

CONGRESS OF NEUROLOGICAL SURGEONS 2007 ANNUAL MEETING SAN DIEGO, CALIFORNIA • SEPTEMBER 15-20, 2007

NAVIGATING CHANGE



Integrating Discovery and Innovation into Practice

PRELIMINARY PROGRAM



ERUDITIO SOCIETAS
OBSERVANTIA

Education and Innovation

2007 CONGRESS OF NEUROLOGICAL SURGEONS ANNUAL MEETING

NAVIGATING CHANGE
Integrating Discovery and Innovation Into Practice

September 15 - 20, 2007 ♦ San Diego, California

Don't miss the year's most highly anticipated neurosurgical meeting. The 2007 CNS Annual Meeting is packed with engaging speakers, original science and novel educational formats designed to help you better assimilate the information presented into your practice. This year's theme explores the dynamic field of neurosurgery to help attendees adapt their practice to technological advances, new medical challenges and changing societal demands.

Introducing Integrated Medical LearningSM (IML) for the 2007 CNS Annual Meeting!



The Congress of Neurological Surgeons is advancing neurosurgery with the introduction of Integrated Medical LearningSM (IML). The IML Sessions will be offered during the Monday, Tuesday and Wednesday General Scientific Sessions, with each session focusing on a different subspecialty area of neurosurgery.

Be a part of this dynamic and novel learning paradigm for the first time!

- You drive the agenda.
- Experts debate the issues of the day.
- Evidence competes with practice.
- Learners interact with teachers.
- Neurosurgery advances with your participation.

The IML Experience at the 2007 CNS Annual Meeting!

Before - Pre-meeting surveys will be sent out along with online resources pertaining to each of the three subspecialty topics. Survey results drive the session agenda.

During - Attendees will participate in daily IML Sessions via handheld interactive technology, allowing learners to interact with teachers.

After - A post-meeting online survey correlates new knowledge, attitudes and practice, and participants earn additional CME credit for taking part in all phases.

2007 CNS ANNUAL MEETING HIGHLIGHTS

- **NEW! Integrated Medical LearningSM (IML)**
A new educational process designed to enhance individual learning experiences and advance the process of medical education.
- **Neurosurgical Forum**
A concentrated neurosurgical symposium presenting the most compelling, novel and high impact clinical and basic science – New interactive format!
- **Select Abstract Session**
Ask questions, talk through techniques and listen to poster presentations live – Now with opportunities to continue scientific discussions after the session electronically!
- **CNS Resident SANS Challenge**
A game show-style competition for resident training programs.
- **3-D Live Cadaveric Demonstration of Surgical Approaches**
Neurosurgical masters demonstrate microsurgical principles live from our General Scientific Session stage.
- **Digital Poster Center**
See hundreds of scientific posters in this state-of-the-art digital format – Now with opportunities for post-meeting electronic discussion!
- **Eighteen new Practical Courses and Luncheon Seminars**
- **25 Category 1 CME credit hours (and up to 22.5 optional Category 1 CME credit hours - including six possible credits for pre-meeting and post-meeting IML survey participation at no extra charge!)**

The Congress of Neurological Surgeons exists to enhance health and improve lives worldwide through the advancement of education and scientific exchange.

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CNS PRESIDENT DOUGLAS KONDZIOLKA, MD, MSc, FRCSC, FACS

Challenge. This year we have expanded the interactive concept with a new bold program entitled *Integrated Medical LearningSM* (IML).

Created by the CNS, IML represents our efforts to transform the meeting experience from a several-day event to an expanded process. Beginning with a Scientific Program Committee that not only chooses relevant topics and speakers but asks relevant questions, members are surveyed regarding their knowledge regarding common neurosurgical problems, and their therapeutic interests and choices. This information is provided in advance to specially selected speakers who will address the thoughts of the membership in their interactive presentations. At the meeting, IML session attendees will use a web-enabled PDA not only to answer questions but to ask questions of the speakers. IML not only fosters interaction, but will lead to data collection suitable for publication and potential practice improvement. Our goal is to be able to track the value of education as it pertains to medical practice. We have selected three common clinical challenges for the morning IML sessions in San Diego.

The meeting will enable us to address critical topics that affect the practice of neurosurgery and our translation of neuroscience. The CNS tradition of special guest lecturers continues. On Monday, Professor Robert Sapolsky of Stanford University will speak on the concept of the "open mind." Dr. Robert Ballard, the world's foremost oceanographer, best known for tackling the most difficult challenges of the ocean, will speak on solving complex problems. The Apuzzo lecturer, Michael Tilson-Thomas, will speak on creativity from the perspective of music. Noted author, Jack El-Hai, will provide the Thompson lecture and speak on lessons from the first era of psychosurgery. On Thursday, a session based on managing growth and change will feature Dr. Steve Squyres, a principal scientist on the NASA Mars project. The 2007 Dandy Orator, Salman Rushdie, will speak on navigating change from the perspective of human culture.

This year's honored guest, Dr. L. Dade Lunsford, will address us each morning in the General Scientific Sessions. Dr. Lunsford, one of the true neurosurgical visionaries, based his career on the principals of creativity, problem solving, and evidence-based medicine. He has made major contributions to neurosurgery in the areas of cerebral vascular disease, neuro-oncology, functional neurosurgery, and neuro-imaging.

In order to tackle the theme of *Navigating Change*, we assembled a team of incredible individuals across the breadth of our specialty. Annual Meeting Chairman, Tony Asher, Scientific Program Chairman, Rusty Rodts, and Scientific Program Vice-Chair, Nate Selden, led a creative and diverse group of volunteers who worked diligently to create an unparalleled program. Our Local Arrangements Chair, Michael Levy, has helped to showcase San Diego, one of America's great and rapidly growing cities. The opening reception on Sunday, September 16, will be held on the flight deck of the aircraft carrier, USS Midway. On a warm September San Diego evening, this should prove to be one of the most memorable receptions ever.

The 57th CNS Annual Meeting is a joint meeting with the Japanese Congress of Neurological Surgeons. Our JCNS colleagues will enhance the scientific program in many ways. Please join me in welcoming our partners from across the Pacific and their President, Professor Teiji Tominaga.

The sun always shines in San Diego. Susan and I enthusiastically welcome you to the 2007 Annual Meeting.

Sincerely,

Douglas Kondziolka, MD, MSc, FRCSC, FACS
President, Congress of Neurological Surgeons

DEAR COLLEAGUES:

It is with the deepest personal pride that I invite neurosurgeons across North America and the world, colleagues and friends, to the 57th Annual Meeting of the Congress of Neurological Surgeons in the wonderful city of San Diego, California. The meeting theme is *Navigating Change: Integrating Discovery and Innovation into Practice*, which acknowledges the rapid progress occurring within our specialty and our means to manage that change. We are fortunate to have a specialty filled with innovative and skilled surgeons and scientists working to discover effective approaches to improved patient care. The CNS motto is Education and Innovation. We have worked hard this year to foster the professional growth of our members worldwide, and to keep the organization responsive, relevant, and representative across the spectrum of a career.

The CNS has listened to its members through direct personal contact with leadership, via member-needs surveys, through Annual Meeting reviews, and during a Member Think-Tank meeting that took place this March. At the 2006 Chicago meeting, we began to transform education with the incorporation of interactive formats, utilizing new software platforms, the live CNS Neurosurgical Forum, the live 3-D-cadaveric demonstrations, and the CNS Resident SANS

CNS HONORED GUEST L. DADE LUNSFORD, MD



including microsurgical, percutaneous, and radiosurgery approaches.

A native of Roanoke, Virginia, Dr. Lunsford received his B.A. with high honors at the University of Virginia in 1970. He received his medical degree from the Columbia University College of Physicians and Surgeons in 1974. He completed his surgical internship at the University of Virginia Hospital, and his residency in neurological surgery at the University of Pittsburgh between 1975 and 1980. During that time, Dr. Peter J. Jannetta was the department chair. Dr. Lunsford then had a one year fellowship in stereotactic and functional neurosurgery and radiosurgery at the Karolinska Institute in Stockholm, Sweden. He studied with Professors Lars Leksell and Erik-Olof Backlund. Dr. Lunsford was the 1980 AANS Van Wagenen Fellow, which supported his work in Stockholm. Dr. Lunsford joined the Department of Neurological Surgery faculty in 1980, as Assistant Professor of Neurological Surgery. In 1985, he became Associate Professor and in 1990, full Professor of Neurological Surgery with secondary appointments in radiation oncology and radiology. From 1995-1996 he served as Interim Chair of the Department of Neurological Surgery at the University of Pittsburgh. He then served as the Chair from 1997-2006.

Dr. Lunsford and his team also introduced the first B Unit gamma knife in the United States (1996), the first C Unit (1999), and the first 4-C unit (2004). Dr. Lunsford participated in the design team that helped to create the new Perfexion gamma knife unit. Dr. Lunsford has served on the Editorial Boards of more than six journals. He has authored or co-authored more than 400 peer-reviewed articles and more than 200 book chapters. In addition, he has served as editor or co-editor of six books. Dr. Lunsford was President of the UPMC Presbyterian Medical Staff from 1999 to 2001 and served as Chair of the Council of Clinical Chairs at the University of Pittsburgh School of Medicine from 2001 to 2003. He also serves as the neurosurgical consultant for the University of Pittsburgh Athletic teams. In the past, Dr. Lunsford has served on the boards of Children's Home of Pittsburgh, the Pittsburgh Opera, the UPMC Tri-Century Insurance Company, and as Chairman of the Board of the UPMC Rehab

Hospital. He is currently Chairman of the Medical Advisory Board of the International Radiosurgery Association (IRSA).

Dr. Lunsford has served as a regional, national and international lecturer during the last 25 years. Dr. Lunsford has been married to Julianne Michaelis Lunsford for 36 years, and has two children. His daughter, Stephanie, attended the University of Virginia, and is currently in law school. His son, Andrew, is a field service engineer responsible for high technology radiosurgical and radiation oncology systems. His memberships in professional organizations include the Congress of Neurological Surgeons, the Society of Neurological Surgeons, the American Association of Neurological Surgeons, the American Academy of Neurological Surgery, the American Society for Stereotactic and Functional Neurosurgery (of which he is a Past-President), and the International Stereotactic Radiosurgical Society, of which he was a founding member and first President. He is also a Fellow of the American College of Surgeons.

Dr. Lunsford's personal interests include piano, opera, tennis, golf, and bird hunting. The greatest reward of a career in academic medicine is the opportunity to be involved in the education of the next generation of neurosurgeons from the U.S. and abroad.

