It is also each speaker's responsibility to include the FDA clearance status of any device or drug requiring FDA approval discussed or described in their presentation or to describe the lack of FDA clearance for any "off label" uses discussed. Speakers from the audience are also required, therefore, to indicate any relevant personal/professional relationships as they discuss a given topic.

Disclosures will be published in the Scientific Program Book that will be distributed at the Annual Meeting.

Handout materials are prepared and submitted for distribution by the presenters who are solely responsible for their content.

FDA Statement

Some drugs or medical devices demonstrated at the Annual Meeting have not been cleared by the FDA or have been cleared by the FDA for specific purposes only. The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice.

The CNS policy provides that "off label" uses of a drug or medical device may be described at the Annual Meeting so long as the "off label" use of the drug or medical device is also specifically disclosed. Any drug or medical device is "off label" if the described use is not set forth on the products approval label. A listing of these disclosures will be available in the Annual Meeting Program Book.

Introducing the Next Generation of **sans** Lifelong Learning

MOC • Board Preparation • Practice Enrichment

**Enhanced
Functionality!**

**Faster
Performance!**

**Improved
Features!**



www.cns.org

The Congress of Neurological Surgeons is pleased to announce the release of our improved SANS Lifelong Learning. Enjoy new features with superior interface, more user-friendly options and better performance analysis.

My Notebook

The Tools panel allows you to highlight, bookmark and add notes to various questions. With the ability to edit as necessary this feature allows for continuous learning. Bookmark questions you want to come back to, highlight useful information and keep notes for further review.

Score Summary & Analysis

Review your score and see how you compare with others who have taken the test. The analysis tool gives you the option of a quick overview of your overall SANS performance or a specific analysis by category. With expanded learning links and in-depth critique of each question, you maintain and improve your proficiency in surgical decision making. This new version of SANS: Lifelong Learning also affords tracking of resident performance and downloadable, ACGME compatible reports.

Content

SANS content is updated to allow you to stay informed and up-to-date with the latest advancements in the field!

SANS Lifelong Learning is still the best tool to build your knowledge base through instant learner feedback, peer-reviewed expert critiques and web-based resources for further study. The improved features and enhanced functionality make SANS all the more valuable.

Congress of Neurological Surgeons

10 N. Martingale Road, Suite 190, Schaumburg, Illinois 60173

Phone: 847-240-2500 Toll-free: 877-517-1CNS Fax: 847-240-0804 info@1cns.org www.cns.org



The Congress of Neurological Surgeons gratefully acknowledges these companies for supporting the 2009 CNS Annual Meeting!



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As of 5/15/09

CULTURE OF EXCELLENCE



Congress of Neurological Surgeons 2009 ANNUAL MEETING

New Orleans, Louisiana
October 24-29, 2009

Join us in New Orleans, Louisiana for the 2009 CNS Annual Meeting, as we explore our theme A Culture of Excellence.

Don't Miss These Outstanding Lecturers at the 2009 CNS Annual Meeting!



Dr. APJ Abdul Kalam
International Leadership Orator
Monday, October 26

Dr. Kalam, the former President of India and an aeronautical engineer by training, has made significant lifelong contributions to the Indian Space and Defense Programs and the education field.



Bobby Jindal
Invited for the 3rd Annual Julian T. Hoff Lecturer
Tuesday, October 27

Governor Jindal, sworn in as Governor of Louisiana on January 14, 2008, became the youngest current governor in the United States. He has quickly become one of the most recognized names in politics and is considered by many to be on the fast-track to the nation's highest office.



Walter Isaacson
10th Annual Walter E. Dandy Orator
Tuesday, October 27

Mr. Isaacson is the President and CEO of the Aspen Institute. He has been the Chairman and CEO of CNN and the editor of Time Magazine. He is the author of many best-sellers, including his most recent, *Einstein: His Life and Universe*.



Peter Agre, MD
4th Annual John Thompson History of Medicine Lecturer
Wednesday, October 28

Dr. Agre was awarded the Nobel Prize in Chemistry in 2003 for his discovery of aquaporins. Currently Vice Chancellor of Science and Technology at Duke University, Dr. Agre's research is focused on the structural and functional characterization of aquaporins.



Terry Orlick, PhD
Michael L. J. Apuzzo Lecturer on Creativity and Innovation
Wednesday, October 28

Dr. Orlick is a leading author and innovator in his creative approach to focus training and high level performance psychology. His life's work has centered on creating a culture of excellence and teaching and coaching the key mental skills required to attain and sustain the highest levels of performance.

**Registration Now Open at
www.cns.org!**

Look for these ground-breaking original science and unique educational offerings!

- 3-D Live Cadaveric Demonstrations
- Top Ten Abstracts Session
- CNS Neurosurgical Forum
- Consensus Sessions
- IML

The Congress of Neurological Surgeons is Pleased to Announce a Joint Meeting with the Neurological Society of India (NSI) and the American Association of South Asian Neurosurgeons (AASAN)!



Education and Innovation

For More Information: info@1cns.org www.cns.org Toll Free: 877 517 1CNS Phone: 847 240 2500