

Congress of Neurological Surgeons

Fundamentals

Foundations

Innovations

Integration

the **Essence** of
Neurological Surgery



Preliminary Program
53rd Annual Meeting
October 18 - 23, 2003



Dedicated to Neurosurgical Education

At-A-Glance

2003 CNS

	7AM	8AM	9AM	10AM	11AM	12PM	1PM	2PM	3PM	4PM	5PM	6PM	7PM	8PM
SATURDAY														
Afternoon Practical Courses (PC01 – PC10)														
Open Evening														
SUNDAY														
All Day Practical Courses (PC11 – PC17)														
Morning Practical Courses (PC18 – PC21)														
Afternoon Practical Courses (PC22 – PC30)														
Opening Reception														
MONDAY														
General Scientific Session I: "Fundamentals: Essential Elements of Practice, Patient Care, and Education"														
Exhibits Open														
Coffee with Exhibitors														
Julian T. Hoff, Honored Guest														
Michael L.J. Apuzzo, Editor, Neurosurgery														
Evandro De Oliveira, Digital Masters Video Symposium														
Mark N. Hadley, Presidential Address														
Visit Exhibits														
Luncheon Seminars														
Special Course I and Section Sessions*														
Refreshments with Exhibitors														
Open Evening														
TUESDAY														
General Scientific Session II: "Foundations: Benchmark Development and Cutting-Edge Research"														
CNS Resident Award														
Julian T. Hoff, Honored Guest														
Exhibits Open														
Coffee with Exhibitors														
Roberta L. Bondar, Fourth Annual Dandy Distinguished Orator														
Visit Exhibits														
Luncheon Seminars														
International Luncheon Seminar														
Special Course II and Section Sessions**														
Refreshments with Exhibitors														
Open Evening														
WEDNESDAY														
General Scientific Session III: "Innovations in Technique and Technology"														
Shinji Nagahiro, Digital Masters Video Symposium														
Exhibits Open														
Coffee with Exhibitors														
John W. McDonald, III, Special Lecturer														
Visit Exhibits														
Special Course III and Section Sessions***														
Refreshment Break														
Open Evening														
THURSDAY														
General Scientific Session IV "Integration: The Art and Controversies of Neurosurgical Practice"														
Coffee Break														

* Section on Cerebrovascular Surgery I
 Section on Stereotactic and Functional Neurosurgery I
 Section on Disorders of the Spine & Peripheral Nerves I
 Section on Neurotrauma and Critical Care I
 Council of State Neurosurgical Societies

** Section on Stereotactic and Functional Neurosurgery II
 Section on Tumors I
 Section on Disorders of the Spine and Peripheral Nerves II
 Section on Pediatric Neurosurgery I
 Section on Pain/General Interest

*** Section on Tumors II
 Section on Cerebrovascular Surgery II
 Section on Neurotrauma and Critical Care II
 Section on Pediatric Neurosurgery II
 Digital Masters Video Symposium

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Register On-line at www.neurosurgery.org





Dear Colleagues:

Welcome to Denver and the Fifty-Third Annual Meeting of the Congress of Neurological Surgeons. My wife Lori and I and the Executive Committee of the CNS hope that you enjoy your participation in the terrific science of this year's meeting and find additional time to explore the many wonderful venues the city of Denver has to offer.

This year's Annual Meeting promises to be our best ever. Designed around the remarkable man and career of our Honored Guest, Julian T. Hoff, MD, the Richard Schneider Professor and Chairman of the Department of Neurosurgery at the University of Michigan, we offer an in-depth review of the art and science of our profession. This year's Scientific Program, entitled "**The Essence of Neurological Surgery**", offers state of the art lectures on the Fundamentals of our professional lives, the Foundations and scientific underpinnings of our work, Innovations in Technique and Technology, critical to our advancement, and Applications, the integration of all into our clinical practices. This year's meeting will offer more Category I CME credit than any prior meeting.

The Annual Meeting Committee, under Chairman Joel MacDonald, has created a remarkable and innovative meeting environment. New to this year's meeting are The Digital Master's Series (a contemporary form of adult learning), and "*The OR/ICU of the Future*" in the Exhibit Hall, a new, interactive exhibitor/physician model for exhibiting and marketing.

Nelson Oyesiku and the 2003 Scientific Program Committee have selected Roberta Bondar, MD, PhD, a renowned Neurologist, NASA Scientist, Astronaut and Photographer/Environmentalist to serve as the esteemed Fourth Dandy Orator. John McDonald III, MD, PhD, a neurologist expert in contemporary strategies of spinal cord injury recovery and repair will provide an invited lecture on Wednesday, October 22, 2003. The best and most contemporary of over 850 submitted scientific abstracts will be presented during the course of the meeting.

The lovely Mile-High City has a great deal to offer including a variety of shops, restaurants, and museums within walking distance from the Convention Center and our convention hotels. We have an exciting Social Program and Auxiliary Program of which we are proud.

We look forward to your joining us in Denver in October. We value your participation in the 53rd Annual Meeting of the Congress of Neurological Surgeons.

Warmly,

Mark N. Hadley, MD, FACS
President, Congress of Neurological Surgeons

Welcome to Denver

Founded in 1859 as a gold mining camp, Denver is one of America's youngest cities – and one of the most exciting. Today, this booming metropolis has a population of 2.4 million and is the largest city in a 600-mile radius – the entertainment, shopping, cultural, sports and recreation capital of the vast Rocky Mountain West.

Denver is a city of surprises – it has a mild, dry and arid climate and records 300 days of sunshine a year, is the most highly educated city in the nation, brews more beer than any other American city, has the largest park system in the nation (with 205 parks in city limits and 20,000 acres of parks in the nearby mountains), is the “Baby Boomer” capital of America, has the 10th largest downtown in terms of major office and retail space, is home to the second largest performing arts center in the nation and...Denver really is a mile high!

There is definitely something for everyone in Denver. Within a mile radius, downtown Denver has three major sports stadiums, one of the nation's largest performing arts centers, three college campuses, an assortment of art and history museums, a mint producing 10 billion coins a year, a river offering white water rafting, over 5,000 hotel rooms, a \$140 million amusement park, an aquarium with sharks and sea otters and well over 150 restaurants, brewpubs, discos and nightspots.

The downtown divides into four different districts, each with its own character and flavor. Civic Center Park (southern downtown) is dominated by the four square block park. The Colorado State Capitol, with its gold-plated dome, sits on a small hill overlooking the gardens. Adjacent to the park is the new Denver Public Library, designed by Michael Graves and next door is the Denver Art Museum – itself a piece of sculpture.

The 16th Street Mall is the heart of downtown's business, convention and theater districts and features a mile-long pedestrian path. The free shuttles that travel the full length of the mall are the only traffic allowed in this area of outdoor cafes, shops, fountains, open plazas and parks.

LoDo (Lower Downtown) is the city's historic center with 25 square blocks of Victorian brick warehouses scattered around Coors Field. LoDo has become the largest concentration of restored historic turn-of-the-century buildings in the nation and is home to more than 90 sports bars, brewpubs, restaurants, discos, jazz clubs, Irish pubs, wine bars, comedy clubs and outdoor cafes. Fine dining is available with an emphasis on steak, fresh seafood and Southwestern dishes. Adjacent Larimer Square offers jazz clubs, art galleries and shops.

South Platte Valley is a sprawling area northwest of the core city. It includes Six Flags Elitch Gardens, the Pepsi Center (home of the NBA Denver Nuggets and the NHL Colorado Avalanche), Colorado's Ocean Journey, the Children's Museum and the new home of the Denver Broncos.

We hope you will join us in Denver to take advantage of both the educational opportunities of the CNS Annual Meeting and all that the city has to offer.

Denver...a Mile High and Climbing

For more information on what Denver has to offer, visit www.denver.org or call 303-892-1112 for a free Visitors Guide.



2003 CNS Annual Meeting Highlights

Fundamentals, Foundations, Innovations, Integration

- General Scientific Sessions with the latest scientific data and dynamic speakers
 - Fourth Annual Walter Dandy Oration and Special Guest Lectures
 - Point/counterpoint discussions from the best practitioners in neurosurgery
 - Innovative Practical Courses
 - In-depth Luncheon Seminars (includes lunch served in seminar room)
 - New Dynamic Special Courses and Section Sessions
 - Digital Masters Video Symposium (a new paradigm for adult learning)
 - Complimentary computer instruction in the Technology Pavilion
 - CNS Member Services Booth with full spectrum of services and products
 - Special Residents' and Nurses' Programs
 - An Exhibit Hall replete with dynamic companies showcasing state-of-the-art products and services
 - Scientific Posters and Video Kiosks
 - More CME than ever! – 25 CME hours (and 15 optional hours available)
 - Terrific Auxiliary Program and optional evening events
 - Section booth in Exhibit Hall
- All this and much, much more awaits you in Denver...A Mile High and Climbing!

Operating Room/ICU of the Future



NEW! Visit the
Operating Room/
ICU of the Future

— Inside the CNS Exhibit Hall!

A new integrated and interactive state-of-the-art display within the CNS Exhibit Hall

Walk through this hands-on environment and experience the next level in neurosurgical marketing. Try out the latest equipment and see how it works in an environment you are familiar with. The integrated and familiar environment will help you gain a greater appreciation of how this technology can be incorporated into your own Operating Room Suite, Intensive Care Unit and/or contemporary medical office.

Special Wednesday Activities*

General Session Complements Operating Room/ICU of the Future

Don't miss the Wednesday General Scientific Session, entitled *Innovations in Technique and Technology*. Information will relate directly to activities within the Exhibit Hall and in the innovative Special Course to follow.

Lunch Inside the Exhibit Hall

All meeting participants are encouraged to have lunch in the Exhibit Hall on Wednesday! During this time you'll see surgeon experts demonstrate techniques using state-of-the-art technology from inside the *Operating Room/ICU of the Future*.

*Note: The Wednesday lunch break will be extended to accommodate this program. No other competing Lunch Seminars will be offered.

Operating Room/ICU of the Future Viewing Hours

Monday, October 20	9:00 am – 4:30 pm
Tuesday, October 21	9:00 am – 4:30 pm
Wednesday, October 22	9:00 am – 3:30 pm

Honored Guest

Julian T. Hoff, MD

Julian Hoff was born in Boise, Idaho on September 22, 1936. He grew up in Caldwell, Idaho. He attended Stanford University where he was awarded his Bachelors Degree in 1958. He then attended Cornell University Medical College in New York City, graduating in 1962. He took General Surgery training for the next two years at the New York Hospital followed by two years as a General Surgeon in the United States Army in Japan. On completion of military service in 1966, he returned to the New York Hospital where he trained in Neurosurgery under Bronson S. Ray, MD.

Dr. Hoff joined the faculty of the University of California San Francisco in 1970. He worked at that Medical Center for the next 11 years where he played a significant role in the Department and its teaching activities. He was promoted to Professor in 1978.

In 1981, he moved to Ann Arbor, Michigan, where he became Professor and Head of the Section of Neurosurgery in the Department of Surgery at the University of Michigan Medical Center. He succeeded Richard C. Schneider, MD. Dr. Hoff was later named the Richard C. Schneider Professor in the Department of Neurosurgery.

Dr. Hoff has held a number of consulting positions and has substantial research interests. He has had continuous funding for research from the National Institutes of Health since 1971. He was named recipient of the Senator Jacob Javitz Neuroscience Award by the NIH on two occasions, the first in 1985 and the second in 1992. He serves on three national Neurosurgery Societies, was Chair of the American Board of Neurological Surgeons and was a member of the Residency Review Committee for Neurosurgery. Dr. Hoff was elected to the Institute of Medicine of the National Academy of Sciences in 1999. He was awarded the Cushing Medal of the AANS in 1990 and Grass Prize of the Society of Neurological Surgeons in 2001. Dr. Hoff has been Vice-President of the Congress of Neurological Surgeons from 1979 to 1980 and is an honorary member of the Society of British Neurological Surgeons.

Dr. Hoff's publications include 194 articles in peer-reviewed journals, 9 edited books, and 65 chapters in other books. He and his wife, Diane, have three children - Paul, Allison and Julia - and three grandchildren.



Dr. Hoff will give the following General Scientific Session presentations:

Monday, October 20, 10:30 amThe Fundamentals of Neurosurgical Practice

Tuesday, October 21, 8:35 amThe Scientific Foundation of Clinical Neurosurgery

Thursday, October 23, 8:20 amTechnical Advances of the Past

Dr. Hoff will also participate in PC17 "Masters of Neurological Surgery: Operative Colloquium" on Sunday, October 19 from 8:00 am to 5:00 pm and Luncheon Seminar M01 "Resident/Honored Guest Luncheon" on Tuesday, October 20 at 12:30 pm - 2:00 pm.

The Fourth Annual Walter E. Dandy Distinguished Orator

Roberta L. Bondar, OC, O.Ont, MD, PhD, FRCP, FRSC

Physician, scientist, astronaut and photographer



Sunday, October 19 – 1:00 pm – 5:00 pm

PC30 “Career Development for Women Neurosurgeons”
(ticketed event)

Tuesday, October 21 – 11:30 am

“Changing the Way We Think and Move –
A Neurologist/Astronaut’s Personal Space”

Born in Sault Ste. Marie on Lake Superior, Dr. Roberta Bondar embarked on a career of scientific pursuits beginning in high school. She earned a Bachelor of Science degree in agriculture and zoology from the University of Guelph, and a master’s degree in experimental pathology at the University of Western Ontario. She completed her doctorate in neurobiology at the University of Toronto. Dr. Bondar earned her medical degree at McMaster University with a special interest in space medicine. After completing her board certification in Neurology, she studied at Tufts New England Medical Center in Boston, specializing in neurophthalmology, how we see and record the world around us. In 1984, she was one of the six original Canadian astronauts selected to train at NASA. In January 1992,

Dr. Bondar ascended into space aboard the NASA space shuttle Discovery. In her role as an international payload specialist she conducted life and material science experiments in space, becoming Canada’s first woman astronaut and the world’s first neurologist in space.

For over a decade, Dr. Bondar headed an international medical research team, collaborating with NASA and the University of New Mexico to study the effects of short term and extended duration space flight on the physiology of blood flow in humans. She developed new techniques for recording and analyzing blood flow to the brain simultaneously with peripheral measures of blood pressure and heart rate. Her peer-reviewed research has been published in leading stroke and physiology journals. Dr. Bondar is an advocate of using space medical research to provide insight into the recovery potential of the human body, as it simulates disease states during readaptation to earth’s gravity.

Upon returning to Earth, Dr. Bondar wrote *Touching The Earth* a book in which she speaks of her space experience and her love of the planet. Further honing her skills, she studied professional nature photography at the Brook’s Institute of Photography in Santa Barbara, California. Her accomplishments in nature and landscape photography led the National Gallery of Canada to ask her to participate in its 1997 landmark exhibition, “Science and Photography: Beauty of Another Order”. From 1997 through to 2000 she photographed all of Canada’s national parks for a major book entitled, *Passionate Vision ~ Discovering Canada’s National Parks* published by Douglas & McIntyre. An exhibition of the book’s photographs was toured by the Canadian Museum of Nature. Launched in the fall of 2002 was Dr. Bondar’s next book entitled, *Canada ~ Landscape of Dreams*. Forty-four prominent Canadians have contributed some words on their favorite part of the country which are partnered with Dr. Bondar’s photographs.

Among her numerous commendations, Dr. Bondar has been honored as a Fellow of the Royal Society of Canada, inducted into the Canadian Medical Hall of Fame for her pioneering research in space medicine, and recognized with the Order of Canada and the NASA Space Medal. In addition, she has received 24 honorary doctorates from Canadian and American universities.

In January 2003, Dr. Roberta Bondar was appointed Chancellor of Trent University in Peterborough, Ontario.

Special Lecturer**John W McDonald, III, MD PhD**

Wednesday, October 22 – 11:00 am

“Repair of the Damaged Spinal Cord: From Stem Cells to Activity Based Recovery Programs”

Dr. John W. McDonald, III is Assistant Professor of Neurology and Director of the Spinal Cord Injury Program at Washington University School of Medicine, St. Louis, Missouri.

Dr. McDonald received his B.S. in Liberal Arts and Science (in Neurosciences) at the University of Illinois, Champaign-Urbana. He achieved his combined MD and PhD (Neurosciences) in the Medical Scientist Training Program from the University of Michigan in 1992. After completing research fellowship training at Johns Hopkins University School of Medicine and residency training at Washington University School of Medicine, he joined the faculty at Washington University School of Medicine as Instructor of Neurology in 1996. Dr. McDonald received in 1998 a dual appointment as Assistant Professor of Neurology and director of Spinal Cord Injury Unit at Washington University School of Medicine, St. Louis, MO.



The research in Dr. McDonald's Laboratory focuses on the mechanisms of spinal cord injury and repair and restoration of function. Dr. McDonald's research has been recognized by the:

- First Award, National Institute of Health, 1997
- Mentored Clinical Scientist Development Award, National Institute of Health, 1996, Murray Goldstein Award, Neurotrauma Society, 1996, S. Weir Mitchell Award, American Academy of Neurology, 1996, Medical Scientist Training Program Scholarship at the University of Michigan, 1985.

Dr. McDonald is a member of the Christopher Reeve Paralysis Foundation and over a dozen Professional Societies including the *International Neurotrauma Society*, the *American Neurologic Association*, and the *American Academy of Neurology*. He is a reviewer for multiple scientific research journals including *Brain Research*, *Brain Research Reviews*, *Experimental Neurology*, *Journal of Neurochemistry*, *Journal of Neuroscience*, *Journal of Neuroscience Methods*, *Neuroscience*, *Neuroscience Letters* and *Pediatric Research*. Dr. McDonald's research has resulted in over 40 publications in peer reviewed scientific journals.

MISSION STATEMENT

The Congress of Neurological Surgeons exists for the purpose of promoting the public welfare through the advancement of neurosurgery, by a commitment to excellence in education, and by dedication to research and scientific knowledge. The Congress of Neurological Surgeons maintains the vitality of our learned profession through the altruistic volunteer efforts of our members and the development of leadership in service to the public, to our colleagues in other disciplines, and to the special needs of our fellow neurosurgeons throughout the world and at every stage of their professional lives.

MEETING PURPOSE

The purpose of the 2003 Annual Meeting of the Congress of Neurological Surgeons is to provide continuing medical education for practicing neurosurgeons, neurosurgical residents in training, and post-graduate neurosurgical fellows, as well as allied health professionals including nurses, physician assistants and clinical specialists.

This education is provided in many forms:

- Didactic lectures
- Practical (hands-on) courses demonstrating neurosurgical techniques
- Small group sessions to provide in-depth coverage of selected topics
- Exhibits demonstrating the newest instruments and information known to the neurosurgical community
- Posters to provide the latest information regarding clinical and laboratory advances in neurological surgery.

DISCLAIMER

The material presented at the 53rd 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.

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Joel D. MacDonald

Scientific Program Chair
 Exhibits and Marketing Chair
 Local Arrangements Chair
 Public Relations Chair
 Registration Co-Chairs

 Resident Registration Co-Chairs
 Sergeant-at-Arms Co-Chairs

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2003 Scientific Program Committee

Scientific Program Chair

Nelson M. Oyesiku

CME Liaison Chair
 CME Liaison Assistant
 CSNS Liaisons

 General Scientific Session I

 General Scientific Session II
 General Scientific Session III
 General Scientific Session IV
 Section Program Liaison
 Luncheon Seminars
 Affiliate Members Program
 Poster Session
 Practical Courses
 Program Evaluations
 Special Courses Chair
 Special Course I
 Special Course II
 Special Course III
 Residents' Program
 CNS Archives Chair
 Open Scientific Session
 Joint Section Programs

Christopher E. Wolfla
 John C. Wellons III
 Mark E. Linskey, Michael J. Perez-Cruet,
 William E. Bingaman
 Isabelle M. Germano, Jeffrey P. Blount,
 Nicholas Theodore
 Douglas Kondziolka
 Jaimie M. Henderson
 C. Michael Cawley, III
 Larry H. Khoo
 Douglas L. Brockmeyer, Perry J. Argires
 Nicholas Theodore, Theresa Slazinski
 P. David Adelson, David A. Vincent
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 Timothy B. Mapstone, Philip E. Stieg
 Kimberly S. Brown
 Beverly C. Walters
 Paul G. Matz
 Neil A. Martin
 Michael P. Steinmetz
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 Kevin Lillehei, Oren Sagher, Shelly D. Timmons



Dedicated to Neurosurgical Education

Our sincere thanks and appreciation go out to each committee for their dedication in organizing the 53rd CNS Annual Meeting. It is due to each member's never-ending commitment to serve the CNS that we are able to provide excellence in education.



Dear Residents:

The 2003 Congress of Neurological Surgeons Annual Meeting is not to be missed! Join us for an exciting array of clinical and scientific presentations on the state-of-the-art in neurosurgical practice.

Benefit from learning the most current information on breakthroughs in research and treatment options, participating in exceptional programs for continuing education, and developing relationships with other neurosurgeons from around the world.

CNS Resident Members are afforded many benefits and we hope you will take full advantage of them. Become a member of one of the top neurosurgical organizations. Please contact Member Services toll free at 877-517-1CNS or via e-mail at info@1CNS.org if you have any questions.

On behalf of the Congress of Neurological Surgeons, I look forward to helping you succeed in the growing field of neurosurgery.

Sincerely,



Kristin O. Riley, MD
Resident Member, CNS Executive Committee



CNS Resident Membership

When neurosurgical residents need the most current information about breakthroughs in research and treatment options, continuing education opportunities and networking with peers, they turn to the CNS. CNS proudly offers its resident members exceptional benefits and the best educational opportunities.

In keeping with our dedication to neurosurgical education, the CNS continues to offer special programs to assist and encourage residents to attend the Annual Meeting by providing:

- Reduced Annual Meeting registration fee
- Complimentary housing (Limited availability – apply now!). If you are not currently a CNS Resident Member, your membership application must be received by August 1, 2003 for resident housing consideration.
- Complimentary ticket to Opening Reception
- CNS funded Resident Award

- Residents' Lounge in Exhibit Hall
- Complimentary Residents/Honored Guest Luncheon (limited capacity – register early!)
- Reduced fees for Luncheon Seminars

For a one-time membership fee of \$25, Resident Members are also entitled to the following benefits:

- Free annual subscription to **NEUROSURGERY**, the official journal of the CNS
- Quarterly *Neurosurgery News*, the official bi-monthly newsmagazine of the CNS
- *Clinical Neurosurgery*
- Young Neurosurgeons' Directory
- Directory of Neurological Surgery North America
- Online access to **NEUROSURGERY://ON-CALL®**
- Job Placement
- Convenient two-step conversion to Active Membership!

Sergeant-at-Arms Program

What better way to become part of the Congress of Neurological Surgeons volunteer-based organization than to participate in the Sergeant-at-Arms Program!

The Sergeant-at-Arms volunteers contribute to the overall success of the Annual Meeting. Volunteer for these simple but vital organizational tasks and CNS will cover your fee for the course to which you are assigned!

1:00 pm – 5:00 pm
5:00 pm –

Afternoon Practical Courses (PC01 – PC10)
Open Evening

1:00 pm – 5:00 pm

Practical Courses

Afternoon Practical Courses (PC01 - PC10)

PC01 Technological Aids for Practice Management

Course Director: Larry H. Khoo
Faculty: Valeriy Nenov, Fred H. Geisler, Dino Samartzis
Learning Objective: This course will demonstrate available digital enhancement of office work flow and practice management. Examples include databases, personal digital assistants, digital imaging, email, and networking solutions. Upon completion of this course, attendees will understand the applications of these instruments to neurosurgical practice.

PC02 CPT Coding: What's New!

Course Director: Gregory J. Przybylski
Faculty: Samuel J. Hassenbusch, Robert R. Johnson, Richard A. Roski, Kimberly Pollock
Learning Objective: This course provides a summary of the principles and application of CPT coding in office, consultation, and hospital work performed by neurosurgeons. Upon completion of this course, participants should understand how to apply ICD-9 and CPT coding to fulfill Medicare documentation guidelines for evaluation and management coding, develop a compliance plan, and adapt their current documentation practice.

PC03 Craniospinal Trauma in Childhood

Course Directors: P. David Adelson, John Ragheb
Faculty: Michael David Partington, Douglas L. Brockmeyer, Stephen L. Huhn, Paul A. Grabb, Arthur J. Di Patri, Jr.
Learning Objective: This course will discuss the pathophysiology and management of childhood craniospinal trauma. Upon completion of this course, participants should understand key issues in the management of craniospinal trauma in children.

PC04 Applied Spinal Biomechanics

Course Director: Edward C. Benzel
Faculty: Vincent C. Traynelis, Michael A., Morone, Eric J. Woodard, Darryl J. DiRisio
Learning Objective: This course presents the physical principles and biomechanical foundations of spinal surgery and stabilization. Upon completion of this course, participants will understand how to apply biomechanical principles and strategies to address clinical problems.

NEW!

PC05 Functional Neurosurgery: Stimulation, Augmentation and Destruction

Course Director: Robert E. Gross
Faculty: Philip A. Starr, Ali R. Rezai, Steven B. Wilkinson, Aviva Abosch, Thomas B. Freeman
Learning Objective: This course will provide a detailed discussion of the indications, instrumentation, and techniques involved in neural stimulation, augmentation, and ablation for various nervous system diseases. Upon completion of this course, participants will have an understanding of stimulation, augmentation and destruction as related to functional neurosurgery.

PC06 Three Dimensional Neurosurgical Anatomy

Course Director: Albert L. Rhoton, Jr.
 Learning Objective: This course will provide three-dimensional microsurgical instruction of the ventricles, basal cisterns, cavernous sinus, and cranial nerves. Stepwise operative approaches will be observed as seen through the operating microscope. Upon completion of this course, participants will understand the anatomy of these areas and develop an appreciation for the three-dimensional neurovascular relationships of each region.