Dr. Lawrence Dade Lunsford is the Lars Leksell Professor of Neurological Surgery at the University of Pittsburgh. He currently is co-director of the Center For Image-Guided Neurosurgery at the University of Pittsburgh Medical Center, and Director of the Residency Program. Dr. Lunsford's primary scholarly and patient care interests have been related to the combination of imaging and brain surgery. This includes stereotactic surgery, stereotactic radiosurgery, and image-guided brain surgery. Dr. Lunsford established the first U.S. operating room to include a dedicated CT scanner in 1981. Since that time, more than 5,000 patients have undergone image guided brain surgery in this suite. In 1987, Dr. Lunsford was responsible for bringing the first 201-source Cobalt 60 gamma knife to the United States and to the University of Pittsburgh Medical Center, the first medical center to offer this state of the art, minimally invasive form of brain surgery. During the last 20 years of radiosurgery, more than 8,000 patients have had Gamma knife surgery at this center. He has pioneered clinical and research efforts in radiosurgery for vascular malformations, benign and malignant tumors and functional disorders. His clinical research into brain tumor management has focused on innovative concepts such as stereotactic biopsy, brachytherapy, intracavitary irradiation, image-guided resections and stereotactic-guided endoscopy. His interest in trigeminal neuralgia management spans the field

Dr. Lunsford will give the following presentations:

GENERAL SCIENTIFIC SESSIONS

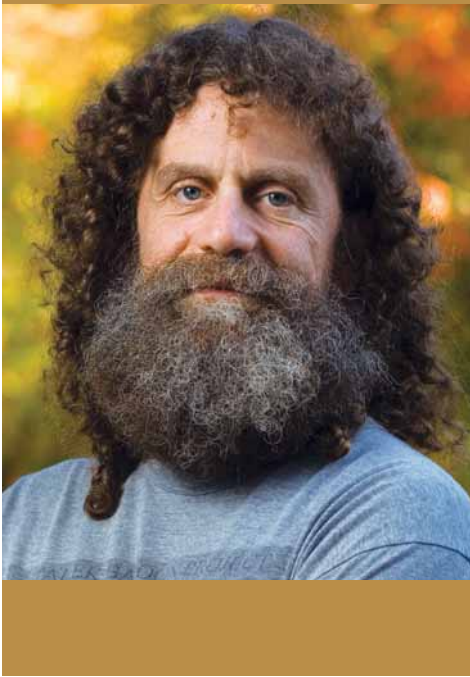
- **Monday, September 17, 10:35 - 10:55 am**
Navigating Change and the Acoustic Neuroma Story: Methods, Outcomes and Myths
- **Tuesday, September 18, 10:30 - 10:50 am**
Intraoperative Imaging: Evolution and Options
- **Wednesday, September 19, 8:50 - 9:10 am**
Role of Radiosurgery in the Management of AVMs
- **Thursday, September 20, 9:30 - 9:50 am**
Future of Innovation

PRACTICAL COURSE

- **Sunday, September 16, 1:00 - 5:00 pm**
PC26
Operative Colloquium: Masters of Neurological Surgery

LUNCHEON SEMINAR

- **Monday, September 17, 12:30 - 2:00 pm**
M01
Resident/Honored Guest Luncheon



CNS JULIAN T. HOFF LECTURESHIP

ROBERT SAPOLSKY, PHD

Monday, September 17, 9:05 - 9:30 AM

Navigating Change and the Open Mind

As a boy in New York City, Robert M. Sapolsky dreamed of living inside the African dioramas in the Museum of Natural History. By the age of twenty-one, he made it to Africa and joined a troop of baboons. Although the life of a naturalist appealed to him because it was a chance to “get the hell out of Brooklyn,” he never really left people behind.

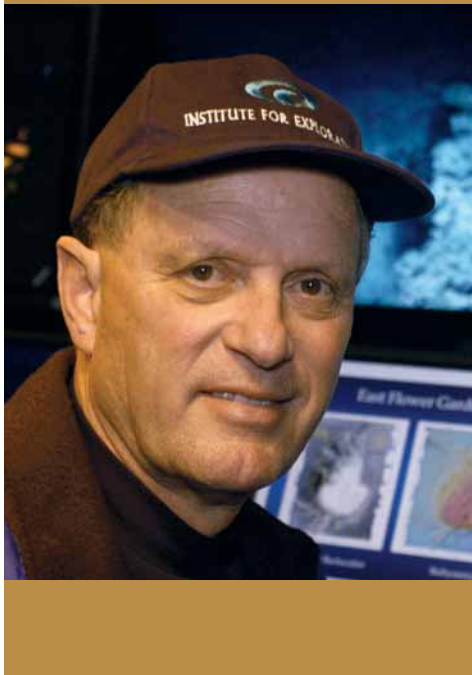
In fact, he chose to live with the baboons because they are perfect for learning about stress and stress-related diseases in humans. Like their human cousins, baboons live in large, complex social groups and have lots of time, Sapolsky writes, “to devote to being rotten to each other.” Just like stressed-out people, stressed-out baboons have high blood pressure, high cholesterol, and hardened arteries. And just like people, baboons are good material for stories. His gift for storytelling led *The New York Times* to suggest, “If you crossed Jane Goodall with a borscht-belt comedian, she might have written a book like *A Primate’s Memoir*,” Sapolsky’s account of his early years as a field biologist.

The uniqueness of Sapolsky’s perspective on the human condition comes from the ease with which he combines his insights from the field with his findings as a neuroscientist. For more than twenty-five years, Sapolsky has divided his time between field work with baboons and highly technical neurological research in the laboratory. As a result, he can effortlessly move from a discussion of pecking orders in primate societies (human and baboon) to an explanation of how neurotransmitters work during stress—and get laughs doing it.

The problem for people, as Dr. Sapolsky explains in his book *Why Zebras Don’t Get Ulcers*, is that our bodies’ stress response evolved to help us get out of short-term physical emergencies—if a lion is chasing you, you run. But such reactions, he points out, compromise long-term physical health in favor of immediate self-preservation. Unfortunately, when confronted with purely psychological stressors, such as troubleshooting the fax machine, modern humans turn on the same stress response. “If you turn it on for too long,” notes Sapolsky, “you get sick.” Sapolsky regards this sobering news with characteristic good humor, finding hope in “our own capacity to prevent some of these problems...in the small steps with which we live our everyday lives.”

The humor and humanity he brings to sometimes-sobering subject matter make Dr. Sapolsky a fascinating speaker. He lectures widely on topics as diverse as stress and stress-related diseases, baboons, the biology of our individuality, the biology of religious belief, the biology of memory, schizophrenia, depression, aggression, and Alzheimer’s disease.

Dr. Sapolsky is a MacArthur “Genius” Fellow, a professor of biology and neurology at Stanford University, and a research associate with the Institute of Primate Research at the National Museum of Kenya. In addition to *A Primate’s Memoir*, which won the 2001 Bay Area Book Reviewers Award in nonfiction, Sapolsky has written three other books, including *The Trouble with Testosterone*, *Why Zebras Don’t Get Ulcers*, and *Monkeyluv and Other Essays on our Lives as Animals*. His articles have appeared in publications such as *Discover* and *The New Yorker*.



SPECIAL LECTURER
ROBERT D. BALLARD, PHD
Tuesday, September 18, 8:55 - 9:30 AM
Navigating Change: Solving the Complex Problems of Discovery

explain the chemistry of the world's oceans.

In 1982 Ballard organized the Deep Submergence Laboratory (DSL) at the Woods Hole Oceanographic Institute to begin developing the sophisticated remotely operated vehicle system known as Argo-Jason – a deep-towed vehicle carrying sensitive video cameras, which transmit broadcast-quality images to the surface through fiber-optic cable. Developed with support of the navy and tested in 1984, Ballard would use this system for his best-known expedition, the discovery of the RMS Titanic.

It was August 1985 when Ballard, as chief scientist, conducted a joint French-American expedition to find the Titanic. Using the newly tested Argo, Ballard began by searching for the debris field in an area just south of where Titanic's lifeboats were found by the Carpathia. Ballard and his team conducted several sweeps of the ocean floor, finding no evidence of the wreck until the early morning hours of September 1, first seeing the Titanic's massive boiler, then pieces of hull plating, portholes, and a railing turned on its side. Ballard returned to the site in July of 1986 and dove on the Titanic wreck in the manned submersible, Alvin with the small remote vehicle Jason Jr. deployed to investigate the interior areas Alvin couldn't reach. It was during this second visit to the Titanic that Ballard placed a memorial plaque on the deck of the stern in memory of those who lost their lives in the tragedy.

In 1989, Dr. Ballard created the JASON Project, an educational program designed to inspire in students a lifelong passion to pursue learning in science, math and technology through exploration and discovery. Ballard later developed telecommunications technology to create "telepresence" for his JASON Project, which today allows hundreds of thousands of school children to accompany him from afar on undersea explorations around the globe. In 2003 he used satellite and Internet 2 technologies via the Immersion Project to bring thousands of students around the world into direct contact with his expedition team while on location in the Black Sea and Mediterranean Sea.

In the late 80s and into the 90s, Ballard turned his research toward the many warships lost during WWII, including the German warship Bismark and the giant Japanese Kirishima. In 1993 Ballard explored the Lusitania's wreck site using the ROV Jason, confirming that the ship's magazine remained intact and that the U-20's torpedo penetrated a coal bunker, which ignited and exploded.

Ballard's most recent discoveries include the Mediterranean Sea finds of sunken remains of ships along ancient trade routes, two ancient Phoenician ships off Israel, the oldest shipwrecks ever found in deep water, and four 1,500-year-old wooden ships—one almost perfectly preserved—in the Black Sea.

In 1997 Dr. Ballard founded the Institute for Exploration in Mystic, Connecticut, focusing his attention on the development of a suite of remotely operated vehicles, including the ROV HERCULES, created specifically to conduct deep water archaeological excavation to professional archaeological standards. Designed by a team of engineers, archaeologists and marine geologists, HERCULES uses sophisticated manipulation, optical, and acoustic sensors. The HERCULES ROV was successfully field tested in the Black Sea in 2003.

Dr. Ballard has 13 honorary degrees and 6 military awards; he served in the U.S. Naval Reserve as a commander for 30 years. In 1996, he received the National Geographic Society's prestigious Hubbard Medal for "extraordinary accomplishments in coaxing secrets from the world's oceans and engaging students in the wonder of science." In 2003, he received the National Humanities Medal from the National Endowment for the Humanities. He has published 18 books, numerous scientific papers and a dozen articles in National Geographic magazine. Ballard also has been featured in several National Geographic television programs, including the record-breaking Secrets of the Titanic. He is a National Geographic Society Explorer-in-Residence, a member of the NOAA Science Advisory Board, and serves as one of 16 Commissioners on the President's Commission on Ocean Policy.

Born June 30, 1942, in Wichita, Kansas, Robert D. Ballard grew up in San Diego, California. He earned a PhD in marine geology and geophysics from the University of Rhode Island's Graduate School of Oceanography, where he is currently a full-time faculty member. He spent 30 years at Woods Hole Oceanographic Institution (WHOI) in Massachusetts, where he spearheaded the development of manned submersibles and remotely operated vehicles for marine research.

Throughout his career Ballard has conducted more than one hundred deep-sea expeditions, using both manned and unmanned vehicles. Ballard participated in his first international expedition, Project FAMOUS (the French-American Mid-Ocean Undersea Study) in 1973. The first manned exploration of the Mid-Ocean Ridge, this expedition helped to confirm the newly emerging theory of Plate Tectonics and won wide acclaim within the oceanographic community. In 1975, Ballard conducted an expedition to the Cayman Trench where he recovered unusual rocks that helped scientists better understand the internal composition of the Earth's crust. In 1977, Ballard was Co-Chief Scientist of the Galapagos Rift expedition, discovering hydrothermal vents and their exotic ecosystems based on "chemosynthesis." By 1979, Ballard was scientist in charge of the ANGUS exploration program on the East Pacific Rise that discovered the first "Black Smokers," a discovery that helped for the first time to



CNS MICHAEL L.J. APUZZO LECTURER ON CREATIVITY AND INNOVATION

MICHAEL TILSON THOMAS

Tuesday, September 18, 11:15 - 11:45 AM

Michael Tilson Thomas (MTT) assumed his post as the San Francisco Symphony's (SFS) 11th Music Director in September 1995, consolidating a strong relationship with the Orchestra that began some two decades earlier. It was January of 1974 when he made his San Francisco Symphony conducting debut at the age of 29, leading the Orchestra in Mahler's Symphony No. 9.

Tilson Thomas's twelve seasons as Music Director of the San Francisco Symphony have been praised by critics for innovative programming and for bringing the works of American composers to the fore, and have brought new audiences into Davies Symphony Hall. During his inaugural 1995-96 season, Tilson Thomas included an American work on nearly every one of his SFS programs, and ended the season with An American Festival, a groundbreaking two-week celebration of American music. In June 2005, MTT and the San Francisco Symphony again broke new musical ground with "Of Thee I Sing: Yiddish Theater, Broadway and the American Voice," a two-week exploration of 20th century Jewish American music and its impact on the American theater. The festival included an evening celebrating MTT's grandparents, Boris and Bessie Thomashefsky, pioneers of the American Yiddish theater.

Michael Tilson Thomas's acclaimed recordings have won numerous international awards, including six Grammys for SFS recordings of Mahler's symphonies 3 and 6, scenes from Prokofiev's Romeo and Juliet, and a collection of three Stravinsky ballet scores - Le Sacres du printemps, The Firebird, and Perséphone. His and the SFS's recording of Charles Ives, An American Journey, won Germany's ECHO Klassik 2003 award for "Symphonic Recording of the Year." For the San Francisco Symphony's own SFS Media label, launched in 2001, Tilson Thomas and the Orchestra are in the midst of a project to record all of Gustav Mahler's nine symphonies and the Adagio from the unfinished Tenth Symphony, as well as Mahler's song cycles.

Acclaimed for his work as a composer, Tilson Thomas has given world premieres of many of his works with the San Francisco Symphony. In 1999, MTT conducted the SFS in the first orchestral version of Three Songs to Poems by Walt Whitman, sung by baritone Thomas Hampson, and in 2001, Renée Fleming and the SFS premiered his song cycle Poems of Emily Dickinson. In October 2002, Tilson Thomas led the SFS in the world premiere of his contrabassoon concerto Urban Legend, with SFS contrabassoonist Steven Braunstein as soloist. In January 2005, MTT and the SFS performed Tilson Thomas's Island Music, a celebration of percussion dedicated to the memory of Lou Harrison. In 1991, Tilson Thomas and the New World Symphony were presented in a series of benefit concerts for UNICEF in the U.S. that featured Audrey Hepburn as narrator of From the Diary of Anne Frank, composed by Tilson Thomas and commissioned by UNICEF. This piece has since been translated and performed in many languages worldwide. In August 1995, he led the Pacific Music Festival Orchestra in the world premiere of his composition Shôwa/Shoâh, written in commemoration of the 50th anniversary of the bombing of Hiroshima.

Noted for his commitment to music education, Tilson Thomas regularly leads the

Orchestra in education concerts, which the San Francisco Symphony has been providing for its community since 1919. He led the television broadcasts of the New York Philharmonic's famed Young People's Concerts from 1971 to 1977, and in February of 1987 he founded the New World Symphony, a national training orchestra for the most gifted graduates of America's conservatories, and continues to serve as its Artistic Director.

In fall 2006, Tilson Thomas and the SFS launched the national Keeping Score PBS television series and multimedia project. Keeping Score is the San Francisco Symphony's five-year program designed to make classical music more accessible to people of all ages and musical backgrounds through television, the web, radio, DVDs, and in the classroom. Keeping Score is anchored by a national PBS television series which debuted in November 2006, an interactive web site to explore and learn about music, a national radio series hosted by MTT, documentary and live performance DVDs, and an education program for K-12 schools to further teaching through the arts by integrating classical music into core subjects.

Tilson Thomas's many honors include Columbia University's Ditson Award for services to American Music, The American Music Center's Letter of Distinction, and the President's Award from the National Academy of Recording Arts and Sciences. He was named 1995 Conductor of the Year by Musical America, and in 2005 was inducted into the Classical Music Hall of Fame. Tilson Thomas was a Carnegie Hall Perspectives Artist from 2003-2005, and in 2006 he was recognized with Gramophone's Artist of the Year award, was elected to the American Academy of Arts and Sciences, and received an Honorary Doctorate from the University of San Francisco. Tilson Thomas is a Chevalier des Arts et des Lettres of France. Viva Voce, MTT's volume of conversations with British critic Edward Seckerson, is published by Faber & Faber and was released in the U.S. in September 1995.



SPECIAL LECTURER
PAUL R. SANBERG, PHD, DSC
 Wednesday, September 19, 9:10 - 9:30 AM
Navigating Cellular Repair for the Nervous System

Department of Neurosurgery at the University Of South Florida College Of Medicine. Dr. Sanberg trained at York University, the University of British Columbia, the Australian National University and at the Johns Hopkins University School of Medicine. Dr. Sanberg has held academic positions at the Ohio University, the University of Cincinnati, and Brown University prior to his current position. His industry experience has included being Scientific Director for CytoTherapeutics, Inc., (Providence, Rhode Island), now Stem Cells, Inc., (Palo Alto, California) and was CSO and on the Board of Directors for Layton BioScience, Inc. (Atherton, California), and is currently Chairman and Founder of Saneron CCEL Therapeutics, Inc. (Tampa, Florida). The companies are involved in cell therapy for degenerative disorders. He has also been on the Board of Directors for Medical Advisory Systems, Inc. (AMEX: DOC), and on numerous Scientific Advisory Boards for Companies and Foundations. Most recently, he co-founded,

Nutritherapeutics, Inc. in order to develop natural products to promote healing. Dr. Sanberg is Editor-in-Chief of Cell Transplantation, Executive Director of the American Society for Neural Transplantation and Repair, and past president of the Cell Transplant Society, and others. He is the author of more than 400 scientific articles and thirteen books including, *Over the Counter Drugs: Harmless or Hazardous* (Chelsea House Publishers, 1992), *Neural Stem Cells: Methods and Protocols* (Humana Press, 2002), and *Neural Stem Cells for Brain and Spinal Cord Repair* (Humana Press, 2003) and is an inventor on over twenty U.S. patents. His early work was pioneering in understanding the role of cell death in neurological disorders.

Dr. Paul R. Sanberg is Distinguished University Professor and Director of the Center of Excellence for Aging and Brain Repair and Vice Chair for Academic Affairs in the



SECOND ANNUAL JOHN THOMPSON
HISTORY OF MEDICINE LECTURER
JACK EL-HAI
 Wednesday, September 19, 10:30 - 10:52 AM

Jack El-Hai is the author of *The Lobotomist: A Maverick Medical Genius and His Tragic Quest to Rid the World of Mental Illness*, which was published in 2005 (John Wiley & Sons). *The Lobotomist* has been reviewed and featured in media as diverse as The New York Times, The New York Review of Books, Discover Magazine, National Public Radio's "Fresh Air" and "Talk of the Nation" programs, The Los Angeles Times, The New England Journal of Medicine, The Journal of the Royal Society of Medicine, and Nature/Neuroscience. The book also received the annual book award of the Medical Journalists' Association of the United Kingdom and a Minnesota Book Award from the Minnesota Humanities Commission. *The Lobotomist* is being adapted as a television

documentary in the PBS series The American Experience for broadcast during the 2008-09 season.

A freelance journalist who specializes in covering American history, Mr. El-Hai has contributed to The Atlantic Monthly, American Heritage, The History Channel Magazine, American Health, Utne, The Washington Post Magazine, and many other national publications. In 2002 he received the June Roth Memorial Award in Medical Journalism, and he previously won fellowships from the McKnight and Jerome foundations.

Mr. El-Hai, who earned a bachelor's degree in English literature from Carleton College, teaches in the creative writing program of the University of Minnesota. He currently serves as president of the American Society of Journalists and Authors.



EIGHTH ANNUAL WALTER E. DANDY ORATOR SALMAN RUSHDIE

Wednesday, September 19, 11:10 - 11:45 AM

Navigating Change Across Cultures of the World

Salman Rushdie was born in Bombay (now Mumbai) in 1947. He went to school in Bombay and at King's College, Cambridge, where he joined the Cambridge Footlights theatre company. After graduating, he lived with his family who had moved to Pakistan in 1964, and worked briefly in television before returning to England, beginning work as a copywriter for an advertising agency. His first novel, *Grimus*, was published in 1975.