NEW!**PC07 Operating in Eloquent Cortex: Localization and Resection**

Course Directors: Jeffrey P. Blount, Toshiki Yoshimine
 Learning Objective: This course will provide an in-depth review of techniques and technologies that can be applied to identify and work within eloquent regions of the cerebral hemispheres. Upon completion of this course, participants will have an understanding of the available technologies for performing safer and more effective procedures within and around eloquent cortex.

NEW!**PC08 Craniocervical Junction: Microsurgical Anatomy and Surgical Approaches**

Course Director: Jeffrey S. Henn
 Faculty: Curtis A. Dickman, Stephen B. Lewis, G. Michael Lemole, Arthur Jay Ulm, Ronnie I. Mimram, In Uk Lyo, Atul Goel
 Learning Objective: This course will use cadaveric dissection and 3D interactive techniques to gain hands on experience with the anatomy of the craniocervical junction. Emphasis will be placed on mastery of the complex microsurgical anatomy, targeting surgical approaches to the region, and complication avoidance. Upon completion of this course, participants will be familiar with the anatomy of the craniocervical junction and have an understanding of the various surgical approaches to this region. Participants will also receive a CD and shutter glasses for easy review of the 3D material after this course.

PC09 Stereotactic Radiosurgery: Indications and Dose Planning

Course Director: Steven D. Chang
 Faculty: David W. Andrews, Antonio De Salles, Ian G. Fleetwood, Ajay Naranjan, Fraser Henderson
 Learning Objective: The principles of current and developing stereotactic radiosurgery for management of brain tumors, vascular malformations, and functional disorders will be reviewed. Basic radiobiology pertinent to radiosurgery and clinical criteria for patient selection for these techniques, as well as complication avoidance and management will be presented. The information will be presented through lecture, case discussions, and hands-on use of different radiosurgery workstations. Upon completion of this course, participants will be able to define the role of stereotactic radiosurgery for specific patients, appraise the specifics of each radiosurgical technology, and discuss complication management.

NEW!**PC10 Outpatient Management Dilemmas: For Nurses, Nurse Practitioners and Physician Assistants**

Course Director: Tess Slazinski, RN, MN, CCRN, CNRN
 Faculty: Virginia Prendergast, RN, ANP, CNRN
 Learning Objective: This course will cover the outpatient management of neurosurgical patients from a nursing perspective. Issues of triage, clinic management, and complication recognition will be discussed. Upon completion of this course, participants will have an understanding of possible outpatient management dilemmas and how to solve them. Physician attendees will not be awarded CME credits for this course. Nursing contact hours will be provided through Integra Neurosciences.

At-a-Glance

Sunday, October 19, 2003

8:00 am – 5:00 pm	All Day Practical Courses (PC11 – PC17)
8:00 am – 12:00 Noon	Morning Practical Courses (PC18 – PC21)
1:00 pm – 5:00 pm	Afternoon Practical Courses (PC22 – PC30)
6:30 pm – 8:30 pm	Opening Reception

8:00 am – 5:00 pm

Practical Courses

Full Day Practical Courses (PC11 - PC17)

PC11 Multimodality Therapy of Intracranial Aneurysms

Course Directors: Thomas A. Kopitnik, Jr., Jonathan A. White
 Faculty: Duke Samson, Robert Replogle, G. Lee Pride, Alex Berenstein, Gazi Yaşargil, Christopher L. Taylor, John H.A. McMahon
 Learning Objective: This hands-on cadaver dissection course will allow participants to describe the anatomic considerations for specific aneurysms by location, intraoperative management techniques, and surgical exposures. Upon completion of this course, participants will understand the indications and contraindications for surgery and endovascular treatment of patients with posterior and anterior circulation aneurysms.

PC12 Microsurgical Anatomy

Course Directors: Albert L. Rhoton, Jr., Stephen D. Lewis, Evandro de Oliveira
 Faculty: Ron Smith, Alexandre Yasuda, Saturu Shimuzu, Adriano Garcia, Necmettin Tanriover
 Learning Objective: This hands-on course will provide instructions for exposing the lateral, third, and fourth ventricles, basal cisterns, and cranial nerves with the operating microscope. Upon completion of this course, participants will understand the techniques for exposing the lateral, third, and fourth ventricles, basal cisterns and the cranial nerves in the cerebellopontine angle and internal acoustic meatus.

PC13 Procedures for Thoracolumbar Instability and Deformity

Course Directors: David W. Cahill, Stephen L. Ondra
 Faculty: Christopher I. Shaffrey, Robert F. Heary, Seth M. Zeidman, Robert E. Ho, Brett B. Abshire, Caple A. Spence, Barry D. Birch, Iain H. Kalfas, Shahin Etebar
 Learning Objective: This course provides hands-on experience with exposure, decompression, and reconstruction of the thoracolumbar spine from the cervical-thoracic junction to the sacrum. Upon completion of this course, participants will understand anterior, posterior, and posterior-lateral approaches to these regions along with the appropriate instrumentation systems. This course will emphasize approaches for complex reconstruction of deformity.

PC14 Microvascular Surgical Techniques

(This course will be held at the University of Colorado. Shuttles will leave from the Lobby B entrance of the Colorado Convention Center at 7:40 am promptly.)

Course Directors: J. Paul Elliott, Peter David Le Roux
 Faculty: Shinji Nagahiro, Joel D. MacDonald, Saleem I. Abdulrauf, Howard Yonas, David W. Newell, Richard G. Ellenbogen
 Learning Objective: Hands-on experience with microvascular anastomosis in an animal laboratory will be provided. Upon completion of this course, participants will be able to discuss indications for and practical aspects of microvascular reconstruction of the cranial vasculature.

Sunday, October 19, 2003

PC15 Percutaneous and Modulation Therapy for Spinal Pain Syndromes

Course Director: Jaimie M. Henderson
 Faculty: Kenneth A. Follett, Joel L. Seres, Samuel J. Hassenbusch, Richard B. North, Robert M. Levy
 Learning Objective: Upon completion of this course, participants will understand the rationale for spinal cord stimulation, peripheral nerve stimulation, and spinal drug infusions for pain control; describe the patient selection process for neuroaugmentative pain control techniques; describe techniques for implantation and management of stimulation and infusion therapies; and describe complications, complication management, and outcomes of neuroaugmentative procedures for pain control.

PC16 Surgical Principles of Peripheral Nerve Surgery

Course Directors: Allan H. Friedman, David G. Kline
 Faculty: Eric L. Zager, John E. McGillicuddy, Rajiv Midha, Daniel H. Kim, Alan J. Belzberg, Robert L. Tiel
 Learning Objective: This course will include a hands-on dissection lab with cadavers. Upon completion of this course, participants will understand the appropriate exposures for specific nerve injuries and entrapment syndromes, perform the anatomical exposure for peripheral nerves, and understand the indications and contraindications for surgical treatment of peripheral nerve disorders.

PC17 Operative Colloquium: Masters of Neurological Surgery

Course Directors: Julian T. Hoff, James M. Markert, Jr
 Faculty: Peter J. Janetta, Bryce Weir, Robert F. Spetzler, Charles B. Wilson, Robert J. Dempsey, David L. Kelly, Hiroshi Nakagawa, H. Alan Crockard
 Learning Objective: Using lecture, demonstration and question-and-answer sessions, this unique course will provide participants insight into the techniques of our neurosurgical masters. Upon completion of this course, participants should understand novel and useful techniques for the management and surgical options involved in the care of common and complex neurosurgical problems as well as understand future trends in neurosurgery and health care.



Practical Courses**Morning Practical Courses (PC18 - PC21)****PC18 Vertebroplasty: Technology and Techniques**

- Course Directors: Lee R. Guterman, Richard D. Fessler
 Faculty: Elad Levy, Jay U. Howington, Bernard Bendok, Andrew J. Ringer, Alan Boulos
- Learning Objective: This course will focus on developing an understanding of vertebroplasty techniques and identifying appropriate patients for the procedure. Hands-on experience will be provided. Upon completion of this course, participants will be able to discuss the indications and techniques of vertebroplasty. This course is a prerequisite for PC22 “Kyphoplasty”.
- Disclaimer: Vertebroplasty often involves the insertion of polymethylmethacrylate (PMMA) in the spine. PMMA bone cement is considered a device for FDA purposes. In October 1999 the FDA reclassified PMMA bone cement as a Class II device for its intended use “in arthroplastic procedures of the hip, knee and other joints for the fixation of polymer or metallic prosthetic implants to living bone”. The use of a device for other than its FDA-cleared indication is an off-label use. Physicians may use a device off-label if they believe, in their best medical judgement that its use is appropriate for a particular patient. As is the CNS’ policy regarding all of its educational offerings, the fact that the use of PMMA bone cement in the spine is discussed in this course does not constitute a CNS endorsement of this use.

NEW!**PC19 Emerging Technologies in Lumbar Fusion**

- Course Directors: Daniel K. Resnick, Joseph T. Alexander
 Faculty: Brian R. Subach, Karin Swartz, Harel Deutsch, Mick J. Perez-Cruet, J. Patrick Johnson, Junichi Mizuno, Richard D. Fessler, Gregory Trost, Michael W. Groff, Mark McLaughlin
- Learning Objective: This course will provide an in-depth review of current and future technologies applicable to arthrodesis of the lumbar spine. Upon completion of this course, participants will understand technologies appropriate for specific clinical conditions, and describe their application.

PC20 Traumatic Brain Injury Management: Present and Future

- Course Directors: Geoffrey T. Manley, Domenic P. Esposito
 Faculty: Raj K. Narayan, Shelly D. Timmons, Alex B. Valadka
- Learning Objective: This course will review current concepts regarding management of neurotrauma patients and systemic and neurologic pathophysiology after trauma. Both traumatic brain injury and spinal cord injury will be discussed. Economic and legal considerations in providing neurotrauma care will also be reviewed. Upon completion of this course, participants will understand the major pathophysiologic changes occurring after central nervous system trauma and formulate appropriate treatment strategies.

PC21 Surgical Arthrodesis of the Cervical Spine

- Course Directors: Haynes Louis Harkey, III, Christopher G. Paramore
 Faculty: Hiroshi Nakagawa, R. John Hurlbert, Daniel H. Kim, Joseph T. Alexander, Michael G. Fehlings, Paul J. Marcotte, Michael G. Kaiser, Paul M. Arnold, Praveen V. Mummaneni
- Learning Objective: The indications, techniques and complications of stabilization of the cervical spine including the craniovertebral junction will be reviewed using lectures, case presentation and hands-on application with anatomical models. Upon completion of this course, participants will be able to recognize the indications for cervical and craniovertebral junction fusion and instrumentation, and will also be able to describe the technical application of such.

1:00 pm – 5:00 pm

Sunday, October 19

Practical Courses**Afternoon Practical Courses (PC22 - PC30)****PC22 Kyphoplasty: Novel Technologies**

Course Directors: Lee. R. Guterman, Richard D. Fessler
 Faculty: Elad Levy, Jon Ledlie, Bernard Bendok, Andrew J. Ringer, Alan Boulos
 Learning Objective: Prerequisite for participation in this course is completion of the Vertebroplasty course at this or a previous meeting. Hands-on cadaver experience will allow participants to perform the technique using fluoroscopy at multiple lumbar and thoracic levels. Upon completion of this course, participants will understand indications for and management techniques related to Kyphoplasty techniques, and complication avoidance.

NEW!**PC23 Mastering Spinal Disorders: Dealing with Complexities**

Course Directors: Regis William Haid, Jr., Christopher I. Shaffrey
 Faculty: J. Kenneth Burkus
 Learning Objective: Using lecture, a hands-on demonstration and question-and-answer session, this unique course will focus on three techniques: TLIF (transforaminal lumbar interbody fusion), ALIF (anterior lumbar interbody fusion) and thoracic pedicle screw placement. This course highlights technical pearls and pitfalls in these three areas.

PC24 Cerebrovascular Critical Care

Course Director: Joshua B. Bederson
 Faculty: Owen Samuels, William T. Couldwell, Aman B. Patel, J. Max Findlay, Issam A. Awad, Raj K. Narayan
 Learning Objective: This course will discuss diagnostic and therapeutic options and perioperative management in the following conditions: ischemic stroke, intracerebral hemorrhage, subarachnoid hemorrhage and vasospasm. Upon completion of this course, participants will understand the diagnosis and treatment of ischemic stroke, including the use of tissue plasminogen activator and decompressive craniectomy; describe the pathophysiology and treatment of subarachnoid hemorrhage, including prevention of early rebleeding and treatment of vasospasm; and discuss treatment options for intraparenchymal hemorrhage.

NEW!**PC25 Cerebrospinal Fluid Shunt Techniques: Pearls, Fact and Fiction**

Course Director: John R.W. Kestle
 Faculty: Marion L. Walker, Bermans J. Iskandar, Jogi V. Pattisapu, D. Douglas Cochrane
 Learning Objective: This course will take a scientific and in depth look at what we know about the treatment of hydrocephalus with cerebrospinal fluid diversion. Both open and percutaneous techniques will be discussed. Evolving technologies of adjustable valves and antibiotic impregnated catheters will be discussed. Upon completion of this course, the participant will have a better understanding of the common pitfalls of CSF shunting, complication reduction techniques, and the scientific application of newer technologies.

NEW!

PC26 Inpatient Management Dilemmas for Nurses, Nurse Practitioners and Physician Assistants

Physician attendees will not be awarded CME credits for this course.
 Course Director: Tess Slazinski, RN, MN, CCRN, CNRN
 Faculty: Rosemarie Girardeau, RN, CCRN, CNRN, CEN, Sam Browd
 Learning Objective: This course will cover the important issues regarding inpatient management of neurosurgical patients from a nursing perspective. Issues of dealing with pain, unexpected neurological deficit, house staff relations, and complication recognition will be discussed. Upon completion of this course, participants will be familiar with inpatient management dilemmas and how to handle them. Nursing contact hours will be provided through Integra NeuroSciences. Physician attendees will not be awarded CME hours for this course.

NEW!

PC27 International and Virtual Neurological Surgery Colloquium

(This course will be held at the University of Colorado. Shuttles will leave from the Lobby B entrance of the Colorado Convention Center at 12:40 pm promptly.)

Course Directors: Issam A. Awad, Nelson M. Oyesiku
 Faculty: Victor M. Spitzer, Jean-Jacques Moreau, Julian E. Bailes, James C. Rosser, Michael L.J. Apuzzo, Andre Olivier, Nobuo Hashimoto, Ivan S. Ciric, Madjid Samii, Axel Perneczky, Ali R. Rezaei
 Learning Objective: This unique course will highlight techniques of international master surgeons in dealing with complex and common neurosurgical problems. Upon completion of this course, participants will have a better understanding of the use of virtual technology and its ability to display operative techniques, aid in complication avoidance, and assist in resident education.

PC28 Contracting and Financial Management: What You Must Know

Course Director: Debra R. Mills, RN CPC
 Learning Objective: This course will explore the issues of managed care contracts from PPO, EPO and HMO plans for physician group practices including re-negotiating existing contracts, negotiating with insurance carriers, meeting with payers and contract negotiation. Upon completion of this course, participants will have an overview of how to implement sound financial management in the neurosurgical practice including five important financial statistics for practice benchmarks and understanding your monthly financial management reports.

PC29 Minimally Invasive Lumbar Spine Surgery

Course Directors: Maurice M. Smith, Noel I. Perin
 Faculty: Seong-Hoon Oh, Bruce M. McCormack, Stephen T. Onesti, Richard G. Fessler, Michael W. Groff, Kevin T. Foley, Hyun-Chul Shin
 Learning Objective: Upon completion of this course, participants will be able to recognize the indications and limitations of minimally invasive techniques in the lumbar spine. Participants will have knowledge of the different surgical techniques and their applications.

NEW!

PC30 Career Development for Women in Neurosurgery

Course Director: Beverly C. Walters
 Faculty: Roberta L. Bondar, Janet Bickel, Susan Johnson
 Learning Objective: As a result of this session, participants will acquire insights into the extra challenges women face in building successful careers in male-defined environments, effective strategies for developing assertive styles, strategies for seeking mentoring and coaching and expanding professional networks and enhanced motivation to set goals for professional development and achievement. Upon completion of this course, participants will understand the challenges they will face and will have the tools to help themselves achieve success and develop their careers.

2003 Exhibitors

A - C

4-D Neuroimaging
Accuray, Inc.
Acra-Cut, Inc.
Ad-Tech Medical Instrument Corp
Aesculap, Inc.
AllMeds, Inc.
Aloka
Alsius Corporation
American Assoc. of Neurological Surgeons
American Brain Tumor Assoc.
American Surgical Sponges
Anew International
ANS Advanced Neuromodulation Systems
Anspach Companies
ArthroCare Spine
Aspen Medical Products, Inc.
Baptist Health
Blackstone Medical, Inc.
BOSS Instruments, Ltd.
Boston Scientific
BrainLAB AG
Brasseler USA Surgical Power & Accessories
Buxton BioMedical, Inc.
Cardinal Health, V. Mueller® Neuro/Spine Products
Carl Zeiss Certified
Carl Zeiss Surgical, Inc.
Celtic Innovative Technologies, LLC
Centerpulse Spine-Tech Division
ChartLogic - Task Technologies
CLOWARD Instrument Corp.
Codman, a Johnson & Johnson Company
Compass International, Inc.
Congress of Neurological Surgeons
Cook Neurological, Inc.
CTF Systems, Inc.
Cyberacuity, L.L.C.
Cyberonics, Inc.

D - F

DePuy AcroMed, a Johnson & Johnson Company
Designs For Vision, Inc.
EBI Medical System, Inc.
Elekta Instruments, Inc.
Ellman Innovations
Endure Medical, Inc.
Fehling Surgical Instruments, Inc.
FHC, Inc. (Frederick Haer & Co.)
Flowtronics, Inc.
Franklin Covey

G - I

Guilford Pharmaceuticals, Inc.
Hydrocephalus Association
Image-Guided Neurologics, Inc.
Implex Corp.
IMRIS
Integra NeuroSciences
Interpore Cross International
Johnson & Johnson Wound Mgmt. a division of ETHICON

J - L

Journal of Neurosurgery
Karl Storz Endoscopy-America, Inc.
Kinamed, Inc.
Kirwan Surgical Products, Inc.
KLS - MARTIN L.P.
Koros Surgical Instruments Corp. / Koros USA
Kyphon, Inc.
Leica Microsystems, Inc.
Life Instrument Corp.
Lippincott, Williams & Wilkins

M - O

Market Access Partners
MD Logic, Inc.
Medical Designs, LLC
Medtronic Midas Rex
Medtronic Neurological
Medtronic Neurosurgery
Medtronic Sofamor Danek
Medtronic Surgical Navigation Technologies
MicroVention, Inc.
Mizuho America, Inc.
Möller Microsurgical
Nadia International, Inc.
National Institute of Neurological Disorders & Stroke
NeuColl
Neurosurgery
Nicolet Biomedical, Inc.
NS Recruitment Incorporated
Ohio Medical Instruments Co., Inc. / OMI
Olympus America, Inc.
Omni-Tract Surgical
Ortho Development Corporation
OSI
OsteoMed L.P.

P - R

Pacific Research / Sawbones
Parallax Medical, Inc.
Philadelphia Cervical Collar Co.
Phoenix Biomedical Corp.
PMT® Corp.
Porex Surgical, Inc.
Prescott's, Inc.
ProMed Instruments, Inc.
ProtoMED
Quality Medical Publishing
R&B Surgical Solutions
Radionics, Inc. a division of Tyco Healthcare Group LP
Regeneration Technologies, Inc.
REO SpineLine LLC

S - T

Scanlan International, Inc.
Signus Medical, LLC
SILVERGlide Surgical Technologies, Inc.
Spinal Concepts, Inc.
Stryker Biotech
Stryker Instruments
Stryker Leibinger, Inc.
Stryker Spine
SurgiTel/General Scientific Corp
Surgivision
Synergetics, Inc.
Synthes
Thieme Medical Publishers
Think First Foundation
Thompson Surgical Instruments

U - Z

VISTA Staffing Solutions, Inc.
W.B. Saunders/Mosby/Churchill Elsevier Science - Health Science Div.
W. L. Gore & Associates, Inc.
W. Lorenz Surgical
Xélan, The Economic Association of Health Professionals
Z-Kat

At-a-Glance

Monday, October 20

7:00 am – 12:00 Noon	General Scientific Session I: “Fundamentals: Essential Elements of Practice, Patient Care, and Education”
9:00 am – 4:30 pm	Exhibits Open
9:00 am – 10:00 am	Coffee with Exhibitors
10:30 am – 11:00 am	Julian T. Hoff, Honored Guest
11:00 am – 11:15 am	Michael L.J. Apuzzo, Editor, NEUROSURGERY
11:15 am – 11:30 am	Evandro De Oliveira, Digital Masters Video Symposium
11:30 am – 12:00 Noon	Mark N. Hadley, Presidential Address
12:00 Noon – 12:30 pm	Visit Exhibits
12:30 pm – 2:00 pm	Luncheon Seminars
2:00 pm – 5:30 pm	Special Course I Section on Cerebrovascular Surgery I Section on Stereotactic and Functional Neurosurgery I Section on Disorders of the Spine and Peripheral Nerves I Section on Neurotrauma and Critical Care I Council of State Neurosurgical Societies
3:30 pm – 4:00 pm	Refreshments with Exhibitors
5:30 pm	Open Evening

General Scientific Session I: Fundamentals

Essential Elements of Practice, Patient Care, and Education

7:00 am – 12:00 pm

Learning Objectives: This session will explore the fundamental tenets of neurosurgical practice and patient care. Following this session, participants will be able to discuss the essential elements of various realms of clinical neurosurgery including surgical anatomy, patient assessment, spinal biomechanics, injury prevention, and pediatric congenital deformity. Participants will also be able to discuss contemporary practice imperatives such as maintenance of certification, continuing education, effective practice techniques, and sub-specialization.

Moderator: Joel D. MacDonald

Presiding Officer: Mark N. Hadley

7:00 – 7:05	Welcome
7:05 – 7:20	The Fundamentals of Surgical Anatomy: How Pathology Influences Normal AnatomyAlbert L. Rhoton, Jr.
7:20 – 7:35	The Fundamentals of Patient Assessment: The Importance of the Exam and the Patient RelationshipAndrew G. Shetter
7:35 – 7:50	The Fundamentals of Spinal Mechanics: Restoration of Spinal Support and FunctionDavid W. Cahill
7:50 – 8:05	The Fundamentals of Continuing Education: Acquiring Knowledge after ResidencyRobert A. Ratcheson

8:05 – 8:20	The Fundamentals of Surgical Thinking: How Medical Evidence Guides Treatment	Beverly C. Walters
8:20 – 8:30	ThinkFirst: The Fundamentals of Injury Prevention	Michael S. Turner
8:30 – 8:45	The Fundamentals of Building an Effective Neurosurgical Practice	Richard A. Roski
8:45 – 9:00	Management Fundamentals of Pediatric Chiari and Dysraphism	W. Jerry Oakes
9:00 – 10:00	Coffee with Exhibitors	
10:00 – 10:15	Clinical and Research Focus: The Fundamentals of Subspecialty Practice	Arthur L. Day
10:15 – 10:30	Maintenance of Competency: A Fundamental Component of Contemporary Neurosurgical Practice	Volker K.H. Sonntag
10:30 – 10:35	Introduction of Honored Guest, Julian T. Hoff	Mark N. Hadley
10:35 – 11:00	<i>Honored Guest Presentation</i> The Fundamentals of Neurosurgical Practice	Julian T. Hoff
11:00 – 11:15	NEUROSURGERY, <i>Operative Nuances</i> , and the Digital Masters Video Symposium	Michael L.J. Apuzzo
11:15 – 11:30	<i>Digital Masters Video Symposium</i> Application of Microsurgical Techniques to Skull Base Pathology	Evandro De Oliveira
11:30 – 11:35	Introduction of CNS President Mark N. Hadley	Daniel L. Barrow
11:35 – 12:00	<i>Presidential Address</i> The Value of Neurosurgery	Mark N. Hadley



Luncheon Seminars

Monday, October 20, 2003

12:30 pm – 2:00 pm

M01 Resident/Honored Guest Luncheon – FREE TO CNS RESIDENT MEMBERS

Register early – space is limited!

Moderators: James M. Markert, Jr., Kristen O. Riley

Faculty: Julian T. Hoff, Honored Guest

Learning Objective: Participants and our Honored Guest will review and discuss the Honored Guest's thoughts on neurosurgical education, mentorship, and certification. Upon completion of this course, participants will have greater knowledge of neurosurgical education, mentorship, and recertification from the perspective of an experienced and honored neurosurgical educator.

M02 Kyphoplasty & Vertebroplasty: Indications, Techniques and Outcomes

Moderator: Richard D. Fessler

Faculty: Bernard Bendok, Chris D. Kager, Demetrius K. Lopes, Andrew J. Ringer

Learning Objective: At the conclusion of this seminar, participants will understand appropriate indications and surgical techniques for kyphoplasty and vertebroplasty. They will also understand the complications and outcomes associated with these procedures.

M03 Cervical and Lumbar Disc Prostheses: Technology and Applications

Moderator: Vincent C. Traynelis

Faculty: Neil Duggal, Fred H. Geisler, Bruce E. Mathern, Lali H.S. Sekhon, Patrick R. Pritchard

Learning Objective: At the conclusion of this seminar, participants will appreciate the current state of the art in cervical and lumbar disc prosthesis technology and understand the applications for this technology.

NEW!

M04 Intra-operative Salvage Techniques: "Getting Out of Trouble in Spinal Surgery"

Moderator: Stephen L. Ondra

Faculty: Nevan G. Baldwin, Charles L. Branch, Regis William Haid, Jr., Volker K.H. Sonntag

Learning Objective: At the conclusion of this seminar participants will recognize when intra-operative salvage techniques are necessary in spinal surgery and understand the steps and techniques necessary to rectify intra-operative difficulties.

M05 Traumatic Spinal Cord Injury: Advances in Medical and Surgical Management

Moderator: Jack E. Wilberger, Jr.