His second novel, the acclaimed *Midnight's Children*, was published in 1981 and won the Booker Prize for Fiction, the James Tait Black Memorial Prize (for fiction), an Arts Council Writers' Award and the English-Speaking Union Award, and in 1993 was judged to have been the 'Booker of Bookers', the best novel to have won the Booker Prize for Fiction in the award's 25-year history. The novel narrates key events in the history of India through the story of pickle-factory worker Saleem Sinai, one of 1001 children born as India won independence from Britain in 1947. The critic Malcolm Bradbury acclaimed the novel's achievement in *The Modern British Novel*, "a new start for the late-twentieth-century novel."

Rushdie's third novel, *Shame* (1983), which many critics saw as an allegory of the political situation in Pakistan, won the Prix du Meilleur Livre Etranger and was shortlisted for the Booker Prize for Fiction. The publication of his fourth novel in 1988, *The Satanic Verses*, led to accusations of blasphemy against Islam and demonstrations by Islamist groups in India and Pakistan. The orthodox Iranian leadership issued a fatwa against Rushdie on February 14, 1989 - effectively a sentence of death - and he was forced into hiding under the protection of the British government and police. The book itself centers on the adventures of two Indian actors, Gibreel and Saladin, who fall to earth in Britain when their Air India jet explodes. It won the Whitbread Novel Award in 1988.

Rushdie continued to write and publish

books, including a children's book, *Haroun and the Sea of Stories* (1990), a warning about the dangers of story-telling that won the Writers' Guild Award (Best Children's Book), and which he adapted for the stage (with Tim Supple and David Tushingham. It was first staged at the Royal National Theatre, London.) There followed a book of essays entitled *Imaginary Homelands: Essays and Criticism 1981-1991*; a book of short stories *East, West* (1994); and a novel, *The Moor's Last Sigh* (1995), the history of the wealthy Zogoiby family told through the story of Moraes Zogoiby, a young man from Bombay descended from Sultan Muhammad XI, the last Muslim ruler of Andalusia.

The Ground Beneath Her Feet, published in 1999, re-works the myth of Orpheus and Eurydice in the context of modern popular music. His tenth novel, *Fury*, set in New York at the beginning of the third millennium, was published in 2001. He is also the author of a travel narrative, *The Jaguar Smile* (1987), an account of a visit to Nicaragua in 1986.

Rushdie is Honorary Professor in the Humanities at the Massachusetts Institute of Technology (MIT), and Fellow of the Royal Society of Literature. He was made Distinguished Fellow in Literature at the University of East Anglia in 1995. He was awarded the Austrian State Prize for European Literature in 1993 and the Aristeion Literary Prize in 1996, and has received eight honorary doctorates. He was elected to the Board of American PEN in 2002. The subjects in his new book, *Step Across This Line: Collected Non-fiction 1992-2002* (2002), range from popular culture and football to twentieth-century literature and politics. Rushdie is also co-author (with Tim Supple and Simon Reade) of the stage adaptation of *Midnight's Children* for the Royal Shakespeare Company.

His latest novel, *Shalimar The Clown*, recently received The Hutch Crossword Book Award. It is the story of Max Ophuls, his killer, and daughter, and a fourth character who links them all.



SPECIAL LECTURER
STEVE SQUYRES, PHD

Thursday, September 20, 10:10 - 10:40 AM
The Mars Rover Mission and Navigating the Universe

NASA's Ames Research Center before returning to Cornell as a faculty member. His main areas of scientific interest have been Mars and the moons of the outer planets. Research for which he is best known includes study of the history and distribution of water on Mars and of the possible existence and habitability of a liquid water ocean on Europa.

Dr. Squyres has participated in many of NASA's planetary exploration missions, including the Voyager mission to Jupiter and Saturn, the Magellan mission to Venus, and the Near Earth Asteroid Rendezvous mission. Along with his current work on MER, he is also a co-investigator on the 2003 Mars Express, 2005 Mars Reconnaissance Orbiter and 2009 Mars Surface Laboratory missions, a member of the gamma-ray spectrometer flight investigation team for the Mars Odyssey mission, and a member of the imaging team for the Cassini mission to Saturn.

Buffeted by budgetary and technical problems, the rover missions received the green light only in 2000, giving the engineers and scientists just three years to get ready for a 2003 launch. A geologist designated as the lead scientist for the missions, Dr. Squyres had

to negotiate with engineers to fit his stuff on their spacecraft, a fundamental challenge in the space-exploration business.

Steve Squyres has served as chair of the NASA Space Science Advisory Committee and as a member of the NASA Advisory Council. His awards include the American Astronomical Society's Harold C. Urey Prize, the Space Science Award of the American Institute of Aeronautics and Astronautics, and the American Astronautical Society's Carl Sagan Award. He was recently elected to membership in the American Academy of Arts and Sciences.

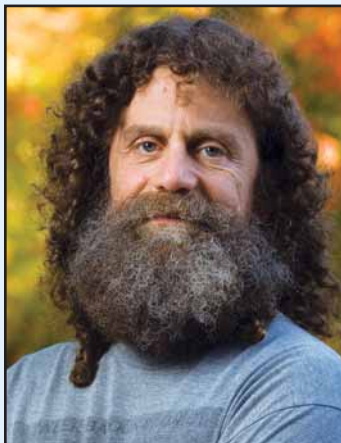
The author of the book *Roving Mars: Spirit, Opportunity, and the Exploration of the Red Planet* (2005), Steve Squyres' enthusiasm for exploring Mars shines brightly. Dr. Squyres and Paul Newman narrated the Disney IMAX film with the same title as his book and it premiered January 2006, opening in 25 IMAX theaters nationwide.

Dr. Squyres was featured as ABC News's Person of the Week for January 9, 2004. It was noted by anchor Peter Jennings on World News Tonight that Steve Squyres "has gotten us all excited."

Steve Squyres, PhD, is Goldwin Smith Professor of Astronomy at Cornell University in Ithaca, New York, and is the principal investigator for the science payload on the Mars Exploration Rover (MER) Project.

Steve Squyres earned his PhD from Cornell in 1981, is a former student of the late Carl Sagan, and spent five years as a post-doctoral associate and research scientist at

Look for book signings with these select speakers throughout the 2007 CNS Annual Meeting.



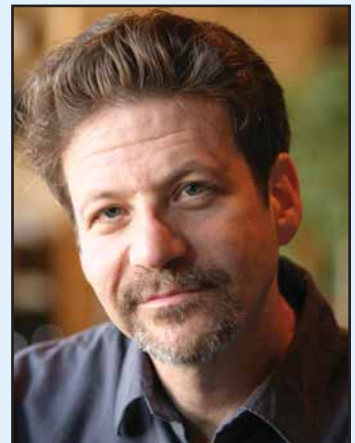
Robert Sapolsky, PhD



Robert D. Ballard, PhD



Salman Rushdie



Jack El-Hai

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Section on Neurotrauma and Critical Care

Jamie Sue Ullman
Dilantha Ellegala

Section on Disorders of the Spine and Peripheral Nerves

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Mark R. McLaughlin
R. John Hurlbert
Lynda Jun-San Yang
Michael W. Groff
Charles Kuntz, IV
Daniel K. Resnick
William C. Welch
Michael G. Kaiser
Laurence D. Rhines
Ehud Mendel
Praveen V. Mummaneni
Tanvir F. Choudhri
Bernard H. Guiot
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3-D Dissection Course

Saleem I. Abdulrauf, Chairman
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Resident SANS Challenge

Leon E. Moores
Luis M. Tumialan

Sergeant-at-Arms

George I. Jallo
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Digital Masters Video Symposium

Brian T. Ragel
Hugh Garton

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Jill Asher

PRESIDENT

DOUGLAS KONDZIOLKA, MD, MSc, FRCSC, FACS



stereotactic surgery and radiosurgery. His clinical practice is focused on neuro-oncology, functional neurosurgery, and stereotactic radiosurgery. Dr. Kondziolka serves as Vice-Chair for Education and Residency Program Coordinator. He has co-supervised the training of over 40 neurosurgical fellows, and directed numerous continuing medical education programs for practicing neurosurgeons and other specialists. He is most proud of the superb graduating residents of the University of Pittsburgh program and their impact on neurosurgery across the country.

He joined the faculty of the Department of Neurological Surgery at the University of Pittsburgh in January 1992. He is the neuroscience task force leader for the McGowan Institute for Regenerative Medicine. Since that time his laboratory has studied the radiobiological effects of radiosurgery on normal brain and brain tumor models, and has evaluated the effects of radiosurgery as a novel treatment for epilepsy. His work in stereotactic radiosurgery spans the breadth of that field including studies in cerebral vascular malformations, benign and malignant brain tumors, trigeminal neuralgia, epilepsy, and movement disorders. Dr. Kondziolka served as principal investigator of the first two clinical neurotransplantation trials for the care of patients with stroke.

Dr. Kondziolka has published 302 articles in refereed journals, 172 book chapters and/or invited publications, and has edited 8 books. He has completed four randomized controlled trials. He is a two-time recipient of the Stephen Mahaley Award for brain tumor clinical research from the Joint Section on Tumors of the AANS/CNS, and has received the Integra Foundation Award and Robert Florin Awards from the AANS. He received the Lars Leksell Award from the World Federation of Neurosurgical Societies. In 2004, he was honored as the Penfield Lecturer of the Canadian Neurosurgical Society. He serves on the medical staff of the Pittsburgh Penguins.

Susan and Doug Kondziolka met during his residency in Toronto where she worked as a neurosurgical operating room nurse. They have been married 17 years, and enjoy living in Pittsburgh with two great sons, Alex (15) and Max (13). They maintain their Canadian traditions at their summer home in Lake Muskoka, Ontario, and American traditions with great friends in Pittsburgh.

Douglas Kondziolka is proud to serve the Congress of Neurological Surgeons as its 57th President. He has served on the Executive Committee of the CNS in numerous roles over the past decade including Chair of the Fellowships and Publications Committees, Scientific Program Chair (2000), Annual Meeting Chair (2001), Treasurer (2002-2005), and Strategic Planning committee. He serves on the editorial board of numerous journals and is a principal editor for Neurosurgery. Prior to his term on the Executive Committee, he served on the registration and scientific program committees. In addition, he is a Past-President of the American Society for Stereotactic and Functional Neurosurgery, Past-Chairman of the Joint Section on Stereotactic and Functional Neurosurgery of the AANS/CNS, and Past-President of the International Stereotactic Radiosurgery Society.

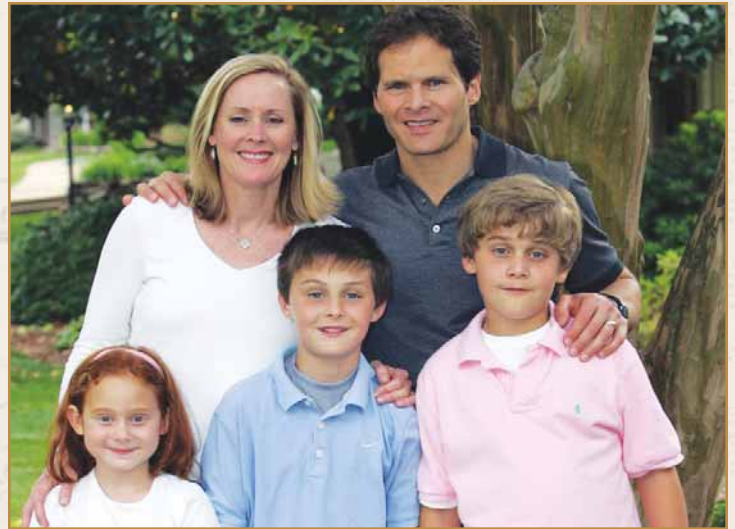
He is the Peter J. Jannetta Professor of Neurological Surgery at the University of Pittsburgh. Dr. Kondziolka received his medical degree from the University of Toronto and graduated from the Toronto neurosurgery residency program in 1991 under the chairmanship of Drs. Alan Hudson and Charles Tator. From 1989 to 1991 at the University of Pittsburgh, he completed a Master of Science degree in the Department of Behavioral Neuroscience and a fellowship in

PRESIDENT-ELECT AND ANNUAL MEETING CHAIRMAN ANTHONY L. ASHER, MD, FACS

Dr. Tony Asher is honored to serve the Congress of Neurological Surgeons as Annual Meeting Chairman. Dr. Asher received his BA degree in Religion and Biology from Kalamazoo College in 1982. He graduated from Wayne State University Medical School in 1987 and while there was named to the original class of Howard Hughes Medical Institute-NIH Research Scholars. Dr. Asher returned to the NIH in 1989-91 as a staff fellow under Dr. Steven Rosenberg at the Surgery Branch of the National Cancer Institute. He completed his training in neurological surgery in 1995 under the chairmanship of Dr. Julian Hoff at the University of Michigan.

Dr. Asher joined the Charlotte-based Carolina Neurosurgery and Spine Associates in 1995, where he maintains a very active community-based practice with primary clinical interests in neuro-oncology and functional neurosurgery. He presently serves as the Director of Neurooncology at the Blumenthal Cancer Center of the Carolinas Medical Center, as Chairman of the Department of Neurosurgery at Presbyterian Hospital and as Adjunct Professor of Biology at the University of North Carolina, Charlotte (UNCC). Dr. Asher has previously served the Congress of Neurological Surgeons (CNS) as Vice President, Editor-in-Chief of SANS Wired, and as a member of the Strategic Planning, Scientific Program, Education and Information Technology Committees. He presently serves as President-Elect of the CNS and Chairman of the Strategic Planning Committee. He has also been a member of the Executive Committee of the Section on Tumors since 1998 and presently serves as Chairman of the Community Initiatives Subcommittee.

Dr. Asher's basic research has focused on tumor immunobiology. He is currently involved in brain tumor clinical research, including establishing cooperative cancer research programs with laboratory scientists at UNCC. He presently serves as Co-Director of the Carolina Center for Translational Neuroscience and Co-Chairman of the Brain



Tumor Foundation for the Carolinas. Dr. Asher has a special interest in promoting community involvement in clinical research and presently serves as an RTOG principal investigator and as a member of that organization's brain tumor committee. He is the recent past chairman of the Central Nervous System Organ Site Committee of the American College of Surgeons Oncology Group. He is co-founder of the Academic-Community Brain Tumor Initiative.

Tony and Jill Asher were both born and raised in Michigan and met in Ann Arbor while Dr. Asher was a resident neurosurgeon. They have been married for 16 years. Jill previously worked as an ICU nurse at the University of Michigan and attained her DDS degree from that institution in 1995. Tony and Jill live in Charlotte with their three spirited children Tony (12), Kyle (10), and Dayna (7). The entire Asher family enjoys travel and a wide variety of outdoor sports including tennis, swimming, lacrosse and cycling.

SCIENTIFIC PROGRAM CHAIRMAN GERALD E. RODTS, JR., MD



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

Dr. Rodts's clinical and academic interests include degenerative pathology of the spine, rheumatoid arthritis, congenital abnormalities of the cervical spine and skull base, and minimally-invasive and computer-assisted image guidance of the spine. He has published numerous peer-reviewed articles and book chapters and has co-edited several textbooks and surgical atlases. He was an original founder and developer of the award winning educational website SpineUniverse.com. He is on the editorial board of The Journal of Spinal Disorders and Techniques, The Japanese Spine Journal, and he is a frequent reviewer for Neurosurgery.

Born in Wichita, Kansas, and having moved frequently during his youth around the Midwest and then Northeast, Dr. Rodts enjoys life in Atlanta with his wife Kelly and his three boys Teddy, Duncan and Brady. The Rodts family is avidly engaged in baseball, golf, soccer, football, skiing/snowboarding and surfing. Dr. Rodts is eternally grateful for guidance and support from his parents Jerry and Hennie Rodts of Tampa, Florida.

Gerald E. (Rusty) Rodts, Jr., is honored to serve as the Scientific Program Chairman for the 2007 Annual Meeting. Dr. Rodts is Professor of Neurological Surgery and Orthopedic Surgery at Emory University, School of Medicine, where he has worked since 1994.

Dr. Rodts majored in Biology at Princeton University where he also received a certificate for Science in Human Affairs. He completed his medical degree at The College of Physicians and Surgeons of Columbia University in the City of New York. He thanks Bennett Stein, MD, Donald Quest, MD, Peter Carmel, MD, and others for stimulating his interest in neurosurgery. Dr. Rodts received his neurosurgery training at the University of California, Los Angeles under the tutelage of Donald Becker, MD, Ulrich Batzdorf, MD, Neal Martin, MD, Keith Black, MD, Duncan McBride, MD, John Frazee, MD and others. He is also grateful to the late Ed Dawson, MD, UCLA Professor of Orthopedic Surgery, for his teachings in spine surgery. Dr. Rodts completed a post-graduate fellowship in spine surgery under Regis Haid, MD at Emory University in Atlanta. He joined the Emory faculty that same year.

LOCAL ARRANGEMENTS CHAIRMAN MICHAEL L. LEVY, MD PHD



Michael L. Levy, attended Medical School at the University of California at San Francisco School of Medicine and completed his Internship and Residency at the University of Southern California School of Medicine, Department of Neurological Surgery. He completed a Fellowship in Pediatric Neurological Surgery at the Childrens Hospital of Los Angeles. He completed his Graduate work in the Department of Biophysics at the University of Southern California School of Medicine assessing the immunologic activity of dendritic cells following G protein inhibition. He currently is Head of the Division of Pediatric Neurosurgery at the Rady Children's Hospital of San Diego and is the co-director of the Residency Training Program at the University of California San Diego, Division of Neurological Surgery. He is married (Karen Marie Levy) and has two children (Danielle and Dillon). He was a Member of the Executive Committee of the Congress of Neurological Surgeons from 1996-2002 and is a current Member of the Nominating Committee. He was the Associate Scientific Program Chairman at the CNS Annual Meeting at San Antonio in 2000.

RESIDENT PROGRAM HIGHLIGHTS

Resident education and professional development is top priority at the CNS and the 2007 Annual Meeting offers Residents a host of opportunities to enhance their leadership skills, advance their education and further their careers. Take advantage of these outstanding opportunities throughout the course of the meeting:

- ❖ **Resident/Honored Guest Luncheon - COMPLIMENTARY TO CNS RESIDENT MEMBERS!**
M01 - Monday, September 17, 12:30 - 2:00 pm. *See Page 38.*
- ❖ **How To Pursue an Academic Career in Neurosurgery.**
T36 - Tuesday, September 18, 12:30 - 2:00 pm. *See Page 55.*
- ❖ **Mental and Physical Health of the Neurosurgeon: Achieving Balance in Your Personal and Professional Life.**
Special Course III - Tuesday, September 18, 2:00 - 3:30 pm. *See Page 57.*



- ❖ **Resident SANS Challenge**
Preliminary Rounds - Sunday, September 16, 3:00 - 6:00 pm
Finals - Tuesday, September 18, 5:00 - 6:00 pm.
- ❖ **Resident Recruitment Social**
Tuesday, September 18, 6:00 - 7:00 pm.
- ❖ **Graduating Resident's Course.**
W52 - Wednesday, September 19, 12:30 - 2:00 pm. *See Page 63.*

The CNS also offers exclusive Resident savings on registration and Luncheon Seminars. *See page 16 for details.*

NURSES AND PHYSICIAN'S ASSISTANTS ANNUAL MEETING HIGHLIGHTS

The 2007 CNS Annual Meeting offers a number of special sessions and courses specifically aimed at helping nurses and physician's assistants navigate the dynamic field of neurological surgery and improve patient care. Choose from these great offerings and more:

- ❖ **Practical Neurosurgical ICU Management:
The Basics (for MDs in Training, RNs, APRNs, and PAs).**
PC05 - Saturday, September 15, 1:00 - 5:00 pm. *See Page 29.*
- ❖ **Inpatient and Outpatient Management Dilemmas:
For Nurses, APRNs and Physician Assistants.**
PC12 - Sunday, September 16, 8:00 am - 5:00 pm. *See Page 31.*
- ❖ **Overview of Common Clinical Problems for Allied Health
Providers in Neurosurgery.**
T32 - Tuesday, September 18, 12:30 - 2:00 pm. *See Page 55.*

Nurses and PAs also receive a discounted rate on all Luncheon Seminars.

The CNS Welcomes the Association of Neurosurgical Physician Assistants **1st Annual ANSPA CME* Meeting**

“Cutting Edge Neurosurgery: What to Take Home”

San Diego Marriot Hotel and Marina

Saturday, September 15, 2007

7:30 am - 5:45 pm

Preliminary Conference Topics

- Current and Future Trends in Cervical Disc Disease
- To Instrument or Not to Instrument – That Is (Still) the Question
- My Child Has a Headache! Care and Management of Pediatric Shunts
- KEYNOTE SPEAKER: Dr. Anthony L. Asher – Current Management of High-Grade Gliomas
- The Definitive Answer – To Clip or to Coil
- Navigating the Radiosurgery Maze
- The Present Future of Deep Brain Stimulation
- Acute Cervical Spine Injuries in the ER

6:00 - 8:00 pm Reception

Register Today via

MAIL: ANSPA CME, PMB 202, 4267 NW Federal Hwy, Jensen Beach, FL 34957

FAX: 772-388-3457

PHONE: 888-94-ANSPA

E-mail: theanspa@aol.com

*This program is not yet approved for CME credit. Conference organizers plan to request 8 hours of Category 1 CME credit from the PA Review Panel. Total number of approved hours not yet determined.