Faculty: E. Francois Aldrich, Michael G. Fehlings, R. John Hurlbert, Russ P. Nockels

Learning Objective: At the conclusion of this seminar, participants will appreciate advances in the medical treatment of traumatic spinal cord injury and understand state of the art surgical management of traumatic spinal cord injury.

NEW!

M06 Intra-operative Salvage Techniques: “Getting Out of Trouble in Cranial Surgery”

Moderator: Robert F. Spetzler
 Faculty: Ralph G. Dacey, Arthur L. Day, Steven L. Giannotta, Ossama Al-Mefty
 Learning Objective: At the conclusion of this seminar, participants will recognize when intra-operative salvage techniques are necessary in cranial surgery and understand specific techniques for rectifying difficulties in cranial surgery.

M07 Neuroendoscopy: Techniques and Outcomes

Moderator: Paolo Cappabianca
 Faculty: Kerry R. Crone, Kim H. Manwaring, Christian Sainte-Rose, Henry W.S. Schroeder
 Learning Objective: At the conclusion of this seminar, participants will understand the available techniques and technologies relevant to neuroendoscopy and discuss the outcomes for a variety of neuroendoscopic procedures.

M08 Surgical Treatment of Movement Disorders

Moderator: Roy A.E. Bakay
 Faculty: Isabelle M. Germano, Michael G. Kaplitt, Ali R. Rezai, Phillip A. Starr
 Learning Objective: At the conclusion of this seminar, participants will be aware of the types of movement disorders amenable to surgical treatment and understand the surgical techniques and outcomes for treating movement disorders.

M09 Acoustic Schwannoma: Options, Approaches and Results

Moderator: Albert L. Rhoton, Jr.
 Faculty: Christopher Duma, Hee-Won Jung, Mark E. Linskey, Madjid Samii, Mitesh Shah
 Learning Objective: At the conclusion of this seminar, participants will understand treatment options for acoustic schwannoma, understand the surgical approaches to acoustic schwannomas and be able to discuss treatment results of acoustic schwannomas, including surgical and radiosurgical techniques.

M10 Intraoperative Imaging: Current Applications

Moderator: Robert J. Maciunas
 Faculty: Daniel L. Barrow, Peter McL. Black, Gerald E. Rodts, Jr., Michael A. Vogelbaum
 Learning Objective: At the conclusion of this seminar, participants will comprehend the current applications of various imaging techniques in the intra-operative environment and be able to select intra-operative imaging techniques appropriate for a given surgical situation.

M11 Endoscopic Spinal Surgery

Moderator: Kevin T. Foley
 Faculty: William Choi, Curtis A. Dickman, J. Patrick Johnson, Charles Riedel
 Learning Objective: At the conclusion of this seminar, participants will understand the current indications and techniques appropriate for endoscopic spinal surgery and be aware of the expected outcomes and complications associated with endoscopic spinal surgery.

M12 Pain: Procedures and Applications

Moderator: Kim J. Burchiel
Faculty: Claudio A. Feler, Jaimie M. Henderson, Yucel Kanpolat, Jeffrey A. Brown
Learning Objective: At the conclusion of this seminar, participants will be aware of various procedures appropriate for the surgical management of pain. Participants will understand indications for these techniques and the application of various technologies in the surgical management of pain.

M13 Neurosurgical Practice: Enhancement, Compliance and Development

Moderator: William D. Tobler
Faculty: Debra Mills, Philip W. Tally, Troy M. Tippet, Craig A. Van Der Veer
Learning Objective: At the conclusion of this seminar, participants will appreciate various techniques that can enhance neurosurgical practice, discuss important compliance matters relevant to the practice of neurosurgery and be aware of various tools helpful in the development of a neurosurgical practice.

M14 Normal Pressure Hydrocephalus: Decision-making Techniques and Results

Moderator: Salomon Hakim
Faculty: Jonathan A. Friedman, Mark G. Luciano, Harold L. ReKate, Harold F. Young
Learning Objective: At the conclusion of this seminar, participants will understand how to recognize patients with normal pressure hydrocephalus and discuss various techniques for making the diagnosis. Participants will be able to discuss the techniques available for treating normal pressure hydrocephalus and their outcomes.

M15 Cervical Spondylotic Myelopathy

Moderator: Ronald I. Apfelbaum
Faculty: Joseph T. Alexander, Haynes Louis Harkey, III, Christopher I. Shaffrey, Santiago I. Valenzuela Sosa
Learning Objective: At the conclusion of this seminar, participants will understand how to assess the syndrome of cervical spondylotic myelopathy and evaluate treatment options available for cervical spondylotic myelopathy, including surgery. Participants will understand outcomes of treatment in patients with cervical spondylotic myelopathy.

M16 Multimodality Treatment of Malignant Gliomas

Moderator: James T. Rutka
Faculty: Nalin Gupta, Linda Liau, Meic H. Schmidt, Ronald E. Warnick
Learning Objective: At the conclusion of this seminar, participants will be able to appreciate the various treatment modalities appropriate for the treatment of malignant gliomas and understand current research pertaining to the management of malignant gliomas. Participants will be able to discuss outcomes associated with various treatment modalities for malignant gliomas.

Special Course I

2:00 pm – 5:30 pm

Fundamentals of Evidence Based Clinical Practice

Course Director: Beverly C. Walters

Moderators: Beverly C. Walters, Stephen J. Haines

Learning Objectives: Participants will become familiar with the concepts of evidence-based medicine and their application to daily neurosurgical practice. Following this course, participants should be able to identify the different kinds of studies that support neurosurgical decision-making, understand each kind of study as to its ultimate use, critically evaluate neurosurgical evidence for quality, choose appropriate methodology for different clinical questions and summarize the evidence and understand the limitations of its application to practice.

2:00 - 2:20 What Is(n't) Evidence-based MedicineStephen J. Haines
2:20 - 2:35 Critical Analysis: The Basic ToolsBeverly C. Walters
2:35 - 2:50 Causation: Primary Brain TumorsTimothy Ryken
2:50 - 3:10 Diagnosis: Cerebrovascular DiseaseJ. Max Findlay
3:10 - 3:30 Clinical Assessment: Spinal Cord InjuryPaul C. McCormick
3:30 - 4:00 Refreshments with Exhibitors
4:00 - 4:15 Prevention: Post-traumatic SeizuresDavid W. Newell
4:15 - 4:30 Therapy: Treatment in Spinal InjuryJack E. Wilberger, Jr.
4:30 - 5:00 Economic Outcomes in Neurological SurgeryJoseph T. King, Jr.
5:00 - 5:30 How Not to Be Either Paralyzed or Liberated by Lack of Evidence:
The Art and Science of Clinical PracticeStephen J. Haines

Section on Cerebrovascular Surgery I

2:00 pm – 5:30 pm

Learning Objectives: Participants will be able to discuss the surgical anatomy of various intracranial arteries, the anatomic variants important in clinical decision making for treatment of aneurysms and surgical approaches to these arteries.

Moderators: E. Sander Connolly, Jr., C. Michael Cawley, III

2:00 - 2:05 Introduction of the Charles Drake LecturerWarren R. Selman
2:05 - 2:30 The Charles Drake Lecture
MCA Aneurysms: Anatomy and Clinical Decision MakingArthur L. Day
2:30 - 2:45 Surgical Anatomy of the Paraclinoid RegionIssam A. Awad
2:45 - 3:00 Surgical Anatomy of the Basilar Tip RegionH. Hunt Batjer
3:00 - 3:30 Oral Posters 1 - 10
3:30 - 4:00 Refreshments with Exhibitors
4:00 - 5:30 Open Papers 700 - 709
The Galbraith Award

Section on Stereotactic and Functional Surgery I

2:00 pm – 5:30 pm

Learning Objectives: Participants will be able to discuss paradigms of stereotactic surgery and how potential stereotactic surgery patients may be evaluated using sophisticated imaging studies and intraoperative localization and navigation devices. Participants will be able to discuss new developments in the field of stereotactic and functional surgery.

Moderators: Michael G. Kaplitt, G. Rees Cosgrove

2:00 - 2:45 Gene and Trophic Factor Therapy: In Vivo and Ex Vivo ApproachesJeffrey Kordower
2:45 - 3:00 Discussion
3:00 - 3:30 Oral Posters 71 - 80
3:30 - 4:00 Refreshments with Exhibitors
4:00 - 5:30 Open Papers 710 - 719
Stereotactic and Functional Neurosurgery Resident Award

Section on Disorders of the Spine and Peripheral Nerves I

2:00 pm – 5:30 pm

Management of Cervical Spine Disorders

Learning Objectives: Participants will be able to recognize and describe the spectrum of treatment options for spinal disorders such as rheumatoid arthritis, trauma, and degenerative disease. Contemporary paradigms for management of cervical trauma, infection, degenerative disease and spinal cord injury will be presented. Participants will be able to discuss the available diagnostic and therapeutic options for each of these problems in the cervical spine.

Moderators: Robert F. Heary, Praveen V. Mummaneni, Ehud Mendel, Larry H. Khoo

2:00 – 2:15	Cervical Trauma	Ronald I. Apfelbaum
2:15 – 2:30	Cervical Infection	Vincent C. Traynelis
2:30 – 2:45	Cervical Degenerative Disease	Paul R. Cooper
2:45 – 3:00	Critical Care of the Cervical Spinal Cord Injured Patient	R. John Hurlbert
2:30 – 3:30	Oral Posters 61 – 70	
3:30 – 4:00	Refreshments with Exhibitors	
4:00 – 5:30	Open Papers 720 – 729	

Section on Neurotrauma and Critical Care I

2:00 pm – 5:30 pm

Learning Objectives: Participants will become familiar with the current status of national activities related to TBI, including clinical research, prevention programs, epidemiology, governmental programs, and legislation. Participants will be able to discuss the recent evolution of treatments and research for TBI, along with potential future directions of study.

Moderators: Shelly D. Timmons, J. Paul Elliott

2:00 – 3:30	Special Symposium Update: The National Agenda for Traumatic Brain Injury The CDC Perspective: Impact on Public Health Jean Langlois, ScD, MPH, National Center for Injury Prevention Centers for Disease Control The NIH Perspective: Clinical and Basic Science Research Beth Ansel, PhD, Program Director, Clinical Practices Research Program National Center for Medical Rehabilitation Research and National Institute of Child Health and Human Development The Neurosurgeon's Perspective: The Evolution of Treatment and Research Raj Narayan, President, American Brain Injury Consortium
3:30 – 4:00	Refreshments with Exhibitors
4:00 – 5:30	Open Papers 730 - 739 Synthes Award for Resident Research in Spinal Cord and Spinal Column Injury Synthes Award for Resident Research in Craniofacial and Brain Injury

Council of State Neurosurgical Societies

2:00 pm - 5:30 pm

Learning Objectives: Participants will be able to describe the impact of resident work hour restrictions on neurosurgical training and care delivery. Contemporary issues governing trauma coverage and reimbursement as well as utilization of physician extenders will be discussed.

Moderators: Mick J. Perez-Cruet, Mark E. Linskey, William E. Bingaman

2:00 – 3:00	Open Papers 740 - 745	
3:00 – 3:30	Oral Posters 11 - 20	
3:30 – 4:00	Refreshments with Exhibitors	
4:00 – 4:30	Open Papers 746 - 748 CSNS Resident Award CSNS Young Neurosurgeon Award	
4:30 – 4:42	Resident Work Hour Restrictions	Edward C. Benzel
4:42 – 5:54	Neurosurgical Practice Patterns and Manpower: A Survey of Program Directors	L. Dade Lunsford
4:54 – 5:06	Physician Extenders	Deborah Benzil
5:06 – 5:18	Neurosurgery Trauma Reimbursement	John H. McVicker
5:18 – 5:30	Neurosurgical Trauma Coverage	Jack E. Wilberger, Jr.

At-a-Glance

Tuesday, October 21, 2003

7:00 am – 12:00 pm	General Scientific Session II: “Foundations: Benchmark Development and Cutting-Edge Research”
8:20 am – 8:35 am	CNS Resident Award
8:35 am – 9:00 am	Julian T. Hoff, Honored Guest
9:00 am – 4:30 pm	Exhibits Open
9:00 am – 10:00 am	Coffee with Exhibitors
11:30 am – 12:00 Noon	Roberta L. Bondar, Fourth Annual Dandy Distinguished Orator
12:00 Noon – 12:30 pm	Visit Exhibits
12:30 pm – 2:00 pm	Luncheon Seminars
12:30 pm – 2:00 pm	International Luncheon Seminar
2:00 pm – 5:30 pm	Special Course II Section on Tumors I Section on Stereotactic and Functional Neurosurgery II Section on Disorders of the Spine and Peripheral Nerves II Section on Pediatric Neurosurgery I Section on Pain/General Interest
3:30 pm – 4:00 pm	Refreshments with Exhibitors
5:30	Open Evening

General Scientific Session II: Foundations

Benchmark Development and Cutting-Edge Research

7:00 am – 12:00 pm

Learning Objectives: Participants will become familiar with cellular based strategies for characterization and treatment of primary brain neoplasm. Participants will also be able to discuss the process of critical analysis of the scientific literature and evidence based decision-making. Participants will be able to recognize the implications of poorly constructed or improperly applied results on patient care. Participants will gain an understanding for the role of the neurosurgeon in the care of athletes.

Moderator: Jeffrey P. Blount

Presiding Officer: Vincent C. Traynelis

7:00 – 7:15	Self-Assessment in Neurological Surgery (SANS 2004)Anthony L. Asher
7:15 – 7:30	Biological Warfare for a Good Cause: HSV-1 Anti-tumor TherapyJames M. Markert, Jr.
7:30 – 7:45	Contemporary Pain Management: From Bench Science to the BedsideKim J. Burchiel
7:45 – 8:00	Molecular Characterization of Brain TumorsLinda M. Liau

8:00 - 8:15	The Science of Sports Medicine	Julian E. Bailes, Jr.
8:15 - 8:20	Introduction of CNS Resident Award	
8:20 - 8:35	CNS Resident Award	
8:35 - 9:00	<i>Honored Guest Presentation</i> The Scientific Foundation of Clinical Neurosurgery	Julian T. Hoff
9:00 - 10:00	Coffee with Exhibitors	
10:00 - 10:15	CNS Fellowship Program and Fellowship Presentations	Paul J. Camarata
10:15 - 10:30	The Science of the Blood-Brain-Barrier	Marc R. Mayberg
10:30 - 10:45	Wrong Science: The SPORT Trial and Its Potential Impact on Neurosurgery	Paul C. McCormick
10:45 - 11:00	Bad Science - ISAT: The Impact on Neurosurgical Practice and Performance	Daniel L. Barrow
11:00 - 11:15	Cellular Immunity in the Treatment of Brain Tumors	Keith L. Black
11:15 - 11:30	The Genetic Story of Cerebral Vascular Malformations	Issam A. Awad
11:30 - 11:35	Introduction of Roberta L. Bondar, the Fourth Annual Walter E. Dandy Distinguished Orator	Mark N. Hadley
11:35 - 12:00	<i>The Fourth Annual Walter E. Dandy Distinguished Orator</i> Changing the Way We Think and Move - A Neurologist/Astronaut's Personal Space Roberta L. Bondar, OC, O.Ont, MD, PhD, FRCP, FRSC	



T17 International Luncheon Seminar: Case Presentations from Around the Globe

Moderator: Kiyonobu Ikezaki
Faculty: Alexandru V. Ciurea, Abdesalam El-Khamlichi, Christian Raftopoulos, Peter Reilly
Learning Objective: At the conclusion of this seminar, participants will be aware of important neurosurgical issues in international neurosurgery.

T18 Traumatic Brain Injury: Lessons Learned and Future Directions

Moderator: Guy L. Clifton
Faculty: P. David Adelson, Austin R.T. Colohan, Thomas A. Gennarelli
Learning Objective: At the conclusion of this seminar, participants will be aware of research advances in traumatic brain injury and be able to discuss various medical and surgical treatment options associated with traumatic brain injury.

T19 Spinal Fusion: Biochemical and Biomechanical Approaches

Moderator: Julie E. York
Faculty: Robert F. Heary, Junichi Mizuno, Eric J. Woodard, Seth M. Zeidman, David A. Vincent
Learning Objective: At the conclusion of this seminar participants will understand how to evaluate new biochemical advances available for augmentation of spinal fusion and discuss the biomechanics relevant to spinal fusions in the cervical, thoracic and lumbar spine.

T20 Endovascular Management of Intracranial Aneurysms: Indications, Techniques and Results

Moderator: L. N. Hopkins, III
Faculty: Rocco Armonda, C. Michael Cawley, III, Robert H. Rosenwasser, M. Christopher Wallace
Learning Objective: At the conclusion of this seminar, participants will understand the indications for endovascular management of intracranial aneurysms and understand various endovascular techniques available for aneurysm treatment. Participants will be able to discuss the results of endovascular versus open management of intracranial aneurysms.

T21 State of the Art Management of Brain Metastases

Moderator: Raymond Sawaya
Faculty: Philip H. Gutin, Randy L. Jensen, Hee-Won Jung, Bruce E. Pollock
Learning Objective: At the conclusion of this seminar participants will understand the current status of research pertaining to the treatment of brain metastases and comprehend treatment modalities appropriate for treating intracranial metastases, their complications and results.

T22 Mastery of Pituitary Surgery

Moderator: Edward R. Laws, Jr.
Faculty: Armando Basso, William T. Couldwell, Francois-Xavier Roux, Martin H. Weiss
Learning Objective: At the conclusion of this seminar participants will be aware of nuances in performing pituitary surgery and be able to discuss new techniques and advances in treatment.

T23 Peripheral Nerve Surgery: “Must Knows” for the Practicing Neurosurgeon

Moderator: David G. Kline
 Faculty: John E. McGillicuddy, Rajiv Midha, Peter Witt, Eric L. Zager
 Learning Objective: At the conclusion of this seminar, participants will understand basic nerve entrapment syndromes and their medical and surgical management and be knowledgeable in the indications and techniques associated with peripheral nerve surgery. Participants will be able to discuss techniques to augment or include peripheral nerve surgery in one’s practice.

T24 Controversies in the Management of Chiari I Malformations

Moderator: Richard G. Ellenbogen
 Panelists: Benjamin S. Carson, Neil Feldstein, Michael H. Handler, Thomas H. Milhorat
 Learning Objective: At the conclusion of this seminar, participants will understand various medical and surgical treatment options in the management of Chiari I malformations, their controversies, the differences in management of pediatric versus adult Chiari I malformations, and their outcomes. Participants will be able to discuss new research relevant to the treatment of Chiari I malformations and syringomyelia.

T25 Management of Unruptured Intracranial Aneurysms

Moderator: Neal F. Kassell
 Faculty: Cargill H. Alleyne, H. Hunt Batjer, E. Sander Connolly, Cameron G. McDougall, Yong-Kwang Tu
 Learning Objective: At the conclusion of this seminar, participants will be aware of relevant research data pertaining to the management of unruptured intracranial aneurysms and understand surgical options for various types of unruptured intracranial aneurysms, including giant aneurysms.

T26 Neurosurgical Coding: Questions and Answers

Moderator: Samuel J. Hassenbusch
 Faculty: Jeffrey W. Cozzens, Richard A. Roski, John Allen Wilson
 Learning Objective: At the conclusion of this seminar, participants will have an understanding of complex neurosurgical coding problems in both spine and cranial surgery and be aware of various strategies to enhance neurosurgical coding in one’s practice.

T27 Carotid Disease: Surgical and Endovascular Management

Moderator: Winfield S. Fisher, III
 Faculty: Fady T. Charbel, Lee R. Guterman, Neil A. Martin, Robert Mericle
 Learning Objective: At the conclusion of this seminar, participants will be able to discuss the indications for surgical and endovascular management of carotid artery disease and understand the limitations and complications associated with both the surgical and endovascular management of carotid disease.

T28 Concepts in Epilepsy Surgery

Moderator: Dennis D. Spencer
 Faculty: Joseph R. Madsen, Guy M. McKhann, III, Webster H. Pilcher, Joseph R. Smith
 Learning Objective: At the conclusion of this seminar, participants will recognize the clinical features of seizure disorders and be able to discuss various techniques in the preoperative, intra-operative and postoperative management of patients with epilepsy.

T29 Microsurgical Treatment of Aneurysms: Back to the Future

Moderator: Duke S. Samson
Faculty: Saleem I. Abdulrauf, Michael T. Lawton, Stephen B. Lewis, Jacques J. Morcos, Shinji Nagahiro
Learning Objective: At the conclusion of this seminar, participants will be able to discuss the appropriate indications for microsurgical management of intracranial aneurysms and understand clinical subtleties and the surgical management of difficult aneurysms.

T30 Craniosynostosis

Moderator: David F. Jimenez
Faculty: Jeffrey P. Blount, John R.W. Kestle, John A Persing, Noel B. Tulipan
Learning Objective: At the conclusion of this seminar, participants will understand the craniosynostosis syndromes and discuss the appropriate surgical management for each type and comprehend the management of syndromic craniosynostosis. Participants will gain knowledge of new technologies and techniques relevant in the management of craniosynostosis.

T31 Arteriovenous Malformations: Multimodality Management

Moderator: William A. Friedman
Faculty: Filipe Albuquerque, Daniel L. Barrow, Nobuo Hashimoto, Robert A. Solomon
Learning Objective: At the conclusion of this seminar, participants will understand the various treatment modalities available for the treatment of intracranial arteriovenous malformations and understand the risks and complications associated with each treatment modality.

T32 Skull Base Approaches: What, When and How

Moderator: Jon H. Robertson
Faculty: John Diaz Day, Amin Kassam, Ali F. Krisht, Gail Linskey Rosseau
Learning Objective: At the conclusion of this seminar, participants will understand the techniques available in skull base surgery and be able to discuss when it is appropriate to use a skull base procedure. Participants will understand the key steps in the successful execution of a skull base approach.

NEW!

**T33 Resident Luncheon Seminar
Career Transitions: Options, Challenges and Decisions**

Moderator: Michael P. Steinmetz
Faculty: Nicholas M. Boulis, Christopher D. Kager, Stanley W. Fronczak, Rafael J. Tamargo
Learning Objective: This course focuses on career transition from residency into academics and private practice. At the conclusion of this seminar, participants will understand how to prepare for and maintain a career in academic or private practice neurosurgery.

NEW!

T34 Endovascular Neurosurgery for Residents

Moderator: Demetrius K. Lopes
Faculty: Ronald P. Benitez, Shingeru Miyachi, Peter Rasmussen, Howard A. Riina
Learning Objective: The seminar will consist in an update on the latest endovascular techniques and the information necessary to get into an endovascular fellowship. Members of most of the neurosurgical endovascular programs will be available to answer questions. Attendees will gain a better understanding of the endovascular treatments available today as well as the trends for the future. Additionally, attendees will be afforded the unique opportunity to obtain information on how to acquire an endovascular fellowship.

Tuesday, October 21, 2003

Special Course II

2:00 pm – 5:30 pm

Contemporary Techniques for Neurophysiological Monitoring

Course Director and Moderator: Paul G. Matz

Learning Objectives: Participants will become familiar with the use of different techniques to monitor neurological function intra-operatively and in the critical care unit.

2:00 – 2:05	Introduction	Paul G. Matz
2:05 – 2:25	Electrophysiological Monitoring of the Spinal Cord for Intramedullary Surgery Only	Andrew T. Dailey
2:25 – 2:45	Electrophysiological Monitoring of the Spinal Cord for Spinal Decompression and Reconstruction	Daniel H. Kim
2:45 – 3:10	Hemodynamic Monitoring and Hypertensive Therapy for the Spinal Cord Intraoperatively and in the Critical Care Unit	Thomas A. Moore, II, Paul G. Matz
3:10 – 3:30	Brain Oxygen and Microdialysis Monitoring in the Critical Care Unit	Alois Zauner
3:30 – 4:00	Refreshments with Exhibitors	
4:00 – 4:15	Continuous Electroencephalographic Monitoring	Jack Jallo
4:15 – 4:30	Intraoperative Electrophysiological Monitoring of the Brainstem/ Posterior Fossa during Skull Base/Cerebrovascular Surgery	Gary K. Steinberg
4:30 – 4:45	Intraoperative Electrophysiological Monitoring of the Cerebrum during Cerebrovascular/ Tumor Surgery	Michael T. Lawton
4:45 – 5:00	Electrophysiological Monitoring for Movement Disorders	Robert E. Gross
5:00 – 5:15	Monitoring and Mapping of Functional Cortex for Tumors and Epilepsy	Jeffrey P. Blount
5:15 – 5:30	Discussion	

Section on Tumors I

2:00 pm – 5:30 pm

Learning Objectives: Participants will be able to describe the natural history, surgical management and adjuvant treatment of primary brain neoplasms and neoplasms of the skull base. Participants will be able to discuss new developments in the field of neuro-oncology.

Moderators: Kevin Lillehei, Gene H. Barnett

2:00 – 2:20	The Role of Surgery in the Treatment of High-grade Gliomas
2:20 – 2:40	The Role of Surgery in the Treatment of Low-grade Gliomas
2:40 – 3:00	The Role of Surgery in the Treatment of Metastatic Brain Tumors
3:00 – 3:30	Oral Posters 91-100
3:30 – 4:00	Refreshments with Exhibitors
4:00 – 5:30	Open Papers 750 – 759

Moderators: James T. Rutka, Ronald E. Warnick

Section on Stereotactic and Functional Surgery II

2:00 pm – 5:30 pm

Learning Objectives: Participants will be able to explain the role of stereotactic surgery as it pertains to contemporary neurosurgical management. Participants will be able to discuss new developments in the field of stereotactic and functional surgery.

Moderators: Michael Schulder, Isabelle M. Germano

2:00 – 2:45	Epilepsy Surgery	Dennis D. Spencer
2:45 – 3:00	Discussion	
3:00 – 3:30	Oral Posters 81 - 90	
3:30 – 4:00	Refreshments with Exhibitors	
4:00 – 5:30	Open Papers 760 - 769	

Section on Disorders of the Spine and Peripheral Nerves II **2:00 pm – 5:30 pm**

The Management of Peripheral Nerve Disorders

Learning Objectives: Participants will be able to describe the available management paradigms for spinal column injuries. Participants will be able to describe the clinical developments and a wide range of acceptable clinical management schemes for the treatment of spinal injuries.