Dear Residents:

What an opportunity for all neurosurgical residents! Register for the 2007 Congress of Neurological Surgeons Annual Meeting today! The comprehensive Scientific Program and engaging invited speakers at this year's meeting are sure to help residents navigate the dynamic field of neurosurgery. As an added bonus, CNS resident members receive reduced registration fees and complimentary housing (provided on a first-come, first-served basis). Do not let this opportunity pass you by...register today!

At the CNS Annual Meeting, you will find the latest information on current breakthroughs in research and treatment options, groundbreaking educational formats, and invaluable opportunities to develop relationships with other up and coming neurosurgical leaders.

I feel strongly that the Congress of Neurological Surgeons offers residents invaluable opportunities to cultivate their leadership skills and advance their developing careers, so I would like to take the opportunity to invite you to become a member. The application process is simple and can be an important part of your ongoing professional development. CNS Resident members are afforded a plethora of outstanding benefits (see this page for details) and we hope you will take full advantage of each one of them. Outstanding achievement in the field of neurosurgery begins with a strong foundation. That is why we are inviting you to join the Congress of Neurological Surgeons today!

If you have any questions or would like to apply for membership, please contact CNS Member Services toll free at 877-517-1CNS or via e-mail at info@1cns.org or visit our website www.cns.org for an on-line application.

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

Sincerely,

Michael P. Steinmetz
Chair, Resident Committee

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!

EXCLUSIVE RESIDENT MEMBER BENEFITS!

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 resident members to attend the Annual Meeting by providing:

- Reduced Annual Meeting registration fee.
- Complimentary housing* (Limited availability – apply now!).
- Complimentary ticket to Opening Reception.
- CNS funded Resident Award.
- Complimentary Residents/Honored Guest Luncheon (limited capacity – register early!)
- Reduced fees for Luncheon Seminars.
- Resident Recruitment Social.

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

- Complimentary subscriptions to leading neurosurgical publications including:
 - **NEUROSURGERY**[®], the official journal of the CNS – Includes Operative Neurosurgery the quarterly supplement
 - Clinical Neurosurgery
 - *Congress Quarterly*, the official CNS newsmagazine.
- Complimentary Access to the new CNS University of Neurosurgery.
- Eligibility for Educational CNS Fellowships Awards.
- Young Neurosurgeons' Directory.
- SANS Lifelong Learning – **only \$150 for Residents!**
- Online Job Placement Service.
- Outstanding Educational Resources via www.cns.org:
 - Core Curriculum in Neurological Surgery.
 - Image Library.
 - Resident Curriculum Guidelines for Neurosurgery.
- Access to the CNS Personal Assistant (CNS PA).

*If you are not currently a CNS Resident Member, your completed membership application must be received by July 2 for resident housing consideration.

RESIDENT **SANS** CHALLENGE

This game show-style competition for training programs is both fun and educational. The final two rounds will take place during the Annual Meeting. For a preview of the game and specific rules, please watch the CNS Resident Challenge website at <http://sanschallenge.cns.org>.

GENERAL INFORMATION

MISSION STATEMENT

The Congress of Neurological Surgeons exists to enhance health and improve lives worldwide through the advancement of education and scientific exchange.

MEETING PURPOSE

The purpose of the 2007 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:

- Integrated Medical LearningSM (IML) – interactive sessions incorporating pre-meeting and post-meeting online surveys online and interactive polling and audience generated questions.
- 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.
- Digital posters to provide the latest information regarding clinical and laboratory advances in neurological surgery.

DISCLAIMER

The material presented at the 57th 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.

WELCOME TO SAN DIEGO



Welcome to San Diego, where blue skies keep watch on 70 miles of pristine beaches and a gentle Mediterranean climate begs for a day of everything and nothing. Bordered by Mexico, the Pacific Ocean, the Anza-Borrego Desert and the Laguna Mountains, San Diego county's 4,200 square miles offer immense options for relaxation and adventure.

Whether your idea of a restful afternoon involves lounging on a beach chair, teeing off at the legendary Torrey Pines golf course, or strolling through boutiques in the historic Gaslamp district, you're sure to find your respite in San Diego. For those who prefer a little more action, San Diego's 70 miles of Pacific Ocean coastline offer countless opportunities for outdoor recreation, such as surfing, boating, sailing and swimming. And the 600,000-acre Anza Borrego Desert State Park offers nature-conscious visitors endless opportunities to hike, camp, fish, observe wildlife, and much more.

From world-class dining to a spectacular array of museums, theaters and botanical gardens, San Diego is poised to curb any cultural craving. Spend the day at lush 1,200-acre Balboa Park, one of the nation's largest cultural complexes and home to the largest concentration of museums west of the Mississippi. In San Diego's North County, wine growers are making a mark by growing and harvesting quality grapes that become excellent wines, served at some of the most elegant restaurants and resorts in the region. To the south, it's a whole different country, Mexico, featuring its own cultural offerings in various towns along the border and coastline, including Tijuana, Rosarito and Ensenada.

Being home to four theme parks, San Diego is also a great destination for families. See animals from around the globe at the San Diego Zoo, rub noses with an endangered rhino at the San Diego Zoo's Wild Animal Park, or devote a day to counting the teeth on a shark at SeaWorld. To really set adventure (and the kids) free, visit LEGOLAND California, a vibrant interactive experience including kid-powered rides.

From thrilling ocean adventures to siestas under the shadow of a palm tree, San Diego truly offers something for everyone. Please join us for the 2007 CNS Annual Meeting and experience San Diego for yourself!

GENERAL INFORMATION

Accessibility

The San Diego Convention Center is accessible through all entrances. 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 by contacting Scootaround Inc. at their toll-free hotline: 888-441-7575. You can also submit a rental inquiry on the web at www.scootaround.com or by fax at 204-478-1172.

Air Travel Information

Take advantage of one-stop shopping for all your air travel, registration and housing needs. See page 22 for details.

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 2007 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 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 San Diego area.

All tours will depart from the CNS headquarters hotel, the San Diego Marriott. Please arrive 15 minutes prior to the scheduled departure time.

All registered CNS Annual Meeting spouses and guests are invited to use the CNS Spouse Hospitality Suite, Monday through Wednesday, including daily continental breakfast from 7:00 - 10:30 am. Please note that admittance to the CNS Spouse Hospitality Suite is by Spouse/Guest or Nurse/Spouse badge only. The CNS Spouse Hospitality Suite is located at the San Diego Marriott Hotel.

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 73 - 79. 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, September 16 is open to all registered attendees and one complimentary ticket is included with each registration. See page 35 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.

CNS has no control over and assumes no responsibility for the care that is provided through hotels.

Climate

San Diego enjoys beautiful weather year round with an average daily temperature of 70.5° (21.4 degrees Celsius). A marked feature of the climate is the wide variation in temperature within short distances due to the topography of the land. You can enjoy coastal, mountain and desert environments all in the space of one day.

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. An additional 16.5 hours of credit may be earned by attending optional educational programs such as Practical Courses and Luncheon Seminars. An additional 6 hours (at no extra charge) can be earned by participating in the IML pre-meeting and post-meeting surveys. Each physician should claim only those hours of credit that he/she actually spent in the educational activity. A CME Tracking Form will be enclosed in your registration packet and will be posted online at www.cns.org after the 2007 CNS Annual Meeting.

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. Online CME Certificates will be available to CNS Members on the CNS PA at www.cns.org in November 2007.

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.

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. It is also each speaker's responsibility to include the FDA clearance status of any device or drug requiring FDA approval discussed or described in their presentation or to describe the lack of FDA clearance for any "off label" uses discussed. Speakers from the audience are also required, therefore, to indicate any relevant personal/professional relationships as they discuss a given topic.

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 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 #725 in the Exhibition Hall). Please be sure to have your e-mail account username, password and the mail server address or URL.

Exhibition

The CNS Exhibit Halls will be located in Hall EFG of the San Diego Convention Center.

Hours are:

Monday, September 17	9:00 am - 4:30 pm
Tuesday, September 18	9:00 am - 4:30 pm
Wednesday, September 19	9:00 am - 4:00 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 San Diego Convention Center. The Congress of Neurological Surgeons is dedicated to neurosurgical education . . . your opinions are important to us!

Future Meetings

Orlando, FL	September 20 - 25, 2008
New Orleans, LA	October 24 - 29, 2009
San Francisco, CA	October 23 - 28, 2010
Washington, DC	October 1 - 6, 2011

Housing Information

See pages 22 - 23.

Member Services Center - Booth 725

Designed to increase the visibility of the CNS Secretary, the CNS Membership Department and Neurosurgery®, the CNS Member Services Center is located in Exhibit Hall EFG, Booth #725. 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 Cafés.

Press Room

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

Registration Information

Registration Hours:

Saturday, September 15	7:00 am - 5:30 pm
Sunday, September 16	7:00 am - 5:30 pm
Monday, September 17	6:30 am - 5:30 pm
Tuesday, September 18	6:30 am - 5:30 pm
Wednesday, September 19	6:30 am - 5:30 pm
Thursday, September 20	7:00 - 11:00 am

For additional information see page 21.

Shuttle Services

Shuttle services will be available to all official CNS hotels with the exception of the San Diego Marriott. A shuttle schedule will be posted at the hotels and at the Convention Center and will be printed in the Scientific Program Book. Shuttle hours are as follows:

Saturday, September 15	7:00 am - 5:30 pm
Sunday, September 16	7:00 am - 5:30 pm
Monday, September 17	6:00 am - 6:00 pm
Tuesday, September 18	6:00 am - 6:30 pm
Wednesday, September 19	6:00 am - 6:00 pm
Thursday, September 20	6:00 am - 12:00 pm

Shuttles will also be available from official hotels to the CNS Opening Reception on Sunday, September 16, from 6:15 to 8:30 pm.

GENERAL INFORMATION

Speaker Ready Room

The Speaker Ready Room will be available Saturday, September 15 through Wednesday, September 19, from 6:30 am - 6:00 pm and Thursday, September 20 from 6:30 am - Noon at the San Diego Convention Center. All speakers and abstract presenters should visit the Speaker Ready Room prior to their presentations.