- Moderators:** Robert L. Tiel, John E. McGillicuddy, Michael W. Groff, Bernard Guiot
- 2:00 – 2:15 Management of Emergency Nerve InjuriesAllan H. Maniker
 - 2:15 – 2:30 Strategies for Treatment of Brachial Plexus InjuriesDavid G. Kline
 - 2:30 – 2:45 The Management of Common Nerve Entrapment SyndromesAlan J. Belzberg
 - 2:45 – 3:00 The Management of Uncommon Nerve Entrapment SyndromesRajiv Midha
 - 3:30 – 4:00 Refreshments with Exhibitors
 - 4:00 – 5:30 Open Papers 770 – 779

Section on Pediatric Neurosurgery I **2:00 pm – 5:30 pm**

Learning Objectives: Participants will understand the process of evidence based decision-making on management of pediatric patients. The role of effective communication in minimizing medical errors and patient morbidity will be discussed.

- Moderator:** Ann Marie Flannery
- 2:00 – 3:00 Effective Communication: Fostering a Culture of Patient Safety and Improved Care
Panel: Joseph R. Madsen, Alan Cohen
 - 3:00 – 3:30 Oral Posters 41 - 50
 - 3:30 – 4:00 Refreshments with Exhibitors
 - 4:00 – 5:30 Open Papers 780 - 789

Section on Pain I **2:00 pm – 5:30 pm**

Learning Objectives: Participants will be able to describe and contrast options available for the treatment of acute and chronic pain. Participants will be able to describe new basic and clinical developments relevant to the treatment of pain.

- Moderator:** Oren Sagher
- 2:00 – 2:20 Supraorbital Nerve Stimulation for HeadacheRobert M. Levy
 - 2:20 – 2:40 Deep Brain Stimulation for Cluster HeadacheGiovanni Broggi
 - 2:40 – 3:00 Occipital Nerve StimulationRichard L. Weiner
 - 3:00 – 3:30 Oral Posters 31 – 40
 - 3:30 – 4:00 Refreshments with Exhibitors
 - 4:00 – 5:30 Open Papers 790 – 799
Ronald Tasker Award

At-a-Glance

Wednesday, October 22

7:00 am – 12:00 Noon	General Scientific Session III: “Innovations in Technique and Technology”
8:30 am – 8:45 am	Shinji Nagahiro, Digital Masters Video Symposium
9:00 am – 3:30 pm	Exhibits Open
9:00 am – 10:00 am	Coffee with Exhibitors
11:00 am – 11:30 am	John W. McDonald, III, Special Lecturer
12:00 Noon – 2:30 pm	Visit Exhibits and Operating Room/ICU of the Future
2:30 pm – 5:30 pm	Special Course III
	Section on Tumors II
	Section on Cerebrovascular Surgery II
	Section on Neurotrauma and Critical Care II
	Section on Pediatric Neurosurgery II
	Digital Masters Video Symposium
3:30 pm – 4:00 pm	Refreshment Break
5:30	Open Evening

General Scientific Session III: Innovations in Technique and Technology

7:00 am – 12:00 pm

Learning Objectives: This session will focus on innovation in modern neurosurgery. Participants will become familiar with a variety of frontiers of neurosurgical innovation including intravertebral disc replacement, fetal surgery, magnetic guidance, surgical management of epilepsy, and surgical approach. Participants will be able to discuss strategies for promoting recovery from traumatic spinal cord injury. Participants will be able to discuss the application of emerging technologies in the neurosurgical operating room and in clinical neurosurgical practice.

Moderator: Neil A. Martin

Presiding Officer: Nelson M. Oyesiku

7:00 – 7:15	Intervertebral Disc Replacement: Current Trials and Future DirectionsGuy O. Danielson, III
7:15 – 7:30	Fetal SurgeryLeslie N. Sutton
7:30 – 7:45	Magnet Guided Endovascular NeurosurgeryRalph G. Dacey, Jr.
7:45 – 8:00	Database Systems for Research and Clinical Practice ManagementWinfield S. Fisher, III
8:00 – 8:15	Advances in the Surgical Management of EpilepsyJames T. Rutka

8:15 - 8:30	Innovations in Surgical Approach: The Marriage of Technique, Technology, and JudgmentRobert F. Spetzler
8:30 - 8:45	<i>Digital Masters Series Video</i> Microvascular Decompression for Hemifacial Spasm Due to Vertebral Artery Compression: Transposition TechniqueShinji Nagahiro
8:45 - 8:50	Distinguished Service Award PresentationStephen M. Papadopoulos
8:50 - 8:55	Presidential AcknowledgementMark N. Hadley
8:55 - 9:00	CNS International Committee ReportNelson M. Oyesiku
9:00 - 10:00	Coffee with Exhibitors
10:00 - 10:15	Neuroendoscopy: Present and Future ApplicationsPaolo Cappabianca
10:15 - 10:30	Novel Cranial and Spinal Fixation TechniquesCurtis A. Dickman
10:30 - 10:45	Modern Office Practice Networks, Management and Resource UtilizationCraig A. Van Der Veer
10:45 - 11:00	Translational Research Strategies Applied to Glioma TherapeuticsMitchel S. Berger
11:00 - 11:05	Introduction of Special Lecturer John W. McDonald, IIIMark N. Hadley
11:05 - 11:30	<i>Special Lecture</i> Repair of the Damaged Spinal Cord: From Stem Cells to Activity-Based Recovery ProgramsJohn W. McDonald, III
11:30 - 11:45	The Operating Room of the FutureRichard D. Bucholz
11:45 - 12:00	Technology Integration in Clinical Neurosurgical PracticeNeil A. Martin



Wednesday, October 22, 2003

Special Course III

2:30 pm – 5:30 pm

Technology Integration In Neurosurgical Practice

Course Director and Moderator: Neil A. Martin

Learning Objectives: Cutting edge technologies as they apply to neurosurgical practice will be presented. Participants will be able to discuss technology integration in all levels of clinical practice from surgical instrumentation to critical care monitoring to highly efficient practice management.

- 2:30 – 2:45 The Internet-enabled Neurosurgical Practice: What Kind of Web Site Does Your Practice Need to Enhance Practice Volume and Improve Patient Satisfaction
- 2:45 – 3:00 The Digital Neurosurgical Practice:
PDAs and Tablet PCs for Maximally Efficient WorkflowHarold J. Pikus
- 3:00 – 3:15 The Neurosurgical Office of the Future:
Automated Practice Management, Comprehensive ConnectivityJohn G. Frazee
- 3:15 – 3:30 eICU: Digital “Dashboard”, Smart Alarms, and Tele-monitoringMichael J. Breslow
- 3:30 – 4:00 Refreshment Break
- 4:00 – 4:15 Design of the Neurosurgical ICU of the Future:
Advanced Multimodality Brain Monitoring TechniquesPaul Vespa
- 4:15 – 4:35 Technological Advances in Operative Instrumentation:
Endoscopy, Endovascular Adjuncts, Robotics, Digital ImagingMarc R. Mayberg
- 4:35 – 4:55 Design of the Digital OR of the Future: Information Processing,
Voice Control, Multimedia Integration and Audiovisual CommunicationsNeil A. Martin
- 4:55 – 5:15 Marriage of Integrated Multimodality Advanced Imaging Techniques with Surgery:
3D Reconstruction for Planning and Rehearsal, Image Guidance, fMRI, MEG,
Optical Imaging of Function, Intraop MRG. Rees Cosgrove
- 5:15 – 5:30 Discussion

Section on Tumors II

2:30 pm – 5:30 pm

Learning Objectives: Participants will be able to describe the recent advances in the biology and treatment of central nervous system neoplasms. Participants will be able to discuss the rationale for treatment and management options for selected cerebral and spinal neoplasms.

Moderators: Raymond Sawaya, Michael W. McDermott

- 2:30 – 3:00 Open Papers 800 – 802
Preuss Award
Tumor Young Investigator Award
Mahaley Clinical Research Award
Award Presentations
- 3:00 – 3:30 Oral Posters 100 – 110
- 3:30 – 4:00 Refreshment Break
- 4:00 – 5:30 Open Papers 803 – 812
Moderators: Linda Liau, Frederick F. Lang

Section on Cerebrovascular Surgery II

2:30 pm – 5:30 pm

Learning Objectives: Cutting edge technologies as they apply to neurosurgical practice will be presented. Participants will be able to discuss technology integration in all levels of clinical practice from surgical instrumentation to critical care monitoring to highly efficient practice management.

Moderator: Christopher C. Getch, Christopher S. Ogilvy

2:30 – 2:45	Ischemic Disease	Neil A. Martin
2:45 – 3:00	AVMs	Robert F. Spetzler
3:00 – 3:15	Anterior Circulation Aneurysms	L.N. Hopkins, III
3:15 – 3:30	Posterior Circulation Aneurysms	Roberto C. Heros
3:30 – 4:00	Refreshment Break	
4:00 – 5:30	Open Papers 813 – 822	

Section on Neurotrauma and Critical Care II

2:30 pm – 5:30 pm

Learning Objectives: Participants will become familiar with current research in traumatic brain injury, spinal cord and injury, and critical care.

Moderators: Shelly D. Timmons, Jack Jallo

2:30 – 3:00	Open Papers 823 - 825
3:00 – 3:30	Oral Posters 21 - 30
3:30 – 4:00	Refreshment Break
4:00 – 5:30	Open Papers 826 - 835

Section on Pediatric Neurosurgery II

2:30 pm – 5:30 pm

Learning Objectives: Participants will be able to describe the management of selected congenital disorders. Modern paradigms for diagnosis and treatment will be presented.

Moderator: Joseph R. Madsen, Andrew D. Parent

2:30 – 3:00	Open Papers 836 – 838
3:00 – 3:30	Oral Posters 51 – 60
3:30 – 4:00	Refreshment Break
4:00 – 5:30	Open Papers 839 – 848

Digital Masters Video Symposium

2:30 pm – 5:30 pm

Learning Objectives: Participants will be able to describe the surgical approach and pitfalls to a variety of neurosurgical disorders. A series of authorities will present brief video demonstrations of surgical management.

Moderators: Russell R. Lonsler, Ganesh Rao

2:30 – 3:30	Michael L.J. Apuzzo, Jacques Brotchi, Bernard George, Carl B. Heilman, Yucel Kanpolat, Christian Raftopoulos, Jun Yoshida
3:30 – 4:00	Refreshment Break
4:00 – 5:30	Giovanni Broggi, Atul Goel, Abdeslam El Khamlichi, Nobuo Hashimoto, Peter J. Janetta, Iver Langmoen, Peter Reilly, Francois-Xavier Roux, Hirotoishi Sano, Gazi Yaşargil, Toshiki Yoshimine

- 7:30 am – 12:00 Noon General Scientific Session IV “Integration: The Art and Controversies of Neurosurgical Practice”
- 9:30 am – 10:00 am Coffee Break

General Scientific Session IV: Integration: The Art and Controversies of Neurosurgical Practice

7:00 am – 12:00 pm

Learning Objectives: This session will expose participants to a series of neurosurgical controversies. Following this session, participants will be able to compare and contrast surgical versus non-surgical treatment of metastatic brain disease as well as treatment of axial low back pain. Participants will be able to discuss alternative treatments for Chiari I malformation and ruptured intracranial aneurysms. Participants will become familiar with the spectrum of surgical treatments for Parkinson’s disease and the basis for neurostimulation.

Moderator: C. Michael Cawley, III

Presiding Officer: Douglas Kondziolka

- 7:00 – 7:40 Chiari I Malformation: The Surgical Procedure of Choice
 Moderator: Timothy B. Mapstone
 The Role of Extra-dural Surgery: Richard G. Ellenbogen
 The Role of Intra-dural Surgery: Karin M. Muraszko
- 7:40 – 8:20 Brain Metastases: “Ideal Treatment”
 Moderator: John R. Mangiardi
 The Role of Resection: Raymond Sawaya
 The Role of Radiosurgery: William A. Friedman
- 8:20 – 8:35 *Honored Guest Presentation*
 Technical Advances of the PastJulian T. Hoff
- 8:35 – 8:45 Report of the Education Committee
- 8:45 – 8:50 Introduction of Special Lecturer Andres M. Lozano
- 8:50 – 9:20 *Special Lecture*
 Nervous System Stimulation for Restoring and
 Optimizing FunctionAndres M. Lozano
- 9:20 – 9:30 Update on the Brain Attack CoalitionC. Michael Cawley, III
- 9:30 – 10:00 Coffee Break
- 10:00 – 10:40 Discogenic Axial Low Back Pain: Which Treatment?
 Moderator: Carl Lauryssen
 The Case for Surgery: Gerald E. Rodts, Jr.
 The Case for Non-Surgical Treatment: Charles L. Branch, Jr.
- 10:40 – 11:20 Ruptured Intracranial Aneurysms: “The Most Efficacious Treatment Strategy”
 Moderator: Warren R. Selman
 The Case for Coiling: Robert H. Rosenwasser
 The Case for Clipping: H. Hunt Batjer
- 11:20 – 12:00 Parkinson’s Disease: “Activation vs. Ablation”
 Moderator: Barton L. Guthrie
 The Role of Neuroaugmentation: Aviva Abosch
 The Role of Neuroablation: Robert E. Gross
- 12:00 Adjourn

Section on Cerebrovascular Surgery I**4:00 - 4:09 pm****700**

Voltage-gated Potassium Channels Are Downregulated in Experimental Cerebral Vasospasm

*Babak S. Jahromi, Yasuo Aihara, Mayowa Agbaje-Williams, Elena Nikitina, George Weyer, Devon Ryan, Reza Yassari, R. Loch Macdonald***4:09 - 4:18 pm****701**

Institutional Factors Affecting Subarachnoid Hemorrhage Outcomes in 18 States: The Impact of Case Volume and Training Programs

*DeWitte T. Cross, David L. Tirschwell, MaryAnn Clark, Dan Tuden, Colin P. Derdeyn, Christopher J. Moran, Eric Leip, Ralph G. Dacey***4:18 - 4:27 pm****702**

Treatment with an Anti-CD11/CD18 Monoclonal Antibody Prevents Chronic Vasospasm in a Rabbit Subarachnoid Hemorrhage Model (SAH)

*Gustavo Pradilla, Ryan M. Kretzer, Adam Carinci, Paul P. Wang, James L. Frazier, Lynn Ogata, Abeyu Gebremariam, Gregory N. Dietsch, Rafael J. Tamargo***4:27 - 4:36 pm****703**

The Association of Interleukin-6 -174G/C and -572 G/C Promoter Polymorphisms with Cerebral Aneurysms

*Laleh Morgan, Hugh E. Montgomery, Joan Grieve, Laurence Watkins, Neil Kitchen***4:36 - 4:45 pm****704**

Apoptosis Inducing Factor (AIF) Translocation Is Inhibited by HSV-mediated Bcl-2 Transfection after Stroke in Rat

*Heng Zhao, Midori A. Yenari, Danye Cheng, Robert M. Sapolsky, Gary K. Steinberg***4:45 - 4:54 pm****705**

Stereotactic Radiosurgery for Brainstem Arteriovenous Malformations: Factors Affecting Outcomes

*Douglas Kondziolka, Keisuke Maruyama, Ajay Niranjana, John C. Flickinger, L. Dade Lunsford***4:54 - 5:03 pm****706**

Multidisciplinary Treatment of AVMs: Emphasis on Complications and Outcome. The University of Miami Experience

*Ramin J. Javahery, Mustafa K. Baskaya, Jonathon Jagid, John Ragheb, Howard J. Landy, Roberto C. Heros, Jacques J. Morcos***5:03 - 5:12 pm****707**

Dehydroascorbic Acid Administration Repletes Decreased Levels of Intraparenchymal Ascorbic Acid following Reperfused Stroke

*William J. Mack, Andrew F. Ducruet, Ryan G. King, Weija Guo, J. Mocco, Michael E. Sughrue, Ahmed Mahgoub, Thomas Boyd, E. Sander Connolly, Jr.***5:12 - 5:21 pm****708**

KRIT1 Involvement in Focal Adhesion Turnover: Implications for the Pathogenesis of Cerebral Cavernous Malformation

*Nduka M. Amankulor, Ozlem G. Kaysili, Ozgun Gokce, Maxwell S.H. Laurans, Michael L. DiLuna, Jennifer Voorhees, Richard P. Lifton, Murat Gunel***5:21 - 5:30 pm****709**

Intraprocedural Intravenous Eptifibatid for Thromboembolic Events during Endovascular Aneurysm Procedures

*Brian L. Hoh, Johnny C. Pryor, James D. Rabinov, Bob S. Carter, Christopher S. Ogilvy***Section on Stereotactic and Functional Surgery I****Stereotactic and Functional Neurosurgery Resident Award****4:00 - 4:09 pm****710**

Direction Selectivity of Pallidal and Subthalamic Neurons in Patients with Parkinson Disease

*Ziv Williams, G. Rees Cosgrove, Emad N. Eskandar***4:09 - 4:18 pm****711**

Neuroprotection in Ischemic Stroke Mediated by Intracerebral Transplantation of Human Umbilical Cord Cells

*Darlene A. Lobel, Martin Hadman, C. D. Hart, John R. Vender, Paul R. Sanberg, Cesario V. Borlongan***4:18 - 4:27 pm****712**

Long-term Outcome of Epilepsy Surgery in 526 Patients with Pharmacoresistant Localization-related Epilepsy

*J. Bradley White, Aaron A. Cohen-Gadol, Dennis M. Cambier, Frederic B. Meyer, W. Richard Marsh, Gregory D. Cascino***4:27 - 4:36 pm****713**

Functional Magnetic Resonance Imaging in a Low Field Intraoperative Scanner

Michael Schulder

4:36 - 4:45 pm**714**

Treatment of Memory Loss by Intraventricular Administration of Anti-amyloid Beta Antibody in Alzheimer's or Elderly Mice

Terry Lichtor, Neelima B. Chauhan, George J. Siegel

4:45 - 4:54 pm**715**

Thalamic Stimulation in Patients with Multiple Sclerosis: Long-term Follow-up

Michael Schulder, Reza Karimi, Thomas J. Sernas

4:54 - 5:03 pm**716**

Developing a Brain Computer Interface Utilizing Subdural Electrodes in Seizure Monitored Patients

Eric C. Leuthardt, Gerwin Schalk, Jonathan R. Wolpaw, Frank Gilliam, Jeff Ojemann, Dan Moran

5:03 - 5:12 pm**717**

Safety and Efficacy of Multimodality Image Guided Frameless Stereotactic Biopsy in 120 Consecutive Procedures

Yigal Shoshan, Shifra Fraifeld, Javier Valarezo, Dov Sofer, Felix Umansky

5:12 - 5:21 pm**718**

Surgical Treatment of Intractable Temporal Lobe Epilepsy in the Elderly: Results from a Class IV Epilepsy Surgery Center

Athanasios Grivas, Hans Clusman, Thomas Kral, Johannes Schramm

5:21 - 5:30 pm**719**

Chronic Stimulation to the Subthalamic Nucleus in Rat Hemiparkinsonian Model: Behavioral and Immunohistological Evaluation Revealed Neuroprotective Effects against Degeneration of Dopaminergic Neurons

Satoshi Maesawa, Yoshiaki Kaneoke, Yasukazu Kajita, Naotaka Usui, Otone Endo, Nobuaki Misawa, Jun Yoshida

Section on Disorders of the Spine and Peripheral Nerves I

4:00 - 4:09 pm**720**

Minimally Invasive Anti-Apoptotic Advanced Generation Targeted Spinal Cord Gene Delivery for ALS

Nicholas M. Boulis, Mary E. Garrity-Moses, Diana Tanase, Qingshan Teng, James K. Liu

4:09 - 4:18 pm**721**

The Prognosis of Cervical Spinal Kyphotic Deformity

Paul G. Matz, Thomas A. Moore, Charles L. Wolff, Mark N. Hadley

4:18 - 4:27 pm**722**

Electrical Stimulation of the Sciatic Nerve and Stem-like Cell Transplantation with Spinal Cord Injury

Gerardo Zavala, Russ Nockels, Hui Pan, Robert Wurster, Farbod Asgarzadie

4:27 - 4:36 pm**723**

Accelerated Spondylotic Changes Adjacent to the Fused Segment following Central Cervical Corpectomy: Evidence from a MR Study

Vedantam Rajshekhar, Vijayantee Kulkarni, Raghuram Lakshminarayan

4:36 - 4:45 pm**724**

Transoral Odontoidectomy: Lessons Learned from a 15-year Experience

Praveen V. Mummaneni, Regis W. Haid, Maxwell Boakye, Gerald E. Rodts

4:45 - 4:54 pm**725**

The Durability of Posterior Foraminotomy

Michelle J. Clarke, Robert D. Ecker, William Krauss, Mark Dekutoski, Robyn McClelland, Megan Reinalda

4:54 - 5:03 pm**726**

Kyphotic Deformity following Multi-level Laminectomy

John A. Boockvar, Scott L. Simon, George Counelis, Michael F. Stiefel, Jason Huang, James M. Schuster, Donald O'Rourke

5:03 - 5:12 pm**727**

Randomized, Prospective, Controlled Clinical Trial of Pulsed Electromagnetic Field Stimulation for Cervical Fusion

Kevin T. Foley

5:12 - 5:21 pm**728**

The Effects of Subcutaneously Injected Polaxamer 188 on Somatosensory Evoked Potentials in a Guinea Pig

Scott A. Shapiro, Dan G. Spomar, Richard B. Borgens

5:21 - 5:30 pm**729**

Functional Outcome after Central Corpectomy in Poor Grade Patients with Cervical Spondylotic Myelopathy

Vedantam Rajshekhar, Samson Sujithkumar

Section on Neurotrauma and Critical Care I Synthes Award for Resident Research in Spinal Cord and Spinal Column Injury

4:00 - 4:09 pm

730

Robust Axon Regeneration following Surgical Repair of the Injured Spinal Cord with a Novel Biodegradable Polymer Implant

Jonathan A. Friedman, Eric B. Lewellyn, Michael J. Moore, Thomas C. Schermerhorn, Andrew M. Knight, Bradford L. Currier, Michael J. Yaszemski, Syed Ameenuddin, Anthony J. Windebank

Synthes Award for Resident Research in Brain and Craniofacial Injury

4:09 - 4:18 pm

731

Statins Improve Neurological Outcome, Attenuate Hippocampal Neuronal Degeneration, and Decrease IL-6 Expression after Experimental Traumatic Brain Injury

Matthew J. McGirt, John R. Lynch, Robert D. Pearlstein, David S. Warner, Daniel T. Laskowitz

4:18 - 4:27 pm

732

Treatment of Traumatic Brain Injury in Adult Rats with DETA/NONOate, a Nitric Oxide Donor

Asim Mahmood, Dunyue Lu, Ruilan Zhang, Yi Li, Michael Chopp

4:27 - 4:36 pm

733

Structural and Molecular Basis for Cortical Injury Induced Plasticity

Adnan H. Siddiqui, Charles J. Hodge

4:36 - 4:45 pm

734

Evaluations of a New Noninvasive MRI-based Method for Simultaneous Measurement of Total Cerebral Blood Flow and ICP

Noam Alperin, Anusha Sivaramakrishnan, Patricia B. Raksin, Christian Kolbitch, Terry Lichtor

4:45 - 4:54 pm

735

Brain Extracellular Fluid S100B Levels Correlate with Mortality in Acute Brain Injury

Jon A. Sen, Antonio Belli, Axel Petzold, Salvatore Russo, Geoff Keir, Joan Grieve, Lawrence Watkins, Ed Thompson, Martin Smith, Neil Kitchen

4:54 - 5:03 pm

736

Multiphoton Tissue FRET Demonstrates in vivo BAD/Bcl-xL Heterodimerization in Injured Axons following Traumatic Brain Injury in Rats

James D. Mills, James R. Stone, Ammasi Periasamy, Melissa Sandahl, Gregory A. Helm, David O. Okonkwo

5:03 - 5:12 pm

737

A Prospective Multicenter Randomized Phase II Trial of Moderate Hypothermia in Children following Severe TBI

P. David Adelson, John Ragheb, J. Paul Muizelaar, Ann-Christine Duhaime, Danielle Brown, Sue Beers, Dennis Johnson, Paul Kanev, Douglas Brockmeyer, Harvey Levin

5:12 - 5:21 pm

738

Mortality after Head Injury: Effect of Neurosurgical Care

H.C. Patel, O. Bouamra, A. King, F. Lecky

5:21 - 5:30 pm

739

Sex Differences in Outcome 1-year Post Mild Traumatic Brain Injury

Elana Farace, J. Stephen Huff, Mark E. Shaffrey

Council of State Neurosurgical Societies

2:00 - 2:09 pm

740

Administration of Intraventricular Antibiotics for Shunting Procedures Decreases the Incidence of Shunt Infections

Brian T. Ragel, Richard H. Schmidt

2:09 - 2:18 pm

741

The Cost of Treating High-risk, NASCET Ineligible, Symptomatic Carotid Stenosis

Robert D. Ecker, Robert D. Brown, Douglas A. Nichols, Robyn L. McClelland, Megan S. Reinalda, David G. Piepgras

2:18 - 2:27 pm

742

Introduction of Minimally Invasive Endoscopic Techniques in Craniostylosis Surgery: Effects on Treatments Costs and Outcomes

Dennis Velez, Constance M. Barone, Itay D. Melamed, David F. Jimenez

2:27 - 2:36 pm

743

CSF Shunting Procedures for Benign Intracranial Hypertension: Rising Incidence in the United States, 1988-2000

William Curry, William E. Butler, Fred G. Barker

2:36 - 2:45 pm

744

Actionable Delayed Diagnosis of Traumatic Cervical Spine Injury

Gregory P. Lekovic, Timothy Harrington

2:45 - 2:54 pm

United States Military Use of Telemedicine for Routine Scheduled Outpatient Neurosurgical Clinics