Smoking

The Convention Center is a non-smoking facility. By state law, and in the interest of public health, the San Diego Convention Center has adopted a non-smoking policy. There are designated areas outside the building where smoking is permitted.

Transportation Information from San Diego International Airport

If you are arriving by plane or train, the San Diego Convention Center is conveniently located 3 miles from San Diego International Airport and less than one mile from the Amtrak Station. The San Diego Trolley has two stops directly in front of the Center at Harbor Drive/First Avenue and Harbor Drive/Fifth Avenue.

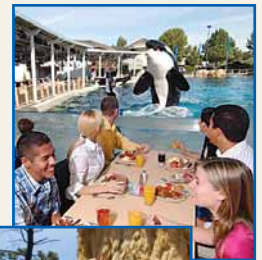
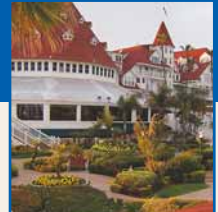
Who Should Attend

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 2007 CNS Annual Meeting.

Must See San Diego

Extend your stay in sunny San Diego to catch these and many other great sites and experiences:

- ❖ Stroll through **Balboa Park** and enjoy its 15 museums and spectacular gardens.
- ❖ Bike or jog along **Mission Bay Park's** more than 20 miles of scenic trails.
- ❖ Visit Shamu the Killer Whale at **SeaWorld San Diego**.
- ❖ Experience the natural beauty of the desert at the **Anza-Borrego Desert State Park**.
- ❖ Wander through **Old Town's** historic buildings, including the blacksmith shop, Seeley Stables and the oldest schoolhouse in San Diego.
- ❖ Catch a wave in the **San Diego Surf**.
- ❖ Check out the Giant Panda Research Station at the **San Diego Zoo**.
- ❖ Embark on a Caravan or Balloon Safari at the San Diego Zoo's **Wild Animal Park**.
- ❖ Watch the magnificent sunset over the ocean at **La Jolla Cove**.



CNS HOUSING, REGISTRATION, AND TRAVEL SERVICE/LASER REGISTRATION

The CNS, in conjunction with Laser Registration, offers you one-stop services for all your hotel, registration, and air travel needs.

FOR YOUR CONVENIENCE, YOU CAN REGISTER FOR COURSES, SELECT YOUR FLIGHTS, RESERVE YOUR HOTEL ROOM AND MORE VIA THESE FOUR METHODS:

Online: www.cns.org
Internet booking is available 24 hours a day, seven days a week
Credit card only
Not available for Residents or Fellows
Receive **immediate confirmation** of Registration Confirmation Notification

Fax: **866 654 4048 U.S. & Canada**
514 380 9363 International
Credit card only
Allow **seven business days** for Registration Confirmation Notification

Phone: **866 654 4047 U.S. & Canada**
514 380 9362 International
Credit card only
Not available for Residents or Fellows
Not available for Ticketed Events
Allow **two business days** for Registration Confirmation Notification

Mail: **CNS Annual Meeting/Laser Registration**
c/o Laser Registration
1200 G Street NW, Suite 800
Washington, DC 20005-3967
Credit card or check (no wire transfers)
Allow **two business days** for Registration Confirmation Notification

IMPORTANT DATES TO REMEMBER

August 15, 2007

Advance Registration Discount and Housing Deadline

August 22, 2007 Cancellation Deadline

\$100 Processing fee will be charged for written cancellation requests received during this time. No refunds given after August 22, 2007.

August 22, 2007

Course and event tickets will be refunded in full until this date. No refunds after this date.

August 16 - 24, 2007

Contact Laser Registration for any Housing questions.

August 27, 2007

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

Fax & Mail

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

Phone

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

Credit Card Payments

Visa MasterCard American Express

Payment by Check

- Checks must be drawn on a U.S. bank in U.S. dollars. Make checks payable to: CNS Annual Meeting/Laser Registration
- Include \$250 per unit hotel deposit plus appropriate fees for registration and any optional items purchased.
- Checks will be processed electronically. If you do not want your check processed electronically, please select another method of payment.

CNS HOTEL RESERVATIONS

Contact Laser Registration, the official CNS Housing and Registration Service, to reserve your guest rooms.

Hotels will not accept reservations from CNS meeting attendees directly.

Reservations can be made online or via fax, phone or mail – See page 21.

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

Hotel Reservation Information and Deadlines

Hotel reservations are only available to registered CNS attendees.

You must first register for the CNS Annual Meeting before making your hotel arrangements – see page 24.

Don't wait. Rooms are limited and fill up quickly.

Reserve your room by August 15, 2007.

Deposits

A deposit is required and due at the time your hotel reservation is made.

This payment must be submitted with your registration fees. Credit cards will be charged immediately.

A small portion of your room rate will be used to help defray the cost of registration and housing services.

Deposit: Standard Room = \$250.

All rooms are subject to applicable tax, currently at 10.5% for hotel tax.

Hotel Confirmations, Cancellations or Changes

Note: When canceling a reservation by phone, record the date, cancellation number, and name of the Laser Registration representative accepting the cancellation.

Through August 15, 2007, 5:00 pm CST

- All changes and cancellations must be made through Laser Registration.
- Rooms are not transferable.
- Refunds for deposits will be issued by Laser Registration.

Between August 16 and August 24, 2007

- Contact Laser Registration for any Housing questions.

Beginning August 27, 2007

- All changes and cancellations must be made directly with the hotel.

- If cancellation notice is not received according to the hotel policy, the deposit may be forfeited.
- Check your hotel confirmation and contact the hotel directly for information.

Complimentary Housing for CNS Resident Member Attendees

Complimentary housing at the CNS Annual Meeting is available to CNS Resident Members on a first-come, first-served basis.

To be considered for this program, CNS Resident Members must:

- Complete a separate CNS Resident Housing Form (Included with Resident Member registration materials). This form is to be sent directly to CNS via fax to 847 240 0804 or mail to 10 N. Martingale Road, Suite 190, Schaumburg, IL 60173-2294.
- Register for the CNS Annual Meeting by August 8, 2007.
- Become a member by July 2, 2007.

NOTE: All Resident attendees must register and make housing arrangements via fax or mail. Online and phone registration is not permitted.

AIR TRAVEL UNITED

The Congress of Neurological Surgeons has secured a special discount agreement with United Airlines. The discount is offered exclusively to CNS Annual Meeting attendees and is not available to the general public.

Choose Your Savings & Book Early

Save off the lowest available fare by calling United at 1-800-521-4041 – refer to **Meeting ID #565ZR**.

Additional savings are available when tickets are purchased 7 days in advance or 30 days in advance.

Discounts apply on United, United Express, Ted, and code share flights operated by US Airways, US Airways Express and Air Canada.

Reservations are accepted through: United MeetingsPlus reservation service from 8:00 am - 10:00 pm EST, Monday - Friday and 8:00 am - 8:00 pm EST, Saturday and Sunday; Laser Registration – The CNS Housing, Registration, and Travel Service at 866 654 4047 or 514 380 9362, online at www.united.com, or through your travel agent.

Mileage Plus members receive full credit for all miles flown to this meeting.

THANK YOU FOR YOUR CONTINUED SUPPORT OF THE CNS

The CNS thanks you for your support in reserving your guest room through the official CNS Housing, Registration, and Travel Service/Laser Registration. The CNS, in negotiating contracts with convention centers and hotels, must commit to a minimum number of guest rooms. This commitment helps guarantee the availability of meeting space and helps control of the cost of the meeting. When the CNS fails to anticipate the number of attendees reserving rooms through our housing block, we are held liable for contracted rooms that go unoccupied. This financial penalty may then impact future member services and programs. A history of high utilization of our room block enables CNS to negotiate better room rates for future meetings.

Hotel Room Rates:	Single	Double
San Diego Marriott (Headquarters)		
Cityview	\$269	\$269
Bayview	\$289	\$289
Manchester Grand Hyatt	\$258	\$258
Hilton Gaslamp Quarter	\$269	\$269

All rates are subject to 10.5% occupancy tax plus \$0.13 California Tourism Tax per room night.

A small portion of your room rate will be used to help defray the cost of housing and registration services.

Manchester Grand Hyatt San Diego

1 Market Place

The Manchester Grand Hyatt has an ideal waterfront location next to the Convention Center, Seaport Village and the Gaslamp Quarter. The luxurious appointed guest rooms include, bay views and Portico bath amenities and available high speed internet access. The hotel offers concierge services, an outdoor pool with sundeck, tennis courts, spa services and a fitness center.

- Fitness Center.
- Swimming Pools (2).
- Room Service.
- High-speed Internet Access.
- 4 Restaurants.
- Salon and day spa.
- Tennis courts (4).



San Diego Marriott Hotel & Marina

333 West Harbor Drive

The San Diego Marriott is the official CNS Headquarter Hotel

The San Diego Marriott offers a spectacular waterfront setting conveniently located adjacent to the convention center and the Gaslamp Quarter and affords effortless access to the city's most popular sights. This resort-style hotel offers spacious guest rooms in two 25-story towers with awe-inspiring views of the downtown skyline and the San Diego Bay. The Marriott also offers luxurious bedding, concierge services, high-speed Internet access and cable TV, restaurants and lounges, a fitness center, two pools and a heated whirlpool.



- Fitness Center.
- Heated Pools (2).
- Room Service.
- High-speed Internet Access.
- 4 Restaurants.

Hilton Gaslamp Quarter

401 K Street

Located in the heart of the historic Gaslamp Quarter, The Hilton San Diego Gaslamp Quarter hotel in San Diego, California is surrounded by shopping, theater, art galleries and more than 100 restaurants and night clubs. Across the street from the San Diego Convention Center, two blocks from Petco Park, and three miles from San Diego International Airport, the Hilton hotel is an urban retreat in the midst of a booming downtown San Diego, California scene. Here you will find a sophisticated hotel that mixes modern design with attentive service and impressive amenities.



- Fitness Center.
- Swimming Pool.
- Room Service.
- High-speed Internet Access.
- Restaurant.
- Spa.

INSTRUCTIONS

(HOW TO FILL OUT YOUR ENCLOSED REGISTRATION FORM)

B1-B2

Advanced Registration and Housing Form

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 include country code for phone and fax.

PRINT or TYPE any spouse, guest or children's badge information.

Hotel Reservations: Indicate your hotel choices. List your arrival and departure days and dates. Check your room preference. Indicate with whom and where you will be staying if you are not making a hotel reservation. Should your room preference not be available you will automatically be placed in the room type most similar to your requested room type. All requests will be handled first-come, first-served. Reserve early!

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 may only register via fax or mail).