Ross R. Moquin, Nancy J. Saxon, Christopher Neal, James M. Ecklund

745

CSNS Resident Award

4:00 - 4:09 pm

The Utilization of Carotid Endarterectomy by Neurosurgeons in the United States from 1990 to 2000

John A. Cowan Jr., Reid Wainess, Justin B. Dimick, Gilbert R. Upchurch Jr., B. Gregory Thompson

746

CSNS Young Neurosurgeon Award

4:09 - 4:18 pm

The Changing Neurosurgical Workload, 1988-2000: Craniotomy Other than Trauma in Adults

Sepideh Amin-Hanjani, Fred G. Barker

747

4:18 - 4:27 pm

Socio-economic Impact of Networking with Non-Allopathic Clinicians

Thomas G. Spurlock, Mark N. Hadley, Richard B. Morawetz

748

Tuesday, October 21

General Scientific Session II

CNS Resident Award

8:20 - 8:35 am

Promethazine, A Novel Application as a Neuroprotectant that Reduces Ischemia-mediated Injury by Inhibiting Mitochondrial Dysfunction

Malini Narayanan, Wenhua Zhang, Irina Stavrovskaya, Bruce Kristal, Robert M. Friedlander

749

Section on Tumors I

4:00 - 4:09 pm

Identification of a Cancer Stem Cell in Human Brain Tumors

Sheila K. Singh, Ian D. Clarke, Mizuhiko Terasaki, Victoria E. Bonn, Cynthia Hawkins, Jeremy Squire, Peter B. Dirks

750

4:09 - 4:18 pm

Safety and Efficacy of Convection-enhanced Delivery of Gemcitabine or Carboplatin in a Rodent Glioma Model

Jeffrey W. Degen, Stuart Walbridge, Alexander O. Vortmeyer, Edward H. Oldfield, Russell R. Lonser

751

4:18 - 4:27 pm

Intense Chemotherapy with Low-dose Irradiation in the Treatment of Medulloblastoma

Kou Nakagawa, Hironobu Harada, Shiro Ohue, Masahiro Saito, Yoshiaki Kumon, Takanori Ohnishi

752

4:27 - 4:36 pm

G207 Infection of Dendritic Cells: Effects on Maturation and Generation of Antitumor Immunity

William T. Curry, Robert L. Martuza, Samuel D. Rabkin

753

4:36 - 4:45 pm

Intraoperative Subcortical Stimulation Mapping during Resection of Hemispheric Gliomas Located in or Adjacent to the Rolandic Cortex and Descending Motor Pathways

G. Evren Keles, David A. Lundin, Kathleen R. Lamborn, Edward Chang, George Ojemann, Mitchel S. Berger

754

4:45 - 4:54 pm

In Vivo Targeting Ability of Human Glioblastoma by Human Skin-derived Stem Cells

Mauro Pluderi, Francesco Costa, Carlo Giussani, Giorgio Carrabba, Valeria Lucini, Dario Caronzolo, Rona Carroll, Andreas Bikfalvi, Yvan Torrente, Lorenzo Bello

755

4:54 - 5:03 pm

Elevated Plasma S-100b Levels: A Non-invasive Marker for Early Detection of Brain Metastasis

Andrew A. Kanner, Michael A. Vogelbaum, Nicola Marchi, Vincent Fazio, Vitaly Siomin, Gene H. Barnett, Marc Mayberg, Damir Janigro

756

5:03 - 5:12 pm

Cytokine-induced Radiation Sensitization in Glioblastoma Multiforme is Mediated by the Fas/FasL System

Bruce M. Frankel, Sharon L. Longo, Christopher Dunch, Gregory W. Canute, Qihong Zhou, Arindam Chatterjee

757

5:12 - 5:21 pm

Intraoperative OIS of the Human Brainstem: Functional Mapping the Floor of the 4th Ventricle

Andrew F. Cannestra, Sameer Sheth, Michael Guiou, Jorge Lazareff, Arthur W. Toga

758

5:21 - 5:30 pm

Radiation-induced Neuron Loss in the Immature Brain

Kotaro Nakaya, Hidemasa Nagai, Toshinori Hasegawa, Douglas S. Kondziolka, John C. Flickinger, Wendy Fellows-Mayle, Glenn T. Gobbel

759

Section on Stereotactic and Functional Surgery II

4:00 - 4:09 pm

760

Radiosurgical Treatment of Temporal Lobe Epilepsy: Update on NIH Sponsored Multi-center Study

Nicholas M. Barbaro, David Larson, Mariann Ward, Kenneth D. Laxer, Michael McDermott, William P. Dillon, Epilepsy Radiosurgery Treatment Group

4:09 - 4:18 pm

761

Adjustable Resistance Shunting in Hydrocephalus: Are Small Changes a Big Deal?

Stephen M. Dombrowski, Jared H. Miller, Zhicheng Li, Jennifer Ahl, Mark G. Luciano

4:18 - 4:27 pm

762

Cognitive Complications of Simultaneous Bilateral Subthalamic Nucleus Deep Brain Stimulation

Gregory P. Lekovic, Johan Samanta, Mark Stacy, Andrew Shetter, Kris Smith

4:27 - 4:36 pm

763

Results of Temporal Lobectomy for Intractable Epilepsy in Patients with a Negative MRI

Evan M. Packer, Fernando L. Vale

4:36 - 4:45 pm

764

Optical Imaging of Epileptiform Events in an Acute In Vivo Rat Model

Ashesh D. Mehta, Minah Suh, Sonya Bahar, Theodore Schwartz

4:45 - 4:54 pm

765

Bilateral Fornix Stimulation Significantly Reduces Acute Seizure Activity in Rats

Jurgen Luders, Candice Burrier, Imad Najm, Christoph Kellinghaus, William Bingaman, Hans Luders

4:54 - 5:03 pm

766

Discrimination of Normal Pressure Hydrocephalus (NPH) from Alzheimer's Disease (AD) Verified by Brain Biopsy

Elana Farace, Maria B. Lopes, Mark E. Shaffrey

5:03 - 5:12 pm

767

Clinical Outcome of Bilateral Subthalamic Nucleus Stimulation in Patients with Parkinson's Disease and Previous Pallidotomy

Sarah C. Jost, Richard A. Lytle, Jonathan W. Mink, Angela Loepker, Joel S. Perlmutter, Freddy J. Revilla, Joshua L. Dowling, Keith M. Rich

5:12 - 5:21 pm

768

Pallidal Deep Brain Stimulation for Dystonia: Technical Approach and MRI-verified Electrode Locations

Philip A. Starr, William J. Marks, Nadja Lindsey, Deborah Byrd, Geoff Rau, Robert Turner

5:21 - 5:30 pm

769

Surgical Complications of DBS Surgery: The Beth Israel Experience

Ron L. Alterman, Michele Tagliati, Jay Shils, David Poulad

Section on Disorders of the Spine and Peripheral Nerves II

4:00 - 4:09 pm

770

Transplantation of Genetically Modified Neural Stem Cells for Spinal Cord Injury

Shekar N. Kurpad, Niklas Holmstrom, Christoph Hofstetter, Jonas Frisen, Christian Spenger, Petra Schweinhardt, Lars Olson

4:09 - 4:18 pm

771

Management and Outcomes in 314 Surgical Peroneal Nerve Lesions at LSUHSC

Daniel H. Kim, Judith A. Murovic, Robert L. Tiel, David G. Kline

4:18 - 4:27 pm

772

The Effect of Lumbar Extension Exercise Program for the Patient who Underwent Operation for the Prolapsed Lumbar Intervertebral Disc

Gun Choi, Myung-Joon Kim, Won-Chol Choi, Se-Jin Yoon, Song-Woo Shin, Sang-Ho Lee

4:27 - 4:36 pm

773

Real Time Continuous Intraoperative EMG and SSEP Recordings in Spinal Surgery: Correlation of Clinical- and Electrophysiological Findings in a Prospective Series of 213 Cases

Thorsteinn Gunnarsson, Andrei Krassioukov, Roger Sarjeant, Michael G. Fehlings

4:36 - 4:45 pm

774

Advantages of Minimally Invasive Lumbar Discectomy for Active Duty Military Members

J. Keith Preston

4:45 - 4:54 pm

775

Complications of Transforaminal Lumbar Dorsal Root Ganglion and Epidural Blocks

Jung Y. Park, Se H. Kim, Sang D. Kim, Dong J. Lim, Tae H. Cho, Jung K. Suh

4:54 - 5:03 pm**776**

Targeted Fascicular Biopsy of Major Lower Extremity Peripheral Nerves

Robert J. Spinner, Kimberly K. Amrami, P. James B. Dyck

5:03 - 5:12 pm**777**

Evaluation of Uni- and Bilateral Pedicle Screw Fixation of the Spine with Posterior Oblique Lumbar Interbody Fusion

Robert J. Hacker, Laura M. Jensen, Sarah Bakker, John M. Dawson, Steven L. Griffith

5:12 - 5:21 pm**778**

Preliminary Research Report of Clinical Trial for Olfactory Ensheathing Cell Transplantation Treating the Spinal Cord Injury

Hongyun Huang, Lin Chen, Hongmei Wang, Bo Xiu, Bingchen Li

5:21 - 5:30 pm**779**

Intensity Modulated Stereotactic Radiotherapy of Paraspinal Tumors: A Preliminary Report

Mark H. Bilsky, Joshua Yamada, Philip H. Gutin, Kamil Yanice, Michael Lovelock, Steve Leibel

Section on Pediatric Neurosurgery I

4:00 - 4:09 pm**780**

Efficacy of Aprotinin in Children Undergoing Craniofacial Surgery

Karin M. Muraszko, Celia C. D'Errico, Stephen R. Buchman, Deborah Wagner, Hamish M. Munro

4:09 - 4:18 pm**781**

Mortality Rates for Pediatric Brain Tumor Craniotomy in the United States, 1988-2000: The Influence of Hospital and Surgeon Volume and Trends over Time

Edward R. Smith, William E. Butler, Fred G. Barker

4:18 - 4:27 pm**782**

Report on Pediatric Fatal and Non-fatal CNS Injuries Associated with Automobile Airbag Deployment and Improper Restraints

Alfredo Quinones-Hinojosa, Peter Jun, Geoff Manley, Nalin Gupta

4:27 - 4:36 pm**783**

Sports and Shunts: Who Can Play?

Jeffrey P. Blount, Meryl Severson, R. Shane Tubbs, Paul A. Grabb, John C. Wellons, W. Jerry Oakes

4:36 - 4:45 pm**784**

Spinal Deformity after Selective Dorsal Rhizotomy in Ambulatory Patients with Cerebral Palsy

Joseph H. Piatt, Michael B. Johnson, Liav Goldstein, Susan Sienko-Thomas, Michael Aiona, Michael Sussman

4:45 - 4:54 pm**785**

The Diagnostic Value of Preoperative Radiologic and Serologic Testing in Pineal Region Tumors in Children

Mark D. Krieger, J. Gordon McComb

4:54 - 5:03 pm**786**

A Prospective Multicenter Cohort Study of the Strata Valve for Pediatric Hydrocephalus

John Kestle, Marion L. Walker, Strata Valve Investigators

5:03 - 5:12 pm**787**

Treatment of Spinal Involvement in Neuroblastoma Patients

David I. Sandberg, Mark M. Souweidane, Brian H. Kushner, Michael P. Laquaglia, Mark H. Bilsky

5:12 - 5:21 pm**788**

Magnetic Resonance Spectroscopic Analysis of Atypical Diffuse Pontine Masses

Mark D. Krieger, J. Gordon McComb

5:21 - 5:30 pm**789**

Ventriculopleural Shunt: Evaluation and Outcome

Tien T. Nguyen, Scott Leary, Mark Krieger

Section on Pain/General Interest

Ronald Tasker Award

4:00 - 4:09 pm**790**

Failure Modes of Epidural Spinal Cord Stimulator Implants for Pain

Joshua M. Rosenow, Raul A. Rodas, Michael Stanton-Hicks, Ali R. Rezai, Jaimie M. Henderson

4:09 - 4:18 pm**791**

Automated, Patient-interactive, Spinal Cord Stimulator Adjustment: A Cost-minimization Analysis

Alexander A. Khalessi, Rod S. Taylor, David D. Brigham, Richard B. North

4:18 - 4:27 pm**792**

Percutaneous Radiofrequency Facet Rhizotomy Does not Have a Long-term Effect for Nonspecific Low Back Pain

Jung Y. Park, Se H. Kim, Sang D. Kim, Dong J. Lim, Tae H. Cho, Jung K. Suh

4:27 - 4:36 pm**793**

Artificial Intelligence Based Program Makes the Diagnosis of Facial Pain Syndromes with High Accuracy

Farhad M. Limonadi, Kim J. Burchiel

4:36 - 4:45 pm**794**

Stereological Assessment of Fiber Populations following Spinal Nerve Root Ligation In The Rat

Laurie L. Ackerman, Donna L. Hammond

4:45 - 4:54 pm

795

Correlation of Preoperative MRI Imaging and Intraoperative Observations of Neurovascular Compression in Patients with Trigeminal Neuralgia

Michael A. Sandquist, Gary Nesbit, Kim J. Burchiel

4:54 - 5:03 pm

796

Clinical Efficacy of Radiofrequency Cervical Zygapophyseal Neurotomy in Patients with Chronic Cervicogenic Headache

Jung Y. Park, Se H. Kim, Dong J. Lim, Sang D. Kim, Tae H. Cho, Jung K. Suh

5:03 - 5:12 pm

797

Peripheral Stimulation for Treatment of Trigeminal Postherpetic Neuralgia and Posttraumatic Neuropathic Pain: A Pilot Study

Mark D. Johnson, Kim J. Burchiel

5:12 - 5:21 pm

798

The Efficacy of Surgery in Refractory Trigeminal Neuralgia: The Outcome of 400 Consecutive Procedures

M. Sam Eljamel, Avinash Haridas

5:21 - 5:30 pm

799

High Cervical (C1-2) Spinal Cord Stimulation for Treatment of Complex Regional Pain Syndrome (CRPS) of the Upper Extremity

Richard K. Osenbach, Corey D. Adamson, Emily A. Davis

Wednesday, October 22

Section on Tumors II

Preuss Award

2:30 - 2:39 pm

800

Loss of Heterozygosity Analysis of Meningiomas: A Population Study

John Y.K. Lee, Bennet Omalu, Ronald Hamilton, Joseph T. King Jr., Sydney Finkelstein

Tumor Young Investigator Award

2:39 - 2:48 pm

801

Local Release of Carboplatin via an Alzet Mini-osmotic Pump Prolongs Survival in a Rat Brainstem Tumor Model

Qingze Wu, Benjamin Carson, Michael Guarnieri, Betty Tyler, Richard Clatterbuck, Yajun Liu

Mahaley Clinical Research Award

2:48 - 2:57 pm

802

Sarcomas of the Skullbase: Analysis and Evaluation of Treatment Paradigms

Franco DeMonte, Sujit S. Prabhu, Eduardo M. Diaz Jr., Dima Suki

4:00 - 4:09 pm

803

Decreasing Mortality and Progressive Centralization of Surgical Treatment of Primary Brain Tumors in the United States, 1988-2000

Fred G. Barker

4:09 - 4:18 pm

804

Transsphenoidal Surgery for Pituitary Tumors in the United States, 1996-2000: Mortality, Morbidity, and the Effect of Hospital and Surgeon Volume

Brooke Swearingen, Anne Klibanski, Fred G. Barker

4:18 - 4:27 pm

805

Somatic Point Mutations as "Second Hit" Events in a Kindred with a Germline Deletion of a Tumor Suppressor Gene

Scott D. Wait, Alexander O. Vortmeyer, David T. Chang, Deb A. Bhowmick, Zhengping Zhuang, Edward H. Oldfield, Russell R. Lonser

4:27 - 4:36 pm

806

Tumor Margin Dose Affects Local Control in Patients with Metastatic Brain Tumors Treated with Gamma Knife Stereotactic Radiosurgery

Michael A. Vogelbaum, Lilyana Angelov, Shih-Yuan Lee, Gene H. Barnett, John Suh

4:36 - 4:45 pm

807

A Functional Polymorphism in the EGF Gene is Common in Glioblastoma Multiforme

Deb A. Bhowmick, Robert J. Weil

4:45 - 4:54 pm

808

Igf2 Overexpression Enhances Sonic Hedgehog Induced Medulloblastoma in a Mouse Model

Ganesh Rao, Carolyn Pedone, Daniel W. Fuhs

4:54 - 5:03 pm

809

Intraoperative Speech Mapping in Seventeen Bilingual Patients Undergoing Resection of a Mass Lesion

Alfredo Quinones-Hinojosa, John A. Walker, Mitchel S. Berger

5:03 - 5:12 pm

810

siRNA Silencing of Monocarboxylate Transporters Inhibits Glycolytic Metabolism, Suppresses Proliferation, and Induces Apoptosis in Malignant Gliomas

Andrew E. Sloan, Saroj Mathupala

5:12 - 5:21 pm

811

Hemorrhagic Sequelae of Endoscopic Surgery for Intraventricular Brain Tumors

Mark M. Souweidane, Juan C. Acefe

5:21 - 5:30 pm

812

Total Removal of Meningiomas Occluding the Superior Sagittal Sinus (SSS) without Sinus Reconstruction: Considerations over a Series of 27 Patients

Francesco DiMeco, Elisa Ciceri, Giovanni Lasio, Giovanni Broggi, Carlo L. Solero

Section on Cerebrovascular Surgery II

Galbraith Award

4:00 - 4:09 pm

813

Endothelial Nitric Oxide Synthase (eNOS) and Heme Oxygenase-1 (HO-1) Gene Polymorphisms Predict Susceptibility to Aneurysmal Subarachnoid Hemorrhage and Post-SAH Cerebral Vasospasm

Vini G. Khurana, Youvraj R. Sohni, Wells I. Mangrum, Robyn L. McClelland, Dennis J. O'Kane, Irene Meissner, Fredric B. Meyer

4:09 - 4:18 pm

814

The Imbalance between Oxidant/Antioxidant Systems in Patients Undergoing Carotid Endarterectomy

Masaaki Uno, Atsuhiko Suzue, Keiko Kitazato, Hao Liu, Hiroyuki Itabe, Shinji Nagahiro

4:18 - 4:27 pm

815

Incidence and Treatment of In-stent Stenosis after Carotid Angioplasty and Stenting

Ricardo A. Hanel, Elad I. Levy, Tsz Lau, Bernard R. Bendok, Lee R. Guterman, L. Nelson Hopkins

4:27 - 4:36 pm

816

Intracranial Delivery of Ibuprofen from a Controlled-Release Polymer Prevents Chronic Vasospasm in a Rabbit Subarachnoid Hemorrhage Model

James L. Frazier, Gustavo Pradilla, Paul P. Wang, Rafael J. Tamargo

4:36 - 4:45 pm

817

Endosaccular Occlusion of Intracranial Aneurysms: A Single Center Experience of 893 Patients

Robert H. Rosenwasser, Ronald P. Benitez, Erol Veznedaroglu

4:45 - 4:54 pm

818

Replacement of Catheter Angiography with CT Angiography as the Basis for Management of Subarachnoid Hemorrhage by a Combined Neurovascular Team

Brian L. Hoh, James D. Rabinov, Johnny C. Pryor, Bob S. Carter, Christopher S. Ogilvy

4:54 - 5:03 pm

819

Catalase Overexpression Protects Striatal Neurons from Transient Focal Cerebral Ischemia

Wenping Gu, Heng Zhao, Midori A. Yenari, Robert M. Sapolsky, Gary K. Steinberg

5:03 - 5:12 pm

820

Differential Activation of Coagulation and Fibrinolytic Systems May Contribute to the Development of Hypercoagulation following SAH

Andrew W. McEvoy, Helen K. Albon, Hillary Watt, Neil D. Kitchen, Ian J. Mackie

5:12 - 5:21 pm

821

The Effects of Aging on Brain Edema and Neurological Deficits after Intracerebral Hemorrhage in Rats

Ye Gong, Ya Hua, Richard F. Keep, Julian T. Hoff, Guohua Xi

5:21 - 5:30 pm

822

Clip vs. Coil for Ruptured Intracranial Aneurysms: Do We Need Another Trial?

Philip E. Stieg, Nandita Mitra, Justin F. Fraser

Section on Neurotrauma and Critical Care II

2:30 - 2:39 pm

823

Elevation in Serum Brain Natriuretic Peptide Correlates with Cerebral Vasospasm and Hyponatremia after Subarachnoid Hemorrhage

Matthew J. McGirt, John R. Lynch, Shahid M. Nimjee, Daniel T. Laskowitz

2:39 - 2:48 pm

824

The Use of ImPACT to Manage Sports-related Concussion: Validity Data and Implications for Return to Play

Melvin Field, Joseph Maroon, Michael W. Collins, Mark R. Lovell, Jeffrey Bost

2:48 - 2:57 pm

825

Does Brief Loss of Consciousness Define Concussion Severity in Athletes?

Melvin Field, Michael W. Collins, Mark R. Lovell, Jeffrey Bost, Joseph Maroon

4:00 - 4:09 pm

826

Continuous Venovenous Hemofiltration (CVVH): A New Means to Patients with Severe Cerebral Edema?

Dong Jian Huang

4:09 - 4:18 pm

827

Brain Extracellular Fluid Biomarkers Predict Intracranial Hypertension in Traumatic Brain Injury

Antonio Belli, Jon Sen, Axel Petzold, Salvatore Russo, Martin Smith, Ed J. Thompson, Laurence Watkins, Neil Kitchen

4:18 - 4:27 pm

828

C1-C2 Vertical Distraction Injury: Rare or Unrecognized Lesion?

Fernando Gonzalez, David Fiorella, Neil R. Crawford, Robert C. Wallace, Iman Feiz-Erfan, Stephen M. Papadopoulos, Volker K.H. Sonntag

4:27 - 4:36 pm

829

Important Markers of Sports-concussion Severity: Retrograde and Anterograde Amnesia

Melvin Field, Michael W. Collins, Joseph Maroon, Mark R. Lovell, Jeffrey Bost

4:36 - 4:45 pm

830

Rapid and Selective Cerebral Hypothermia Using a Cooling Helmet

Huan Wang, William Olivero, Bill Elkins, Giuseppe Lanzino, Jean A. Rose, Janet Burnham, Debra S. Honings, Mary L. Rodde, David Wang

4:45 - 4:54 pm

831

Brain Tissue Oxygenation (PbtO₂) in Brain Death

Sylvain Palmer, MaryKay Bader

4:54 - 5:03 pm

832

Recombinant Activated Factor VII for the Rapid Correction of Coagulopathy in Non-hemophilic Neurosurgical Patients

Matthew E. Fewel, Paul Park, Hugh J.L. Garton, B. Gregory Thompson, Julian T. Hoff

5:03 - 5:12 pm

833

Free Fatty Acids in Cerebrospinal Fluid from Patients with Traumatic Brain Injury

Julie G. Pilitsis, William M. Coplin, Michael H. O'Regan, Jody M. Wellwood, Fernando G. Diaz, Marilyn R. Fairfax, Daniel B. Michael, John W. Phillis

5:12 - 5:21 pm

834

Effective Gene Transfer to Bone Marrow Stem Cells

Rachana Tyagi, S. A. Azizi, Jack I. Jallo, Barbara Krynska

5:21 - 5:30 pm

835

ICP Monitoring in Pennsylvania: Outcomes in Patients Sustaining Severe Blunt Head Injury Over 5 Years (1995-2000)

Eli M. Baron, John P. Gaughan, Jonas J. Gopez, Jack I. Jallo

Section on Pediatric Neurosurgery II

2:30 - 2:09 pm

836

Metopic Craniosynostosis: Treatment Using Endoscopic Assisted Craniectomies and Post-operative Cranial Helmet Molding

David F. Jimenez, Constance M. Barone, Cathy Cartwright

2:39 - 2:48 pm

837

Pediatric Cervical Spine Assessment after Trauma

Hugh J.L. Garton, Gregory A. Flermoen, Karin M. Muraszko

2:48 - 2:57 pm

838

Comparison of Ventriculosubgaleal Shunting with Ventricular Access Devices in Treatment of Posthemorrhagic Hydrocephalus in Neonates

Rollin Hu, Joseph R. Madsen

4:00 - 4:09 pm

839

Independent Predictors of Outcome after Decompression for Chiari I Malformation

Matthew J. McGirt, Shahid M. Nimjee, Herbert E. Fuchs, Timothy M. George

4:09 - 4:18 pm

840

Suboccipital Decompression with Upper Cervical Laminectomy and Dural Relaxing Incisions as Initial Surgical Treatment for Pediatric and Adult Patients with Chiari I Malformation

Samuel F. Ciricillo, Edie E. Zusman, Deirdre M. Antonius, Michael S.B. Edwards

4:18 - 4:27 pm

841

Inhibition of Apoptosis Causes Neural Tube Defects in the Developing Mouse

Saadi Ghatan, Virginia E. Papaioannou, Andrew J. Copp

4:27 - 4:36 pm

842

Postconcussion Syndrome in the Pediatric Population: Is Medial Temporal Damage Responsible? Correlation with Brain SPECT: A Prospective Controlled Study

Deepak Agrawal, K. Naveen, C.S. Bal, Ashok K. Mahapatra

4:36 - 4:45 pm

843

Epilepsy Surgery in the First Three Years of Life

Sanjiv Bhatia, Patricia Dean, John Ragheb, Glenn Morrison, Michael Duchowny, Trevor Resnick, Jayakar Prasanna

4:45 - 4:54 pm

844

Immuno-gene Therapy for Malignant Pediatric Brain Tumors

Roberta P. Glick, Terry Lichtor, Edward P. Cohen, Henry Lin, Kimberly Dean

4:54 - 5:03 pm

845

Scoliosis and Chiari I Malformations in Children

Mark Krieger, J. Gordon McComb

5:03 - 5:12 pm

846

Quantitative Evaluation of Cerebrospinal Fluid Shunt Function using a Non-invasive Thermal Convection System

Samuel Neff

5:12 - 5:21 pm

847

Pineal Region Tumors; Endoscopy vs. Microsurgery

Mahmoud H. Ragab, Mark G. Luciano

5:21 - 5:30 pm

848

The Management of Cysts in Pediatric Craniopharyngiomas

Scott Leary, Mark D. Krieger, Tien Nguyen, J. Gordon McComb

Auxiliary Program

SATURDAY, OCTOBER 18

7:00 pm to 10:00 pm	OE01	Colorado Symphony	\$77
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SUNDAY, OCTOBER 19

7:00 am to 8:00 am	AT01	Power Exercise – Pilates	\$11
7:30 am to 3:00 pm	Open*	CNS Friends of the Congress Café (Hospitality Suite)	Hosted by CNS
9:00 am to Noon	AT02	Denver City Swing	\$37
10:00 am to 5:00 pm	AT03	Rocky Mountain National Park	\$73
12:00 pm to 12:45 pm	Open*	Welcome to Denver	Hosted by CNS
1:00 pm to 3:00 pm	AT04	LoDo Walking Tour	\$25
6:30 pm to 8:30 pm	Open*	“Wild West” Opening Reception	Hosted by CNS

MONDAY, OCTOBER 20

7:00 am to 8:00 am	AT05	Power Exercise – Walking	\$11
7:30 am to 3:00 pm	Open*	CNS Friends of the Congress Café (Hospitality Suite)	Hosted by CNS
10:00 am to 1:30 pm	AT06	Antique Row	\$65
10:00 am to 3:30 pm	AT07	Best of Boulder	\$39
11:30 am to Noon	Open*	<i>Presidential Address, Mark N. Hadley</i> “The Value of Neurosurgery”	Hosted by CNS
12:30 pm to 3:00 pm	AT08	CNS Auxiliary Luncheon and Program	Hosted in part by CNS, \$45
6:00 pm to 8:30 pm	OE02	Denver Center Theatre Company: Blue/Orange	\$59

TUESDAY, OCTOBER 21

7:00 am to 8:00 am	AT09	Power Exercise – Circuit Class	\$11
7:30 am to 3:00 pm	Open*	CNS Friends of the Congress Café (Hospitality Suite)	Hosted by CNS
7:15 am to 5:00 pm	AT10	Discover Colorado Springs	\$101/\$89
8:45 am to 12:30 pm	AT11	Art and Science Museums	\$53/\$43
11:30 am to Noon	Open*	4th Annual Walter J. Dandy Orator, Roberta L. Bondar, MD, PhD “Changing the Way We Think and Move – A Neurologist/Astronaut’s Personal Space”	Hosted by CNS
1:00 pm to 5:30 pm	AT12	Foothills Fandango	\$45/\$39
5:30 pm to 10:30 pm	OE03	Boulder Dinner Theatre – Chicago!	\$75
6:00 pm to 8:30 pm	OE04	Denver Center Theatre Company: Almost Heaven	\$62

WEDNESDAY, OCTOBER 22

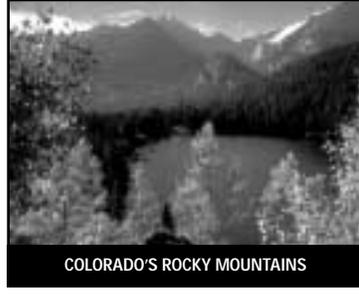
7:00 am to 8:00 am	AT13	Power Exercise – Yoga	\$11
7:30 am to 3:00 pm	Open*	CNS Friends of the Congress Café (Hospitality Suite)	Hosted by CNS
8:30 am to 12:30 pm	AT14	Castle Tour and Brunch	\$77
9:30 am to 12:30 pm	AT15	The Unsinkable Molly Brown	\$46/\$43

Please meet your shuttle at the Lawrence Street entrance of the Westin Tabor Center.

THERE ARE THINGS TO SEE.



COLORADO'S OCEAN JOURNEY



COLORADO'S ROCKY MOUNTAINS



DENVER PERFORMING ARTS COMPLEX



THE HISTORICAL BUFFALO BILL MUSEUM

THERE ARE THINGS TO DO.



COLORADO ROCKIES AT COORS FIELD



COLORADO CONVENTION CENTER EXPANSION



DENVER PAVILIONS ON THE 16TH STREET MALL



ARROWHEAD GOLF COURSE

And an incredible setting of unparalleled science - the Congress of Neurological Surgeons 53rd Annual Meeting



Dear Auxiliary Member:

Set against a breathtaking backdrop of rugged Colorado peaks and lush rolling foothills, Denver blends the allure of the Rockies with the elegance and convenience of a big city. Unlike some Western cities, Denver has a central downtown area. Within easy walking distance are a wide variety of shops, department stores, restaurants, and nightspots. Denver is a clean, young, and green city with over 200 parks and dozens of tree-lined boulevards. Fall is a particularly delightful time to visit the city and make day excursions to the mountains to view the colorful aspens as their leaves change colors. We invite you to join us October 18-23, 2003 at the 53rd Annual Meeting of the Congress of Neurological Surgeons and experience the Mile High City.

Our week begins with the CNS Opening Reception staged in the Wild West, to be held in the Ballroom of the Colorado Convention Center on Sunday, October 19th. Kick up your heels as we enjoy the spirit and fun of the Wild West. Enjoy this opportunity to step back into Colorado's "Golden" era and taste the atmosphere of yesteryear. The Colorado Convention Center is centrally located in the downtown area, minutes from all participation convention hotels.

Don't miss this year's CNS Auxiliary Luncheon and Program - a cooking class at the exclusive Adegia Restaurant with acclaimed Chef Bryan Moscatello. It will be THE AUXILIARY EVENT not to be missed.

For your convenience, the CNS Friends of the Congress Café (Hospitality Suite) will be located in the Lawrence A room of the Westin Tabor Center. It will be open Sunday through Wednesday from 7:30 am to 3:00 pm. A continental breakfast will be served each morning until 10:00 am and beverage service will be offered throughout the day.

Take advantage of the myriad of tours and evening events designed specifically for the CNS Auxiliary Program. Come enjoy Denver, Colorado where there are 300 days of sunshine a year! We look forward to a beautiful and energetic host city, outstanding science, and a wonderful autumn week in the Colorado Rockies.

Lori Hadley
CNS Auxiliary President

Jennifer MacDonald
CNS Auxiliary Chairperson

Saturday, October 18

All tour shuttle departures will meet at the Lawrence Street entrance of the Westin Tabor Center.

OEO1 Colorado Symphony **7:00 pm – 10:00 pm; \$77 per person**

Founded in 1990, the Colorado Symphony Orchestra (CSO) performs at Boettcher Hall in the award-winning Denver Center for the Performing Arts Complex. Directed by Marin Alsop, the 80 member orchestra travels across the state with performances throughout the year. CSO's style varies from legendary virtuosi and beloved masterworks to great popular entertainers and eclectic special events. The CSO truly offers something for everyone.

You'll have the opportunity to enjoy the following performances for a night to remember:

- Revueltas - *Sensemayá*
- Prokofiev - Piano Concerto No. 3
- Stravinsky - Suite from *The Firebird*
- Ravel - Bolero
- David Lockington, Conductor
- Markus Groh, Piano

Please bring your "CNS issued ticket" to the tour counter help desk located in the registration area of the Colorado Convention Center to exchange for a "concert ticket."

Sunday, October 19

AT01 Power Exercise – Pilates **7:00 am – 8:00 am; \$11 per person**

This is a fundamental mat workout. There is a set series of exercises that focus on quality of movement, alignment of legs and spine and proper breathing. Many exercises are similar to Yoga. However, pilates focuses on repeating rather than holding a position. This exercise will help improve posture, flexibility, core strength and awareness.

CNS Friends of the Congress Café (Hospitality Suite) 7:30 am – 3:00 pm; Hosted by CNS



Continental breakfast served 7:30 am – 10:00 am; beverages served throughout the day.
Lawrence A, Westin Tabor Center

AT02 Denver City Swing **9:00 am – 12:00 Noon; \$37 per person**



Take a trip into the heart of the "Mile High City" on a Denver City Swing. You'll tour the downtown finance and business areas as well as the revitalized parts of "old" Denver which have been creatively combined with powerful skyscrapers. Enjoy riding through Denver's lovely mansion areas and parks, and catch a glimpse of the recently renovated lower downtown (LoDo) district. Virtually forgotten for years, local visionaries have concentrated on the renovation of these LoDo buildings with exciting results! Shops and galleries are springing up everywhere and pulsing with life! A picture stop will be made at Coors Field, home of the Colorado Rockies, and one of the top tourist stops in the Denver area. Here you will be able to view the "Evolution of the Ball" outdoor exhibit. You'll receive a "Colorado Welcome" bag with treats to use throughout your stay.

Courtesy of Denver Metro Convention and Visitors Bureau

Sunday, October 19

AT03 Rocky Mountain National Park 10:00 am – 5:00 pm; \$73 per person



Your tour of the gorgeous Rocky Mountains promises to be one of the most beautiful scenic tours ever taken! You'll enter the ancestral Rockies and wind up in the spectacular canyon to Estes Park, eastern gateway to Rocky Mountain National Park. From here we continue up to Rainbow Curve, the absolute best view of the entire park. Cameras are a "must" here! As you travel on Trail Ridge Road, the highest continuous paved road in the U.S., you reach more than 12,000 ft. elevation. The Park is unrivaled for serenity, beauty and incredible majesty. Then, all aboard for the return trip to the charming and quaint mountain town of Estes Park. Enjoy the afternoon sightseeing or shopping in the myriad of shops, quality boutiques and art galleries. Snacks and beverages en route, lunch on own.

Courtesy of Denver Metro Convention and Visitors Bureau

Welcome to Denver 12:00 pm – 12:45 pm; Hosted by CNS

Join us at the Westin Tabor Center in Lawrence A for a complete overview of what we have in store for you. Useful Denver tips and information on all of our tours will be presented to you by a specialized Denver representative, who will assist you in finding the right tour match and schedule during your stay in historical and scenic Denver.

AT04 LoDo Walking Tour 1:00 pm – 3:00 pm; \$25 per person

Discover how Denver was born in this informative entertaining, two-hour walking tour of LoDo, Denver's Lower Downtown Historic District. Adorned in authentic pioneer costumes, your hosts give historically correct fun facts on how the city thrived on the Pike's Peak Gold Rush of 1858. Denver has had a colorful history of miners, desperadoes, shady ladies, saloons, thieves and upstanding citizens - all with a wild tale to tell. Learn about the many historical buildings along the way and which famous citizens have inhabited them. Denver has survived fire, flood, drought, starvation, plague and panic to become the modern cosmopolitan center of the Midwest! Come find out all of these fascinating secrets.



Courtesy of Denver Metro Convention and Visitors Bureau

Wild West Opening Reception

6:30 pm – 8:30 pm; Hosted by CNS



The Congress of Neurological Surgeons welcomes you to kick up some dust with your colleagues Sunday, October 19 from 6:30 pm to 9:00 pm in the Ballroom of the Colorado Convention Center as we welcome you to the Wild West! This elegant Rocky Mountain evening inspires even the toughest city slickers to step back into Colorado's gold rush era and imagine the pioneering life of the 1800s.

Enjoy an evening of authentic Rocky Mountain elegance, western flair with costumed characters and Western taste sensations while you visit with friends, old and new. Enjoy an assortment of Wild West hors d'oeuvres and beverages accompanied by toe tapping tunes.

Each Annual Meeting registrant will receive one complimentary ticket to the Opening Reception. Shuttle transportation will be provided from all official CNS hotels beginning at 6:15 pm until 9:30 pm.

Monday, October 20

AT05 Power Exercise – Walking

7:00 am – 8:00 am; \$11 per person

Everyone can walk! We'll hit a fairly brisk pace and visit some historic downtown Denver sites at the same time. Comfortable shoes are a must!

CNS Friends of the Congress Café (Hospitality Suite) 7:30 am – 3:00 pm; Hosted by CNS



Continental breakfast served 7:30 am – 10:00 am; beverages served throughout the day.
Lawrence A, Westin Tabor Center

AT06 Antique Row

10:00 am – 1:30 pm; \$65 per person



Your fabulous day of antique shopping takes place near downtown Denver on South Broadway. The beautiful antiques, restorations, attractive reproductions and collectibles will fascinate you! Discover your own timeless treasures amidst the many beautiful displays. With over 400 dealers on 6 blocks, you must see Antique Row if you are interested in antiques and unusual gifts. Take home a little present from the past! After your antiques spree we will arrange for a tasty lunch in a neighborhood restaurant so everyone can admire each others "new" treasures!

Courtesy of Antique Timepieces
and Furniture in Colorado

AT07 Best of Boulder

10:00 am – 3:30 pm; \$39 per person

Boulder is a dynamic university community, nestled near the base of the scenic Flatiron Mountains - offering breathtaking views. We'll drive through the University of Colorado's expansive campus where you'll see beautiful historical buildings and gorgeous landscaping. Your tour takes you to the famous Pearl Street Mall, an outdoor mall with very unique character! The mall is home to a wide variety of fantastic boutiques and fascinating shops. It is easy to see why this Mall was selected as a recipient of HUD's award for Urban Renewal Design and why it is the nation's most successful outdoor mall! Lunch is on your own.

Next, tour Celestial Seasonings and see, taste, and smell the world of teas. Learn how the company grew from its "cottage industry" roots to become the largest U.S. herbal tea manufacturer. There is an informative tour and a delightful gift shop with "Tea" shirts, whimsical gifts with the famous "Sleepy -Time Bear" and a variety of tea accoutrements. As a special treat, entertain your taste buds with a complimentary Tea Sampling. Taste a new flavor or savor your favorite. There are over 50 varieties to choose from.



Presidential Address
11:30 am – 12:00 Noon; Hosted by CNS

Mark N. Hadley, MD, FACS
 Professor of Neurological Surgery
 University of Alabama at Birmingham
 “The Value of Neurosurgery”
 Colorado Convention Center, Hall A

AT08 CNS Auxiliary Luncheon and Program at Adegia Restaurant 12:30 pm – 3:00 pm; Hosted in part by CNS, \$45 per person

Learn the tricks from the Chef!

On Monday afternoon, the CNS Auxiliary Luncheon and Program will take place at the acclaimed Adegia Restaurant. “Adegia” meaning above ground wine cellar, has been named as one of the “Best New Restaurants” in the country by renowned restaurant critic John Mariani in the November 2002 issue of Esquire magazine. Chef Bryan Moscatello, who is featured in the July issue of Food & Wine magazine as a 2003 Best New Chef, has specially designed a cooking class just for the CNS Auxiliary Program.

Our small group is invited to enjoy this exquisite restaurant for a very special cooking-class event. After meeting the chef and restaurant manager, we will take a tour of the kitchen and gather in the bar for some light refreshments before the class begins. Everyone will receive recipe cards for note taking as each course of our luncheon is explained and prepared for us to enjoy. Join the CNS Auxiliary Luncheon and Program for an exciting adventure into the world of unique and flavorful cooking with Chef Moscatello.

OE02 Denver Center Theatre Company Blue/Orange 6:00 pm – 8:30 pm; \$59 per person

The Tony Award-winning Denver Center Theatre Company’s journey through 24 seasons, 317 productions, the building of a preeminent resident company and the development of acclaimed new American plays arrives at the announcement of The Silver Anniversary Season. Artistic Director Donovan Marley has selected 11 plays, you’ll have the opportunity to see two of these performances while you are in Denver.

Blue/Orange, the incendiary tale of race, madness and power is the winner of England’s Olivier Award, the Critics’ Circle Award and the Evening Standard Award for Best Play. When three Psychiatrists from different generations consult, their conflicting diagnoses explode into a struggle about race, class, ethics, mental illness and human isolation.

Note: Limited number of seats available on a first come, first served basis.

Please bring your “CNS issued ticket” to the tour counter help desk located in the registration area of the Colorado Convention Center to exchange for a “theatre ticket.”

Tuesday, October 21

AT09 Power Exercise – Circuit Class 7:00 am – 8:00 am; \$11 per person

In this class we will alternate strength training exercises with cardio intervals. We will use resistance bands and body weight to work major muscle groups. The cardio stations utilize walking, jump ropes and step ups. We’ll finish with abdominal exercises.

CNS Friends of the Congress Café (Hospitality Suite) 7:30 am – 3:00 pm; Hosted by CNS



Continental breakfast served 7:30 am – 10:00 am; beverages served throughout the day.
 Lawrence A, Westin Tabor Center

AT10 Discover Colorado Springs 7:15 am – 5:00 pm \$101 per person adult, \$89 per person for child under 12

Take a ride to the clouds!! Board the Pikes Peak Cog Railway for a trip you'll never forget. Known as the world's highest cog railway, it is nine miles long and climbs from a starting elevation of 6,571 to a maximum of 14,110 feet at the summit of Pikes Peak. Beverages and box luncheon are included.

There is ample opportunity to take pictures as the tour heads for nearby Garden of the Gods. Stop at the visitors' center, then continue on through red sandstone rising vertically hundreds of feet out of the ground. The Garden of the Gods is considered by the Ute Indians to be ancient mythical burial grounds for the Gods.

Our last stop is the U.S. Olympic Complex – relive exciting moments in Olympic history that have been captured on film then tour where some of the world's top athletes train for wrestling, aquatic sports, shooting competitions and more. The film and walking tour include a walk along the Irwin Belk Olympic Path, which features outdoor exhibits and displays, a Hall of Fame, a rooftop terrace and Olympic flame display offering panoramic views of the complex and the U.S. sports sculpture garden. The USOC gift shop offers Olympic sports merchandise and other items.

AT11 Art and Science Museums 8:45 am – 12:30 pm \$53 per person adult, \$43 per person for child under 12

Visit The Denver Museum of Nature and Science, the fourth largest of its kind in the nation with three floors of incredible exhibits about our planet and the creatures that live on it. Egyptian mummies, colorful butterflies, Indian totem poles, rare gems and minerals are mixed with 80 world famous dioramas that depict animals from around the globe in realistic settings. Visit the amazing Prehistoric Journey Exhibit and the new Space Odyssey (opening summer 2003), a state-of-the-art technology and participatory experience that has you traveling across the universe without ever leaving the ground.

You'll also visit the Denver Art Museum, the largest Art showcase between Kansas City and Los Angeles. The Museum's carefully selected collection includes works from Europe, Africa, the South Pacific, Asia and Central America, as well as a complete display of native and contemporary art. The Denver Art Museum's comprehensive collection is periodically enhanced by touring exhibitions, making it one of the most popular museums in the country. In October, the exhibits will be "Chinese Art of the Tang Dynasty from the Sze Hong Collection" and "New Classics, the best little show of today's big American Indian artists."



**4th Annual Walter E. Dandy Orator
11:30 am – 12:00 Noon**

Roberta L. Bondar, MD, PhD

Physician, Scientist, Astronaut and Photographer

"Changing the Way We Think and Move –
A Neurologist/Astronaut's Personal Space"
Colorado Convention Center, Hall A

AT12 Foothills Fandango

1:00 pm – 5:30 pm; \$45 per person adult, \$39 per person for child under 12



Courtesy of Denver Metro Convention and Visitors Bureau

Visit one of Colorado's most photographed and scenic sights, Red Rocks Park and Amphitheater, an experience in itself! Amidst towering cliffs slanting upwards and slabs of red sandstone rising hundred of feet above you, discover the 10,000 seat Red Rocks Amphitheater! The amphitheater has been the site of concerts, musical events and the Easter Sunrise services since the 1940's. A camera buff's delight!

Next stop is atop of Golden's famous Lookout Mountain. Here you will visit the unique Buffalo Bill's Grave and Museum for a glimpse into the life and times of William Cody. Born in 1846, William F. Cody experienced the Old West to its fullest. He herded cattle, worked on a wagon train, mined for gold, rode in the Pony Express, and scouted for the Army. His skill as a buffalo hunter gained him the nickname "Buffalo Bill". Buffalo Bill's Wild West shows traveled the world leaving a lasting vision of the American West. In addition to the gravesite, visitors will find artifacts, a gift shop, and an observation deck with beautiful panoramic views of Golden and Denver.

OE03 Boulder Dinner Theatre – Chicago!

5:30 pm – 10:30 pm; \$75 per person

In their first 20 years of business, The Boulder Dinner Theatre (BDT) brought 78 musicals to Colorado, including four Denver Drama Critic's Award winners. From wonderful classics to recent Broadway hits, there is something for everyone.

Chicago, a hit musical of crime, corruption, and murderous chorus cuties, is one of the biggest theatre successes of the last decade. Roxie Hart, a fading chorus girl, becomes a public favorite when she kills her lover. Packed with the influence of vaudeville, *Chicago* features choreography in the style of Bob Fosse. Enjoy a *not-so-sentimental* trip to a pizzazz-packed universe of speakeasies, prison cells and brassy singers! Includes adult content.

Your evening includes a gourmet dinner served at your table by the stars of the show, followed by the full-length Broadway musical **Chicago**, complete with lavish costumes, sets and lighting for which BDT has become famous.

Shuttle departs at 5:30 prompt.



Courtesy of the Boulder Dinner Theatre

OE04 Denver Center Theatre Company Almost Heaven

6:00 pm – 8:30 pm \$62 per person

The Tony Award-winning Denver Center Theatre Company's journey through 24 seasons, 317 productions, the building of a preeminent resident company and the development of acclaimed new American plays arrives at the announcement of The Silver Anniversary Season. Artistic Director Donovan Marley has selected 11 plays, you'll have the opportunity to see two of these performances while you are in Denver.

Almost Heaven is a compilation of songs and stories by John Denver. "Annie's Song," "Sunshine on My Shoulders" and "Rocky Mountain High" were only three of the songs that swept away Denver audiences during the 2001-02 season. This season brings the spirit of John Denver back in a brand new production with added songs and a new cast.

Note: Limited number of seats available on a first come, first served basis.

Please bring your "CNS issued ticket" to the tour counter help desk located in the registration area of the Colorado Convention Center to exchange for a "theatre ticket."

Register On-line at www.neurosurgery.org

Wednesday, October 22

AT13 Power Exercise – Yoga

7:00 am – 8:00 am; \$11 per person

Yoga releases the body and mind from tensions allowing you to regain balance and energy. This powerful and vigorous practice purifies and realigns the body clearing energy channels blocked by years of stress and arouses the internal fire helping to cleanse, detoxify and strengthen the body. The synchronization of movements with breath awakens the mind-body-soul connection and establishes consistent states of balance, inner peace and well-being.

CNS Friends of the Congress Café (Hospitality Suite) 7:30 am – 3:00 pm; Hosted by CNS



Continental breakfast served 7:30 am – 10:00 am; beverages served throughout the day.
Lawrence A, Westin Tabor Center

AT14 Castle Tour and Brunch

8:30 am – 12:30 pm; \$77 per person



Courtesy of Cherokee Ranch and Castle

Enjoy a scenic drive south of Denver and a few miles west to a hidden secret along the foothills – the Cherokee Ranch and Castle. It is a unique combination of a Scottish style castle filled with art and collections from all over the world and a working cattle ranch with over 3,000 acres of open space.

The Castle exhibits paintings by fifteenth and sixteenth century European artists and original drawings by Sir Christopher Wren, the architect of St. Paul's Cathedral in London. Other collections on display include important literature, such as works by Audubon, Dickens and Shakespeare. An English brunch with scones, pastries, quiches, fruit salad, juice and coffee will be served at the castle following your tour. With spectacular views, charming elegance and surprises around every corner, your visit to Cherokee Ranch will be an experience you'll treasure for years.

AT15 The Unsinkable Molly Brown

9:30 am – 12:30 pm; \$46 per person adult,
\$43 per person for child under 12

Tour the "Unsinkable" Molly Brown House, the entirely restored home of Colorado's most colorful Victorian heroine. Born Margaret Tobin Brown, Molly received her unusual nickname as a result of the courage and leadership she displayed during the sinking of the "Unsinkable" Titanic. Located in the Capitol Hill area, the house was originally built in the late 1800's and reflects turn-of-the-century Victorian influence. A privately guided tour of the premises is conducted by tour guides in 1900s style gowns and reveals fascinating glimpses into the flamboyant lifestyle of a bygone era. We've also arranged a special private tour of the historic Brown Palace Hotel. Known to natives as "The Brown," this hotel has welcomed the rich and famous since opening in 1892. The 230-room historic landmark is located in the heart of downtown Denver. Your behind-the-scenes tour reveals loads of secrets!



Courtesy of Denver Metro Convention and Visitors Bureau



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in Fall 2003!!!**

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The Self Assessment in Neurological Surgery (SANS), a time honored tool for life-long learning, has entered the digital age.

You can now test your knowledge and prepare for the written and oral board examinations online. Beginning with the SANS 2004 edition, you can receive CME credit for the first time.

SANS is an online tool with multi media rich questions covering the full spectrum of neurosurgical practice. Each question includes a detailed critique along with references. Many references are linked to other relevant content on the web.

Look for SANS 2004 at the
2003 CNS Annual Meeting
October 18 - 23, 2003
Denver, Colorado

Dear Colleague,

The Congress of Neurological Surgeons exists for the purpose of promoting the public welfare through the advancement of neurosurgery, by a commitment to excellence in education and by dedication to research and scientific knowledge.

We hope you take a positive step and decide to join today to enjoy all that the CNS has to offer our members. You can not afford to miss this opportunity. The CNS offers terrific value for our members at remarkably low annual dues.

If you have any questions please feel free to contact Member Services at our toll-free number 877 517 1CNS.

We look forward to your active participation in the CNS.

Sincerely,



Christopher Getch, MD
Chairman, Membership
Committee



There's Added Value in CNS Member Services!!

Stop by Booth 834

Talk with CNS staff...

- Apply for Membership!
- Check or change your mailing address
- Add your email address
- Receive Fellowship information
- Lead through volunteerism efforts on various CNS Committees

Browse and review CNS products...

- NEUROSURGERY, the official journal of the CNS
- *Neurosurgery News*, official bi-monthly newsmagazine of the CNS
- NEUROSURGERY://ON-CALL®
- *Clinical Neurosurgery*, published annually for members
- Job Placement Service Online Access
- Future Annual Meeting Information
- SANS 2004
- Young Neurosurgeons' Directory
- World Directory of Neurological Surgeons Online Access
- Archives & Committee Exhibit
- Purchase a 2003 CNS Annual Meeting T-shirt
- TalkNet Speakers Bureau, another resource of the CNS

Lori and Mark Hadley

President

Mark Norman Hadley, the 53rd President of the Congress of Neurological Surgeons, was born and raised in Napa, California, one of three children of Jack and Marie Hadley. Mark was active in sports, scholastics, and student government through high school. He served as Student Body President his senior year, class Salutatorian, and was nationally ranked in the boy's mile and half-mile runs. He was a National Merit Scholar and accepted a four-year scholarship to run track at Stanford University in 1974. Mark graduated from Stanford in 1978 with a BA in Economics as a four-year varsity letterman. He began his medical



education at Albany Medical College in upstate New York in the summer of 1978, where he was profoundly influenced by A. John Popp, MD, Professor of Surgery and Neurosurgery. Mark received his MD degree in 1982.

Dr. Hadley completed his general surgery internship at the University of California under F. William Blaisdale, MD, and began his post-graduate neurosurgical training in 1983 at the Barrow Neurological Institute in Phoenix, Arizona, under mentors Robert F. Spetzler, MD, Volker K.H. Sonntag, MD, Andrew E. Shetter, MD, John R. Green, MD, and others. Upon graduation in 1988, Dr. Hadley served three years as a neurosurgeon in the United States Air Force. In 1991 Dr. Hadley accepted the position of Assistant Professor of Neurological Surgery under Richard B. Morawetz, MD, at the University of Alabama at Birmingham, in Birmingham, Alabama. His main areas of clinical and scientific interest are disorders of the human spine and spinal cord. He was promoted to Associate Professor in 1993 and Professor in 1997. He has been actively involved in medical student, resident, and fellow education at UAB and has served as the Director of Resident and Medical Student Education, and continues in his roles as the Director of the Neurological Surgery Residency Training program and Director of the Neurological Surgery Spine Fellowship program. He is the Medical Director of an active regional Think First injury prevention program and has served as Team Physician to the University of Alabama and the University of Alabama at Birmingham athletic programs.

Dr. Hadley has authored over 150 scientific articles and chapters in medical textbooks. He has authored or edited several compilations in Neurological Surgery, including *Self Assessment for Neurological Surgeons (SANS) VI* for the AANS and CNS in 1997, multiple educational videotapes, *Video Perspectives in Neurological Surgery*, and most recently, the comprehensive *Guidelines for the Management of Acute Cervical Spine and Spinal Cord Injuries* published as a supplement to *Neurosurgery* in March 2002. Dr. Hadley serves editorial roles for *Spine*, *Nutrition*, and several foundations, and serves on the Editorial Board of *Neurosurgery* (1999 to present). He has been a visiting professor at major universities throughout the United States and has received a variety of honors including the inaugural Frank H. Mayfield Award of the AANS/CNS Spine Section in 1984, and selection by his peers among *America's Top Doctors*, 2001 and 2002.

Dr. Hadley has been active in organized Neurosurgery since his residency training. He has served on the Executive Committees of the Congress of Neurological Surgeons (1994-present) and of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves (1992-1999). He has served as the Secretary of the CNS (1997-2000), as CNS Vice President (2001), President-elect (2002) and is currently the President. He has also served as a member of the AANS/CNS Washington Committee (2001-present).

Dr. Hadley is a dedicated, fortunate husband and father. He and his lovely wife, Lori Frances Hadley, live in Birmingham with sons Christopher (14), Jack (7) and daughter Mollie (4), and dog Bucky. Mark and Lori run a busy but haphazard "multiple children to different activities" shuttle service and are band, math team, track, soccer, basketball, ballet, baseball, tennis, and golf enthusiasts. In their spare time they enjoy the beaches of the Destin-Seaside area of Florida (Lori's birthplace and site of Mark and Lori's marriage) and are active in the Birmingham community and in the Episcopal Church.

Mark will be joined at this year's Annual Meeting by many neurosurgeon scientists, friends and colleagues, former residents and fellows, his partners in practice at UAB, his older sister, Karen, younger brother, Paul, his immediate family (Lori, Christopher, Jack, and Mollie) and Lori's parents.

Joan and Vincent C. Traynelis

President-Elect

Vincent C. Traynelis is Professor of Neurosurgery at the University of Iowa. He directs a lab which is focused on the investigation on the interactions of polyunsaturated fatty acids and malignant gliomas. Dr. Traynelis also has a significant research interest in cervical spinal kinematics and the biomechanics of cervical spinal instrumentation and motion sparing reconstructive spinal surgery. He has an active clinical

practice which is heavily weighted toward spinal and skull base surgery. He has published 80 peer-reviewed papers, over 40 book chapters, and three books. He currently serves on the editorial boards of Neurosurgery, Spine, and The Spine Journal.



Dr. Traynelis has served the Congress of Neurological Surgeons in many capacities including as an Executive Committee Member at Large, Chairman of the Education Committee, Scientific Program

Chairman, and Annual Meeting Chairman. He currently chairs the Strategic Planning Committee. He has actively contributed time to other professional organizations. Dr. Traynelis is the past Chairman of the Joint Section of Disorders of the Spine and Peripheral Nerves. He has been a Councilor and the Scientific Program Chairman for the Neurosurgical Society of America. He has served as the Scientific Program Chairman for the Cervical Spine Research Society and is currently a member of its Executive Board.

Vince and Joan Traynelis have been married for 22 years. They met in Morgantown, West Virginia but Iowa City has been their home since 1989. They have three children: Vince, Laura, and Matt who are 20, 17, and 14 years of age. Vince is a junior at the University of Kansas. Matthew and Laura attend West High School in Iowa City.

Jennifer and Joel MacDonald

Annual Meeting Chairman

Dr. Joel MacDonald was born in Spokane, Washington and was raised principally in Las Vegas, Nevada and suburban Washington, D.C. He attended both undergraduate and medical school at the University of North Carolina, completing his Doctorate in 1989. He then served as a general surgery intern at Carolinas Medical Center in Charlotte, North



Carolina. He completed his neurosurgery residency training at the University of Utah and thereafter, a cerebrovascular fellowship with Dr. Arthur Day at the University of Florida. He was then appointed to the academic faculty at the University of Arizona where he practiced complex cerebrovascular surgery, skull base surgery, and complex spine surgery for three years. In 1999, he rejoined the Department of Neurosurgery at the University of Utah as an Assistant Professor as a complex skull base and vascular surgeon.

Joel has served in the Congress of Neurological Surgeons in several capacities since completion of his residency. He will complete a three-year term on the Executive Committee as a Member-At-Large in October of 2003. He holds many other appointed positions including Editor of **NEUROSURGERY://ON-**

CALL® and Member-At-Large of the Executive Council of the Joint Section of Cerebrovascular Surgery. He co-chaired the Scientific Program for the 53rd Annual Meeting of the Congress of Neurological Surgeons in Philadelphia with Dr. Nelson Oyesiku. Joel recently served as the Vice-President of the Rocky Mountain Neurosurgical Society.

Joel and Jennifer have been married for two years. Jennifer is a Veteran of the United States Air Force and is a surgical technician. She is currently pursuing an academic career in neuropsychology. The couple welcomed a new daughter, Jade, in July 2002. They are the proud parents of Courtney Elizabeth (8), Jade Olivia (1 year), and Jacque, the dog.

Lola and Nelson Oyesiku

Scientific Program Chairman

Nelson Oyesiku is honored to serve the Congress of Neurological Surgeons as Scientific Program Chairman. Dr. Oyesiku was born in Nigeria where he graduated from St. Gregory's College and received his medical degree from the University of Ibadan. He then attended the University of London, UK as a Commonwealth Scholar where he obtained a Masters of Science degree. He obtained his neurosurgical training at Emory University, Atlanta. During his residency he also completed a PhD degree in the neuroscience graduate program at Emory studying the role of neurotrophic factors in neuronal survival and regeneration.

Dr. Oyesiku was appointed to the neurosurgical faculty at Emory upon



completion of his training. He is currently Associate Professor of Neurological Surgery and Director of the Laboratory of Molecular Neurosurgery & Biotechnology. His clinical and research focus is the surgical treatment and molecular biology of pituitary tumors. He has received an NIH CIDA Award and Medical Faculty Development Award from the Robert Wood Johnson Foundation for his research endeavors. He has authored several manuscripts, book chapters and a book in the field of neurosurgery and basic science.

Dr. Oyesiku is Vice-President of the Congress of Neurological Surgeons and serves on the Executive Committee of the CNS, and the Executive Committee of the Joint Section of Neurotrauma/ Critical Care. He is Chair of the CNS International Committee and serves on the CNS Publications Committee. He is Scientific Program Chairman for the CNS 2003 meeting. He is Secretary/Treasurer of the Georgia Neurosurgical Society.

Lola is an RN with specialty training in Obstetrical Nursing, and is a certified Midwife. She works part-time for Grady Hospital, Atlanta. They have three children - Angela (19) who is a sophomore at University of Georgia at Athens, Linda (15) who is at Pace Academy in Atlanta, and Nelson III (12) who also attends Pace Academy in Atlanta.

Nelson enjoys golf, football, cricket, racquetball, and reading. Lola and Nelson have enjoyed seeing a great deal of the world in their joint travels.

Wendy and Michael Handler

Local Arrangements Chairman

Dr. Michael H. Handler was born in Louisville, Kentucky and was raised in California and then outside of New Haven, Connecticut. He graduated from Columbia University in 1974, and the University of Pittsburgh School of Medicine in 1979. After a surgical internship at New York University, he spent one year as a neurology resident at SUNY-Downstate in Brooklyn before completing his neurosurgery residency at NYU in 1986. He joined a private practice of general neurosurgery in Princeton, New Jersey and in 1993, he

went back to NYU for a pediatric neurosurgery fellowship with Drs. Fred Epstein, Jeff Wisoff and Rick Abbott. He then moved to Denver in 1994 to join the staff at the Children's Hospital, with practice limited exclusively to pediatric neurosurgery. He was appointed to the academic faculty of the University of Colorado School of Medicine in 2000, where he is an Associate Professor. His areas of particular interest include brain tumors, epilepsy, endoscopic neurosurgery, congenital malformations and neurosurgical management of tone.



He has been very active in medical affairs of The Children's Hospital, and is currently President of the Medical Staff there. He is the Medical Student Clerkship Director for the Department of Neurosurgery.

Mike and Wendy have been married for 24 years. Wendy, trained as an accountant, has become an active realtor in Denver. Their oldest, Abram 19, is a freshman at Columbia. Rachel, 17, is a senior in high school, and Sam, 14, is a 9th grader. Sarabelle, the golden retriever, is still a puppy at 18 months.

General Information

Accessibility

The Colorado Convention Center is accessible through the Welton Street entrance. Inside, meeting rooms, exhibit halls and public areas are all served by conveniently located elevators. Telephones, drinking fountains and restrooms located throughout the facility are also wheelchair accessible.

Scooter and wheelchair rentals are available for a fee through ScootAround, Inc. and must be reserved prior to your arrival. Please call them toll free at 1-888-441-7575 or go to www.scootaround.com for further information.

Americans with Disabilities Act

Please let us know if, under the Americans with Disabilities Act, you may require special accommodations or services in order to attend the 2003 CNS Annual Meeting. We want to ensure that no individual with a disability is excluded because of the absence of auxiliary aids and services.

Auxiliary Tours, Optional Evening Events and CNS Social Activities

Auxiliary Tours are optional daytime activities and programs available to spouses and guests. Physicians and Allied Health Professionals may not register for these activities and programs because they run simultaneously with our Scientific Program. These activities and programs are selected to provide an opportunity to explore the more interesting attractions in the Denver area.

All tours will depart from the Westin Tabor Center, Lawrence Street Entrance. Please arrive 15 minutes prior to the scheduled departure time.

All registered CNS Annual Meeting spouses and guests are invited to use the Friends of the Congress Café, including daily continental breakfast from 7:30 am - 10:00 am. Please note that admittance to the Café is by Spouse/Guest or Nurse/Spouse badge only. The Friends of the Congress Café is located in Lawrence A at the Westin Tabor Center and is open from 7:30 am - 3:00 pm, Sunday through Wednesday.

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 48-56. We encourage you to share this information with your spouse or guest for their convenience when registering for the week's extensive programming.



CNS Social Activities are also open to all registered attendees and are included with each registration. The Opening Reception on Sunday, October 19 is open to all registered attendees and one complimentary ticket is included with each registration. See page 51 for more details.

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 desire Babysitting services, please contact the concierge desk at your hotel or call:

A Friend of the Family303 275 7144
 Colorado Nanny Network888-49-Nanny

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

Denver receives 300 days of sunshine a year - more annual hours of sun than San Diego or Miami Beach! Denver has a mild, dry and arid climate. Fall is a particularly delightful time to visit the city and to view the colorful changing of the aspens. Temperatures in October range from lows in the mid-thirties (F) to highs in the mid-sixties (F).



CME Accreditation

The Congress of Neurological Surgeons is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

The CNS designates this continuing medical activity for a maximum of 25 credit hours in category 1 credit toward the American Medical Association's Physician's Recognition Award—more than ever! An additional 15 hours of credit may be earned by attending optional educational programs such as Practical Courses and Luncheon Seminars. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Presenters of scientific posters can claim up to 10 category 2 credits for designing a poster and can also claim 1 category 2 credit for teaching; attendees can claim 1 category 2 credit for each hour spent viewing posters. The same number of category 1 credits awarded will be applied toward the Continuing Education Award in Neurosurgery.

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.

Certificates are mailed approximately six weeks after the meeting.

Course Agendas and Faculty

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

Why Denver ?

Denver is a city of surprises. Some facts about the Mile High City:

- Denver receives 300 days of sunshine a year — more annual hours of sun than San Diego or Miami Beach.
- Water boils at 202 degrees and golf balls go 10 percent farther in Denver.
- Denver really is a mile high. There's a spot on the west steps of the State Capitol building that is exactly 5,280 feet above sea level.
- The dome of the State Capitol in Denver is covered with 200 ounces of 24K gold, but the really priceless building material was used inside as wainscoting. It is Colorado onyx, a rare stone found near Beulah, Colorado. The entire world's supply was used in this building and no more of it has ever been found.
- Denver has the nation's second largest performing arts center. The Denver Performing Arts Complex has eight theaters seating over 9,000 people.
- Denver is the nation's most highly educated city with the highest percentage of high school and college graduates.
- Denver brews more beer than any other American city.
- Denver has the largest city park system in the nation with 205 parks in city limits and 20,000 acres of parks in the nearby mountains.
- Denver is the "Baby Boomer" capital of America with the highest percentage of boomers of any major U.S. city.
- Denver is 20th in the U.S. in population, but has the 10th largest downtown in terms of office space and retail space.
- Denver citizens contribute more public funding for the arts per capita than any other U.S. city.

Disclosures

Before the program, all speakers will disclose the existence of any financial interest and/or other relationship they might have with the manufacturer(s) of any commercial product(s) to be discussed during their presentation. Speakers from the audience are also required, therefore, to indicate any relevant personal/professional relationships as they discuss a given topic.

Handout materials are prepared and submitted for distribution by the presenters who are solely responsible for their content.

Disclosures will be published in the Scientific Program Book and the Poster Program CD that will be distributed at the Annual Meeting.

E-mail Cafés

You will be able to check your e-mail messages from the E-mail Cafés in the CNS Member Services Center (Booth 834, and throughout the Exhibit Hall.) Please be sure to have your e-mail account username, password and the mail server name.

Exhibition

The CNS Exhibit Hall will be located upstairs in Halls B&C of the Colorado Convention Center.

Hours are:

Monday, October 209:00 am – 4:30 pm

Tuesday, October 219:00 am – 4:30 pm

Wednesday, October 229:00 am – 3:30 pm

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

Evaluations

The evaluation process is a key component in our continuous strive for excellence in neurosurgical education. Feedback from registrants helps to determine programming at future Annual Meetings. As a result of your input, our programming will continue to improve. Please complete your evaluation forms and deposit them in the drop boxes located throughout the Colorado Convention Center. CNS is dedicated to neurosurgical education . . . your opinions are important to us!



Future Meetings

San Francisco, CAOctober 16 – 21, 2004

Boston, MAOctober 8 – 13, 2005

Chicago, ILOctober 7 – 12, 2006

San Diego, CASeptember 15 – 20, 2007

Housing Information

See pages 74-77.

Member Services Center-Booth #834

Designed to increase the visibility of the CNS Secretary, the CNS Membership Department, NEUROSURGERY://ON-CALL®, and NEUROSURGERY as well as the Residents' and Placement Offices, the CNS Member Services Center is located in Exhibit Halls B&C, Booth #834. Staff members will be available to assist you and answer any questions you may have about CNS and its member services. You can also check your e-mail at the E-mail Stations.

Message Center

The Message Center will be located in the CNS Registration Area during registration hours.



Press Room

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

Registration Information

Registration Hours:

Saturday, October 18	7:00 am – 5:00 pm
Sunday, October 19	7:00 am – 5:00 pm
Monday, October 20	6:00 am – 5:00 pm
Tuesday, October 21	6:30 am – 5:00 pm
Wednesday, October 22	6:30 am – 5:00 pm
Thursday, October 23	6:30 am – 11:00 am

For additional information see page 68-73.

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 2003 CNS Annual Meeting.

Shuttle Services

CNS will provide shuttle services to the Convention Center from all official meeting hotels. A shuttle schedule will be posted at these hotels and at the Convention Center and will be printed in the Scientific Program Book. Shuttle hours are as follows:

Saturday	7:00 am – 5:30 pm
Sunday	7:00 am – 5:30 pm
Opening Reception at the Convention Center*	6:15 pm – 9:30 pm
Monday	6:15 am – 6:00 pm
Tuesday	6:15 am – 6:00 pm
Wednesday	6:15 am – 6:00 pm
Thursday	6:15 am – 12:30 pm

**The site of the Opening Reception is the Ballroom of the Colorado Convention Center. The existing shuttle routes are also in operation for Sunday evening's Opening Reception.*

Speaker Ready Room

The Speaker Ready Room will be available Saturday, October 18 and Sunday, October 19, from 7:00 am – 5:30 pm; Monday, October 20 through Wednesday, October 22, from 6:30 am – 6:00 pm; and Thursday, October 23 from 6:30 am – 11:00 am at the Colorado Convention Center in Room A201. All speakers and abstract presenters should visit the Speaker Ready Room A201 prior to their presentations.

Smoking

Smoking will be prohibited in all meeting rooms and exhibit areas.

Transportation Information from Denver International Airport

A variety of transportation services to and from Denver International Airport to downtown Denver are available for all of your ground transportation needs. Options include public transit (approximately \$6 one way); scheduled door-to-door shuttle van service (\$17-22 one way), limousines, rental cars, hotel courtesy shuttles and taxis (\$40-50 one way). Contact the Ground Transportation Information Counter at 1-800-AIR-2DEN or 303-342-4059 or visit them on Level 5 of Jeppesen Terminal.

Blue Sky Shuttles (866-DIA-VANS) is offering \$15 one way/\$24 round trip fares to our attendees. Please present the enclosed coupon to their ticket counter on the Baggage Claim level at DIA.

Ways to Register

Register and make your hotel reservations online!!

The CNS, in conjunction with the services of International Travel Services (I.T.S.) offers you one-stop shopping for all your Registration, Housing and Air Travel needs! You can register and make your hotel and airline reservations live online or via fax, mail or phone. Confirmations will be sent to attendees within two business days of receipt. Wait-listed items may delay confirmation. Confirmations are sent via email, fax (if no email is available) or regular mail (if no email or fax is available). Note: I.T.S. cannot acknowledge receipt of faxed or mailed forms. If meeting confirmation is not received within two weeks of posting, contact I.T.S.

CNS Annual Meeting/I.T.S. will accept credit cards (Visa, MasterCard, American Express, and Discover for Advance Registration – Visa, MasterCard and American Express on-site) as well as checks drawn on a U.S. bank in U.S. dollars. Checks should be made payable to CNS Annual Meeting/I.T.S. Wire transfers will not be accepted. The payment should include the \$200 per unit hotel deposit, the appropriate fees for registration and for any optional items purchased.

Choose One of Four Ways to Register!



Internet

Access the CNS's Website at www.neurosurgery.org to get the latest information on the CNS 53rd Annual Meeting and then follow the link to register for the meeting and confirm your hotel room. (Residents and Fellows cannot register online, only via fax or mail.) Get immediate confirmation of Practical Course, Luncheon Seminar and Optional Event availability!



Fax

800-521-6017 (inside U.S., registering with a credit card)
847-940-2386 (outside the U.S., registering with a credit card)

Type or print all information on the registration/housing form in black ink. **Do not use a cover sheet.** CNS/I.T.S. is not responsible for faxes not received due to mechanical failure or circumstances beyond our control. Please allow 7 days for receipt of registration confirmation. Due to the high volume of faxes received, we are unable to confirm receipt of faxes.



Phone

800-424-5249 (inside U.S., registering with a credit card)
847-940-2155 (outside the U.S., registering with a credit card)

You must have your completed registration/housing form and credit card information readily available to provide required information. No optional events, Practical Courses, Luncheon Seminars or tours can be booked via phone (please use the online or fax method of registration). Resident and Fellow attendees must register via fax or mail.



Mail

CNS Annual Meeting/I.T.S.
108 Wilmot Road, Suite 400
PO Box 825
Deerfield, IL 60015-0825

Speakers

Complimentary registration will not be provided for neurosurgeon speakers. All speakers must register at the applicable registration rate.

1 PRIMARY REGISTRANT

(please type or print neatly in black ink) Name

First Name _____

Institution/Hospital/Office _____

Address 1 _____

Address 2 _____

City _____

Telephone _____

(If international please include country code)

E-Mail _____

Please indicate your practice type _____

Please indicate your subspecialty _____

Optional Gender M _____

Age Under 30 _____

Name as it should appear on badge:

First _____

2 SPOUSE / GUEST REGISTRANT

Spouse/Guest – Registrant Badge Information

Guest/Child – Registrant Badge Information

Guest/Child – Registrant Badge Information

3 HOTEL RESERVATION

Individuals requiring hotel reservations see pages 74-78. CNS Resident Members:

Give priority to: Rate

Arrival: Day _____

Departure: Day _____

1st Choice _____

2nd Choice _____

Check one: Single (1 person) Double (2 persons) Double/Double (2 persons, 2 beds required) No hotel required; staying at _____ Please check here if under the American Medical Association you will be contacted by the CNS

Annual Meeting Registration

The Deadline for Advance Registration discounts is September 17, 2003. After this date you must register at an increased fee. All registration materials, including badges, session tickets, social and optional activity tickets should be picked up on site.

Follow these instructions when completing the registration forms. All registration forms are inserted under the flap on the back inside cover of this Preliminary Program.

B1-B2 – Advanced Registration and Housing Form

1. PRINT OR TYPE your personal information. Your name and address, as entered here, will be used on your CME Certificate, if applicable. Please include phone, fax and e-mail. If international, please be sure to include country code for phone and fax.
2. PRINT OR TYPE any spouse/guest/children badge information.
3. Hotel Reservation: Choose what criteria will be the priority for your hotel choice: rate, location or specific hotel chain. List your arrival and departure days and dates. Check your room preference. Please indicate with whom/where you will be staying if you are not making a hotel reservation.
4. Check the box that corresponds to your registration status. Residents and Fellows (domestic and international) must have registration form signed by Program Director. (Residents and Fellows can only register via fax or mail.)
5. Add the \$200 Hotel Deposit to the cost of your registration – this is the balance due for Annual Meeting Registration and Housing Deposit. Registrations received without deposit payment cannot be processed.
6. Payment: If paying by check, please make check payable to CNS Annual Meeting/I.T.S. NO WIRE TRANSFERS. Any checks received on an overseas bank will be returned. Any checks returned for insufficient funds are subject to additional charges. If you are paying by credit card, write in full credit card number; print the cardholder name, expiration date and signature.

B3-B4 – Practical Course and Luncheon Seminar Ticket Forms

Practical Course Registration (B3)

There are afternoon Practical Courses available on Saturday, October 18, and full day, morning and afternoon Practical Courses available on Sunday, October 19. Because of the popularity and limited space in many sessions, please indicate multiple choices where applicable. These courses are optional and each has a separate fee. If the Practical Course you list is open, your credit card will be charged accordingly.

Luncheon Seminar Tickets (B4)

Luncheon Seminars are offered on Monday, October 20, and Tuesday, October 21. You can attend one Luncheon Seminar per day. Fees include a seated lunch served in the seminar room. Because of the popularity and limited space in many sessions, please indicate multiple choices where applicable. These seminars are optional and each has a separate fee. If the Luncheon Seminar you choose is open, your credit card will be charged accordingly.

You can pay and register via the methods mentioned on Page 68. Ticketed events cannot be purchased via telephone.

B5 – Auxiliary Tours/Optional/Evening Events Registration Form

See pages 48-56 for details about these programs. Please check the event tickets you would like to purchase, indicate quantity and total your purchase. Ticketed events cannot be purchased via telephone. This form may be used to purchase additional tickets.

2003 CNS Annual Meeting T-Shirts are available for purchase on this form as well. T-Shirts are available in Adult Small, Medium, Large and X-Large. Children's T-shirts are available in Small and Medium. Please indicate the quantity for each size T-Shirt and include payment for purchase with/on this form.

Cancellation Policy – Registration		
Requests received by September 17, 2003	Full refund	All refund requests must be received in writing (via email at cns@expoedge.com , fax at 847/940-2386, or mail to CNS Annual Meeting/I.T.S., 108 Wilmot Road, Suite 400, Deerfield, IL 60015-0825
Requests received between September 18 and September 24, 2003	Full refund less a \$75 processing fee	
Requests received after September 24, 2003 and no shows	No refund	

Cancellation Policy – Course and Event Tickets		
Requests received by September 24, 2003	Full refund	All refund requests must be received in writing (via email at cns@expoedge.com , fax at 847/940/2386, or mail to CNS Annual Meeting/I.T.S., 108 Wilmot Road, Suite 400, Deerfield, IL 60015-0825
Requests received after September 24, 2003	No refund due to facility guarantees	
On site	No return or exchange of tickets	

Registration Fees

Please note the early registration deadline of September 17, 2003. Fees for registration received prior to this date are discounted. Registration received after September 17, 2003 will have increased fees.

The medical registrant fee includes:

- One ticket to the Opening Reception on Sunday, October 19
- General Scientific Sessions – Monday through Thursday
- Special Course/Section Sessions – Monday through Wednesday
- Morning coffee breaks and afternoon beverage breaks Monday through Wednesday and coffee break Thursday morning

	On or before September 17	After September 17
Member	\$575	\$625
Transitional Member	\$575	\$625
Non-Member Neurosurgeon	\$675	\$725
Non-Member Physician	\$675	\$725
Non-Member/Non-Physician	\$675	\$725
Member of the Armed Forces	\$475	\$525
Resident Member*	\$150	\$175
Resident Non-Member*	\$250	\$275
Fellow Member**	\$150	\$175
Fellow Non-Member**	\$250	\$275
Retired Senior Member	\$250	\$275
Medical Student	\$250	\$275
Allied Health	\$400	\$425
Physician Assistant	\$400	\$425
Nurse	\$400	\$425
Spouse/Guest/Child (13 & over)	\$115	\$115
Resident Spouse	\$ 75	\$ 75

* All domestic and international Residents must have their Program Director sign registration form.

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

Practical Courses

Saturday, October 18

Afternoon Courses (1:00 pm – 5:00 pm)

PC01	Technological Aids for Practice Management	\$250
PC02	CPT Coding: What's New!	\$325
PC03	Craniospinal Trauma in Childhood	\$275
PC04	Applied Spinal Biomechanics	\$175
PC05	Functional Neurosurgery: Stimulation, Augmentation and Destruction	\$250
PC06	Three Dimensional Neurosurgical Anatomy	\$250
PC07	Operating in the Eloquent Cortex: Localization and Resection	\$250
PC08	Craniocervical Junction: Microsurgical Anatomy and Surgical Approaches	\$650
PC09	Stereotactic Radiosurgery: Indications and Dose Planning	\$350
PC10	Outpatient Management Dilemmas: For Nurses, Nurse Practitioners and Physician Assistants ...	\$150

Sunday, October 19

All Day (8:00 am – 5:00 pm)

PC11	Multimodality Therapy of Intracranial Aneurysms	\$750
PC12	Microsurgical Anatomy	\$775
PC13	Procedures for Thoracolumbar Instability and Deformity	\$775
PC14	Microvascular Surgical Techniques	\$525
PC15	Percutaneous and Modulation Therapy for Spinal Pain Syndromes	\$750
PC16	Surgical Principles of Peripheral Nerve Surgery	\$750
PC17	Operative Colloquium: Masters of Neurological Surgery	\$300

Morning (8:00 am – 12:00 Noon)

PC18	Vertebroplasty: Technology and Techniques	\$650
PC19	Emerging Technologies in Lumbar Fusion	\$425
PC20	Traumatic Brain Injury Management: Present and Future	\$300
PC21	Surgical Arthrodesis of the Cervical Spine	\$425

Afternoon (1:00 pm – 5:00 pm)

PC22	Kyphoplasty: Novel Technologies	\$700
PC23	Mastering Spinal Disorders: Dealing with Complexities	\$425
PC24	Cerebrovascular Critical Care	\$300
PC25	Cerebrospinal Fluid Shunt Techniques: Pearls, Fact and Fiction	\$425
PC26	Inpatient Management Dilemmas for Nurses, Nurse Practitioners and Physician Assistants ...	\$150
PC27	International and Virtual Neurological Surgery Colloquium	\$300
PC28	Contracting and Financial Management: What You Must Know	\$250
PC29	Minimally Invasive Lumbar Spine Surgery	\$725
PC30	Career Development for Women in Neurosurgery	\$250

Luncheon Seminars — \$60 each (\$45 Residents/Fellows/Nurses)

All Luncheon Seminars include a seated lunch served in the seminar room.

Monday, October 20 (12:30 pm – 2:00 pm)

- M01 Resident and Honored Guest Luncheon – FREE TO RESIDENT MEMBERS! Space is limited so register early.
- M02 Kyphoplasty and Vertebroplasty: Indications, Techniques and Outcomes
- M03 Cervical and Lumbar Disc Prostheses: Technology and Applications
- M04 Intra-operative Salvage Techniques: “Getting Out of Trouble in Spinal Surgery”
- M05 Traumatic Spinal Cord Injury: Advances in Medical and Surgical Management
- M06 Intra-operative Salvage Techniques: “Getting Out of Trouble in Cranial Surgery”
- M07 Neuroendoscopy: Techniques and Outcomes
- M08 Surgical Treatment of Movement Disorders
- M09 Acoustic Schwannoma: Options, Approaches and Results
- M10 Intraoperative Imaging: Current Applications
- M11 Endoscopic Spinal Surgery
- M12 Pain: Procedures and Applications
- M13 Neurosurgical Practice: Enhancement, Compliance and Development
- M14 Normal Pressure Hydrocephalus: Decision-making, Techniques and Results
- M15 Cervical Spondylotic Myelopathy
- M16 Multimodality Treatment of Malignant Gliomas

Tuesday, October 21 (12:30 pm – 2:00 pm)

- T17 International Luncheon Seminar: Case Presentations from Around the Globe
- T18 Traumatic Brain Injury: Lessons Learned and Future Directions
- T19 Spinal Fusion: Biochemical and Biomechanical Approaches
- T20 Endovascular Management of Intracranial Aneurysms: Indications, Techniques and Results
- T21 State of the Art Management of Brain Metastases
- T22 Mastery of Pituitary Surgery
- T23 Peripheral Nerve Surgery: “Must Knows” for the Practicing Neurosurgeon
- T24 Controversies in the Management of Chiari I Malformations
- T25 Management of Unruptured Intracranial Aneurysms
- T26 Neurosurgical Coding: Questions and Answers
- T27 Carotid Disease: Surgical and Endovascular Management
- T28 Concepts in Epilepsy Surgery
- T29 Microsurgical Treatment of Aneurysms: Back to the Future
- T30 Craniosynostosis
- T31 Arteriovenous Malformations: Multimodality Management
- T32 Skull Base Approaches: What, When and How
- T33 Residents Luncheon Seminar – Career Transitions: Options, Challenges and Decisions
- T34 Endovascular Neurosurgery for Residents

Hotel Reservations Made Easy...

Hotel Information (State/local taxes for hotel rooms: 13.45%)

The Congress of Neurological Surgeons has reserved blocks of rooms in the following conveniently located hotels on behalf of our attendees. We're sure that one of them will fit your needs! The special rates listed below are ONLY available through our Housing Bureau, I.T.S. Reserve your room early to get your first choice of accommodations.

Please book your accommodations through I.T.S. to help keep your meeting costs down! CNS is held responsible for unoccupied rooms. Therefore, we ask for your support and cooperation with the established housing procedures. Also, please note that complimentary Shuttle Service will only be provided to the hotels listed below.



Register and book your room **online** at www.neurosurgery.org



Fax your registration/housing form to:
800-521-6017 (inside U.S., registering with a credit card)
847-940-2386 (outside the U.S., registering with a credit card)



Phone in your registration and housing reservation to:
800-424-5249 (inside U.S., registering with a credit card)
847-940-2155 (outside the U.S., registering with a credit card)



Mail your registration and housing form to:
CNS Annual Meeting/I.T.S.
108 Wilmot Road, Suite 400
PO Box 825
Deerfield, IL 60015-0825



1

Adam's Mark 1550 Court Place

The largest hotel in Denver and four blocks from the Convention Center, the hotel's multiple amenities include a year round swimming pool, sauna, and state of the art fitness center. And for the luxury-minded traveler - why not try our exclusive concierge level and Concorde Club.

Located in the heart of Downtown Denver, The Adam's Mark is four blocks from the Convention Center, and within walking distance of exciting

visitor locations such as The Denver Art Museum and the State Capitol, and just minutes away from The Pepsi Center and Coors Field. Experience Denver's premier hotel, and allow their staff to exceed your expectations by personally making your stay as successful and enjoyable as possible. Adam's Mark - The Hotel of Denver.

Amenities include room service, same-day dry cleaning/laundry, irons and ironing boards, express check-out, safe deposit boxes, gift shop, cable TV with remote, AM/FM alarm radios, and in-room movies.

And how better to enjoy an afternoon or evening than by visiting your choice of three restaurants, two lounges, and one exciting nightclub without ever leaving the grounds. Bravo! Ristorante invites you to enjoy festive Italian cuisine served by professional singers performing Broadway show tunes and opera nightly. The elegant executive meeting place, the Capitol Bar, provides a view of the city and serves cigars, martinis, appetizers and cocktails. The Supreme Court Café & Nightclub is the place for casual fun, food and dancing, while Trattoria Colorado is ideal for informal dining in a cheerful atmosphere. Players Sports Bar has original sports art and big screen TVs to go along with their wide selection of beers and snacks.

Single \$168; Double \$168



2

Brown Palace Hotel 321 Seventeenth Street

This four-star hotel, designed by one of Denver's pre-eminent architects, is a unique triangular-shaped building that allows Colorado sunshine to illuminate each room and suite, all of which surround the nine-story atrium lobby. The elegantly appointed guest rooms feature two-line phones with fax-modem capability and voice mail. Pure artesian water from the hotel's own well flows from every faucet.

Guest rooms uphold the historical Victorian tradition, not only in décor but in AAA four-diamond and Mobil four-star service, including 24-hour in-room dining, complimentary newspaper, twice-daily maid service and evening turn down. Working travelers find the hotel's newly restored Executive Staterooms and suites - equipped with printer/copier/fax machines, cordless telephones, in-room safes with laptop re-charging stations and complimentary high speed internet access.

Throughout its 109-year history, the Brown Palace has played host to presidents, princesses, kings and queens, and their entourage of followers. While most people associate the Brown Palace with President Eisenhower, who used the hotel as his summer headquarters during his administration, the hotel has a long history of hosting other dignitaries as well.

The Palace Arms Restaurant serves award-winning cuisine, the Churchill Bar offers the finest in premium spirits as well as rare and popular cigars, and Ellyngton's - the hotel's main dining room - serves breakfast, lunch and Denver's finest Sunday Champagne Brunch. Enjoy the casual, nautical theme of Ship Tavern, have Afternoon Tea in the Lobby, or meet your friends at Atrium Cocktails.

Single \$185; Double \$185



3

Hyatt Regency Denver 1750 Welton Street

In the downtown business and entertainment district, near the State Capitol, within walking distance of the Denver Center for the Performing Arts, Colorado Convention Center, historic Larimer Square, Coors Field, the 16th Street Mall and LODO (Lower Downtown District), the Hyatt Regency Denver boasts a magnificent 20-foot sandstone fireplace in the lobby. The Colorado theme is carried into the hotel's "1876" restaurant, named for the year Colorado became a state.

The spacious guest rooms, the largest in the region, include individual climate control, electronic door locks, full bath amenities, voice mail, three telephones with message light, computer hookup. Guest rooms also include TV with remote control, cable movie channels, in-room pay movies, video messages, video account review, video check-out, turndown service on request, irons and ironing boards, AM/FM alarm clock, hair dryer, and coffee maker. Add the rooftop health club for tennis or jogging, an indoor swimming pool, a fully equipped exercise facility, and an outdoor whirlpool and you've got it all!

Enjoy elegant surroundings and spectacular food at 1876 featuring contemporary western fare. Visit the Fireside Terrace Lounge where a sophisticated atmosphere and an impressive beverage list ensure there's something for everyone.

Single \$175; Double \$196

Register On-line at www.neurosurgery.org



4

Marriott Denver City Center
1701 California Street
Co-Headquarters Hotel

The Denver Marriott City Center recently completed an \$8 million renovation including guestrooms, lobby, lounge and restaurant. The Hotel is located right in the heart of downtown and within walking distance of restaurants, shopping, plays and sports venues. Enjoy the comfort of one of the 613 guestrooms, each equipped with Digital TV, High-speed internet access, phones with dual

phone lines, voice mail and data ports. Start your day with a complimentary newspaper and a cup of coffee from Starbucks or sample the many tasteful options offered at Allies American Grille, or the Great Divide Lounge. Experience a refreshing change of pace in the Pool, Jacuzzi and/or 24-hour Health Club. Your business objectives will stay on course with the convenient services of the Business Center, and the amenities of the Concierge Level. Make your stay a memorable one.

Single \$171; Double \$181



5

The Westin Tabor Center
1672 Lawrence Street
Co-Headquarters Hotel

Ideally located just blocks from the Denver Performing Arts Complex and historical Lower Downtown, The Westin Tabor Center is adjacent to the 16th Street Mall, a pedestrian thoroughfare with complimentary shuttles to museums, shopping and the Colorado Convention Center.

Unwind in the spectacular mile-high pool that overlooks the Rocky Mountains, relax on the sun deck or in the outdoor whirlpool, or burn some calories at the state-of-the-art fitness center in the Tabor Center.

The Westin Tabor Center guest rooms are among the most spacious in Denver. All are elegantly appointed with modern amenities and many offer spectacular views of the nearby Rocky Mountains. Guest rooms include The Heavenly Bed, dual-line telephones, in-room movies, cable and satellite channels, refreshment center with mini-bar, coffee maker, hair dryer, alarm clock, iron and ironing boards. Starwood Turbo Net High Speed Internet Access is available by request. Westin's Guest Office® rooms offer amenities for business travelers, including an in-room laser printer/fax/copier and a work desk with ergonomic chair.

Breakfast is incredible at Augusta or stop at Starbuck's Coffee Kiosk for "coffee and". The Palm, a classic American steakhouse, has been a tradition since 1926. Visit V's Martini Bar for popular cocktails.

Single \$185; Double \$185

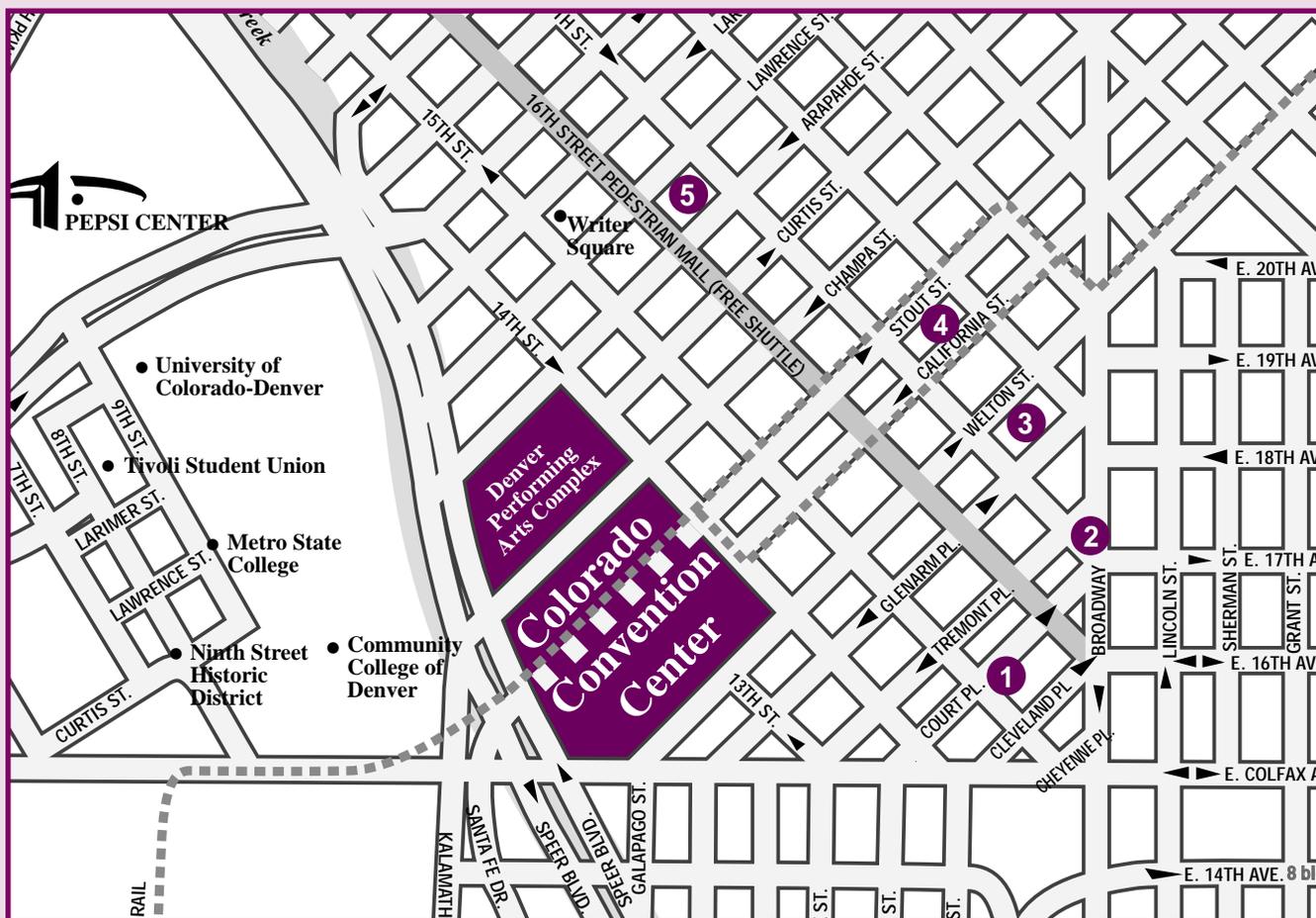
Hotel Amenities

Hotel	Suites Available	Business Center	Full Service Restaurants	Room Service	Fitness Center	Pool	Gift Shop	Laundry/Valet	Data Ports	Lounge	Accessible Rooms	Concierge/Business Level	Blocks from Conv. Center
1 Adam's Mark	X	X	X	X	X	X	X	X	X	X	X	X	4
2 Brown Palace	X	X	X	X	X				X	X	X	X	5
3 Hyatt Regency Denver	X	X	X	X	X	X	X	X	X	X	X	X	4
4 Marriott Denver City Center	X	X	X	X	X	X	X	X	X	X	X	X	3
5 The Westin Tabor Center	X	X	X	X	X	X	X	X	X	X	X	X	8

Legend

- 1** Adam's Mark
- 2** Brown Palace
- 3** Hyatt Regency Denver
- 4** Marriott Denver City Center
- 5** Westin Tabor Center

Downtown Denver



Hotel Reservation and Deposit

Individuals requiring hotel reservations must first register for the CNS Annual Meeting. Please select your hotel accommodations from the list provided on pages 74-76. CNS has reserved blocks of rooms for our attendees for reservations made through I.T.S. Hotel reservations are only available to registered CNS attendees. Hotels will not accept direct reservations for rooms. Because CNS has committed to these room blocks on behalf of our attendees, it is important to reserve your room through I.T.S. to keep your meeting costs down. CNS is held responsible for unoccupied rooms. Therefore, we ask for your support and cooperation with the established housing procedures.

To reserve a room, complete the entire housing section of the registration form. There are a limited number of rooms in each hotel. If your hotel selections are no longer available at the time of booking, I.T.S. will confirm alternate accommodations unless otherwise indicated on the form. Please indicate which is most important: rate, proximity to the Denver Convention Center or specific hotel chain.

A \$200 deposit is required and due at the time your hotel reservation is made. This payment is to be submitted with the registration fees. Credit cards will be charged immediately. If a one-bedroom suite is requested, a deposit of \$400 will be due. If a two-bedroom suite is requested, a \$600 deposit will be due. To help control hotel inventory and give all attendees an opportunity to book the hotel of their choice, hotel rooms will be available to registered attendees only. A portion of your room rate will be used to help defray the cost of housing and registration services.

Attention CNS Resident Attendees: One of the many benefits of CNS Resident Membership is limited, complimentary housing at the CNS Annual Meeting. To be considered for the Resident Housing Program, CNS Resident Members must submit a separate CNS Resident Housing Form (included with Resident Member registration materials) and register for the Annual Meeting by September 10, 2003.

All Resident attendees must register and make housing arrangements via fax or mail. On-line or telephone registration is not permitted.

Hotel Change/Cancellation Policy		
Through Wednesday, September 24, 2003 (5:00 pm CST)	All changes and cancellations must be made through I.T.S. Rooms are not transferable.	Refunds for deposits will be issued by I.T.S.
Beginning Monday, September 29, 2003	All changes and cancellations must be made directly with the hotel.	If cancellation notice is not received according to hotel policy, the deposit may be forfeited. Check your hotel confirmation or contact the hotel directly for information.

When canceling a reservation by telephone, record the date, cancellation number, and the name of the person accepting the cancellation.

(NOTE: On-site changes in departure date may result in penalty charges.)



Dedicated to Neurosurgical Education

The Congress of Neurological Surgeons *announces the*

CNS Endowment for Fellowships and Education

- A fund created to meet the needs of all CNS members and their goals for advanced neurosurgical education.
- An opportunity for neurosurgeons, corporations, and others to contribute non-taxable funds to support important educational programs.
- The CNS has contributed one million dollars to inaugurate the endowment.
- The CNS fellowships' program supports a broad array of educational opportunities in clinical neurosurgery, spinal neurosurgery, radiosurgery, brain restoration research, syringomyelia, evidence-based medicine, and public policy. Programs are open to all CNS members including Active International members.

For more information, please contact Douglas Kondziolka, MD, CNS Treasurer
10 N. Martingale Rd., Suite 190, Schaumburg, IL, 60173
Phone: (847) 240-2500 • Toll-free: (877) 517-1CNS • Fax: (847) 240-0804

Mark your calendars now for the 53rd Annual Meeting, October 18-23, in Denver.

Important Dates to Remember

- September 17** Advance Registration Discount and Housing Deadline
Cancellation Deadline (Full refund with receipt of written cancellation request)
- September 18 - 24** \$75 Processing fee will be charged for written cancellation requests received during this time. No refunds given after September 24.
- September 24** Course and event tickets will be refunded in full until this date. No refunds after this date.
- September 29** Any changes to hotel reservations must be made directly with hotel from this date on.
- October 16-21, 2004** 2004 CNS Annual Meeting, San Francisco



October 16 - 21, 2004

2004 CNS Annual Meeting, San Francisco

San Francisco
in 2004...

**Please plan to join us for the
54th CNS Annual Meeting,
October 16 - 21, 2004,
in the City by the Bay.**

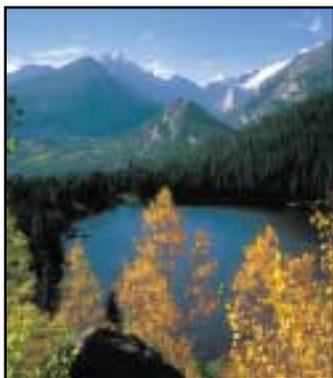


2004 CNS President
Vincent C. Traynelis, MD

THERE ARE THINGS TO SEE



COLORADO'S
OCEAN JOURNEY



COLORADO'S
ROCKY MOUNTAINS

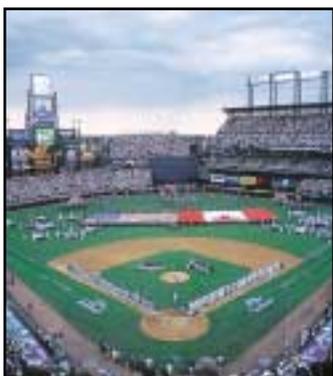


DENVER PERFORMING
ARTS COMPLEX

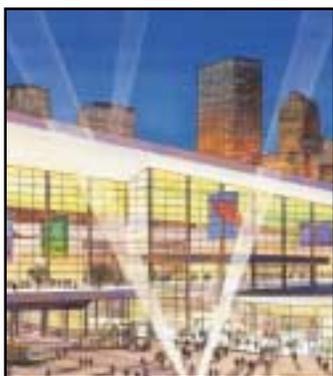


THE HISTORICAL
BUFFALO BILL MUSEUM

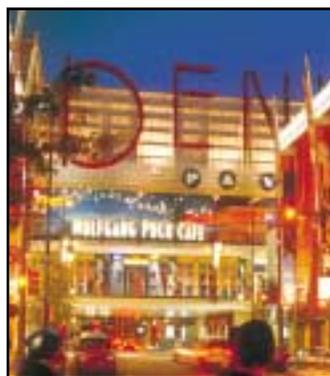
THERE ARE THINGS TO DO



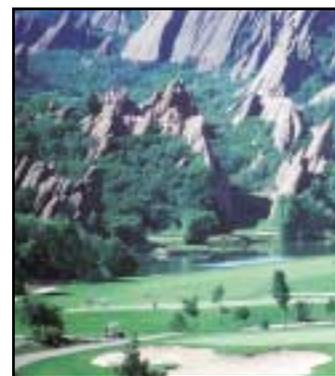
COLORADO ROCKIES
AT COORS FIELD



COLORADO CONVENTION
CENTER EXPANSION



DENVER PAVILIONS
ON THE 16TH STREET MALL



ARROWHEAD
GOLF COURSE

AND AN INCREDIBLE SETTING OF UNPARALLELED SCIENCE.

The Congress of Neurological Surgeons 53rd Annual Meeting!



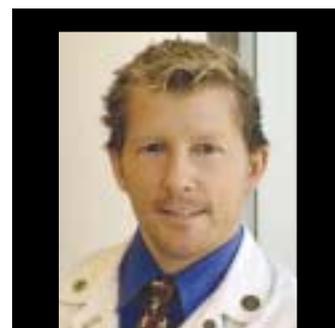
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email info@1CNS.org



2003 CNS Annual Meeting
Denver, Colorado
October 18-23, 2003