Add the \$250 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.

Payment: If paying by check, please make check payable to CNS Annual Meeting/Laser Registration. 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

Due to the popularity and limited space in many sessions, please indicate several choices where applicable.

Practical Courses and Luncheon Seminars are optional and each has a separate fee. If the Practical Course and/or Luncheon Seminar you list is open, your credit card will be charged accordingly. You may pay and register via the methods outlined on page 21.

Practical Course Registration (B3)

Saturday, September 15

Afternoon Practical Courses are available.

Sunday, September 16

Full day, morning and afternoon Practical Courses are available.

Luncheon Seminar Tickets (B4)

You may attend one Luncheon Seminar per day. Fee includes a seated lunch served in the seminar room.

Luncheon Seminars are offered:

Monday, September 17

Tuesday, September 18

Wednesday, September 19

B5

Optional/Evening/Auxiliary Tour Registration Form

(See pages 74 - 79 for details about these programs)

Please check the event tickets you would like to purchase, indicate quantity and total your purchase.

This form may be used to purchase additional tickets and order your Annual Meeting T-shirts.

PURCHASE TICKETED EVENTS ONLINE OR VIA FAX OR MAIL.
Phone orders will *not* be accepted.

Please print clearly to avoid registration delays!

CNS MEETING REGISTRATION

Category	Discounted Fees	Full Price Fees
	On or before August 15, 2007 at 5:00 pm CST Register via: Internet, Fax, Phone, Mail (see page 21 for details).	After August 15, 2007
Member (Active/International/Vista)	\$575	\$675
Transitional Member	\$575	\$675
Non-Member Neurosurgeon	\$675	\$775
Non-member Physician	\$675	\$775
Non-member/Non-Physician	\$675	\$725
Member of the Armed Forces	\$475	\$575
Resident Member*	\$150	\$250
Resident Non-Member*	\$250	\$350
Fellow Member**	\$150	\$250
Fellow Non-Member	\$250	\$350
Retired Senior Member	\$250	\$350
Medical Student	\$250	\$350
Allied Health	\$400	\$500
Physician Assistant	\$400	\$500
Nurse	\$400	\$500
Spouse/Guest/Child (13 & over)	\$115	\$115
Resident Spouse	\$75	\$75
* All domestic and international Residents must have their Program Director sign registration form via fax or mail only.		
**All domestic and international Fellows must attach letter from Program Coordinator verifying Fellow status.		

Registration Materials Pick Up

All materials should be picked up onsite at the San Diego Convention Center.

Items included in Registration Fee

- One ticket to the Opening Reception on Sunday, September 16.
- Admission Monday - Thursday General Scientific Sessions.
- Admission Monday - Wednesday. Neurosurgical Forum. 3-D Cadaveric Demonstration. Special Courses. Section Sessions.
- Morning Coffee and Afternoon Beverage Breaks in Exhibit Hall: Monday - Wednesday.
- Thursday Morning Coffee Break.

REGISTRATION CANCELLATION POLICY

All refund requests must be received in writing.

Requests accepted via:

E-mail: 2007cns@laser-registration.com

Fax: 514 379 8363

Mail:

CNS Annual Meeting/Laser Registration
c/o Laser Registration
1200 G Street NW, Suite 800
Washington, DC 20005-3967

CANCELLATION DATE SCHEDULE

August 22, 2007

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

After August 22, 2007 and No Show

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

2007 CNS ANNUAL MEETING EXHIBITORS

- 4-D Neuroimaging
AANS/CNS Sections
Abbott Spine
Accuray
ACIGI/Fujiiryoki
Acra-Cut, Inc.
Ad-Tech Medical Instrument Corp.
Advanced Neuromodulation Systems
Aesculap Implant Systems
Aesculap, Inc.
Allen Medical Systems
Aloka Ultrasound
Alpha Omega Co. USA
Alphatec Spine, Inc.
American Association of Neurological Surgeons
American Surgical Sponges
Anspach Companies
Anulex Technologies, Inc.
AOSpine North America
Apatech, Inc.
Apex Medical, Inc.
Aspen Medical Products, Inc.
Atlas Spine Inc.
Axiom Worldwide
- Baxter
Beekley Corporation
BFW, Inc.
Billings Clinic
Biomet Microfixation
Biomet Spine
Blackstone Medical, Inc.
Blue Chip Surgical Center Partners
BOSS Instruments, Ltd.
Boston Scientific
Bracco AMT
BrainLAB
- Cardinal Health, V. Mueller
Neuro/Spine
Carl Zeiss Certified
Carl Zeiss Meditec, Inc.
Catholic Healthcare Partners
Ceremed, Inc.
Choice Spine
CLOWARD Instrument Corp.
CMF Medicon Surgical
Codman, a Johnson & Johnson Company
CompHealth
Composite Manufacturing, Inc.
Confluent Surgical, Inc.
Congress of Neurological Surgeons
Cook Medical
Cordis Neurovascular, Inc.
Cosman Medical, Inc.
Custom Spine Inc.
- Cyberonics, Inc.
Cytyc Surgical Products
- DePuy Spine, Inc.
a Johnson & Johnson Company
Designs for Vision, Inc.
- Elekta
Ellman Innovations
Endure Medical, Inc.
- Fehling Surgical Instruments, Inc.
FHC, Inc.
Flowtronics, Inc.
Fonar Corporation
FzioMed, Inc.
- GE Healthcare
Glacier Cross, Inc.
Globus Medical
Gore & Associates
- HCA Physician Recruitment
HRA Research
- Image Stream Medical
IMRIS, Inc.
Innercool Therapies
Integra
Interventional Spine, Inc.
Invivo Corp.
IsoTis OrthoBiologics
- JNS Publishing Group
Joimax, Inc.
- Kaiser Permanente
Karger Publishers, Inc.
Karl Storz Endoscopy-America, Inc.
Kilgore International, Inc.
Kimberly-Clark
Kinamed, Inc.
Kirwan Surgical Products, Inc.
KLS - MARTIN LP
Koros USA, Inc.
Kyphon, Inc.
Kyron Clinical Imaging, Inc.
- Lanx, LLC
Leica Microsystems, Inc.
Life Instrument Corp.
- MarCap Corporation
Market Access Partners
MD Logic, Inc.
Medical Designs, LLC
Medical Doctor Associates
Medtronic
Merrill Lynch
- MGI Pharma, Inc.
Michel Perchin
MicroVention - Terumo, Inc.
Minrad International Inc.
Mizuho America, Inc.
Möller-Wedel GmbH
- Nadia International, Inc.
NDA, Inc.
NeoSpine, LLC
Neurognostics, Inc.
NeuroLogica Corporation
Neuroptics, Inc.
Neurosurgery®
Northwest Biotherapeutics, Inc.
NuVasive
- Olsen Medical
Ortho Development Corporation
OSI
OsteoMed LP
- Pacific Research Labs/Sawbones
PDL BioPharma, Inc.
Pikeville Medical Center
Pioneer Surgical Technology
PMT Corporation
Porex Surgical, Inc.
Priority Consult
Pro Med Instruments, Inc.
Products for Medicine
Professional Medical Insurance Services, Inc.
- Richard Wolf Medical Instruments
RosmanSearch, Inc.
RSB Spine
- Saunders/Mosby - Elsevier
Scanlan International, Inc.
Schering-Plough
Scient x, USA
SeaSpine, Inc.
Siemens Medical Solutions USA, Inc.
Signus Medical, LLC
Sophysa USA Inc.
Spinal Elements
Spine Surgical Innovation
Spine Wave
SpineMark Corporation
Spineology, Inc.
SSI Ultra Instruments
Stealth Surgical LLC
Stryker
SurgiTel/General Scientific Corp.
Symmetry Medical, Inc.
Synergetics, Inc.
Synthes, Inc.
- TeDan Surgical Innovations, LLC
The Brain Aneurysm Foundation
Theken
Thieme Publishers
Think First Foundation
Thompson Surgical Instruments
TomoTherapy Incorporated
Trans1, Inc.
Transonic Systems, Inc.
TrueVision Systems, Inc.
- Varian Medical Systems
Vygon US
- Weatherby Locums
Welch Allyn
Wiggins Medical
Wolters Kluwer Health-Lippincott
Williams and Wilkins
- Xoran Technologies
- Zeppelin Medical Instruments LTD.
Zimmer Spine

As of 5/1/07.

ADVANCE YOUR EDUCATION... ENHANCE YOUR NETWORK... VISIT THE 2007 CNS EXHIBITION!

The 2007 CNS Exhibition offers attendees an opportunity to learn about the latest technological innovations from around the world and meet with recruiters from across the United States.

Stop by the exhibition to catch up with your current corporate contacts and make new connections. This year's exhibition also features these additional opportunities for education and networking:

CNS Digital Poster Center

- View the latest research in neurosurgery via a state-of-the-art digital format.
- Find posters faster and easier than ever using digital search feature.
- NEW! Communicate with poster authors during and after the Annual Meeting via online electronic discussions.
- View color photos and short videos to enhance your understanding of the research methods and findings.
- Make instant printouts on site of the scientific information most important to you.



CNS Video Theater

View neurosurgical techniques demonstrated by master neurosurgeons. This video series plays continuously in the CNS Member Services Booth, #725.



Maintain and improve your neurosurgical decision making proficiency and prepare for written/oral board examinations or the MOC cognitive examination. The Congress of Neurological Surgeons offers a complimentary demonstration of its online self-assessment test, in the CNS Member Service Booth.

CNS University of Neurosurgery

Test or develop your knowledge with our Non-Clinical Core Competencies course, access hundreds of neurosurgical images and videos through the University Library, and learn about new courses to come. A complimentary demonstration is available daily in the CNS Member Services booth, #725.

CNS Job Placement Service (JPS)

A great opportunity may be looking for you. Connect with job opportunities across the United States or set up your job agent to be automatically notified when new postings meet your criteria. A complimentary demonstration is available daily in the CNS Member Services booth.

Publishers Row

Browse the latest neurosurgical publications, while comparing notes with your colleagues.

The Exhibit Hall is also a great place to check your e-mail or catch up with colleagues during daily beverage breaks. Stop in daily during these hours:

Monday	9:00 AM - 4:30 PM
Tuesday	9:00 AM - 4:30 PM
Wednesday	9:00 AM - 4:00 PM

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

ANNUAL MEETING AT-A-GLANCE

SATURDAY SEPTEMBER 15

1:00 - 5:00 pm
Afternoon Practical Courses (PC01 - PC08)

SUNDAY SEPTEMBER 16

8:00 am - 5:00 pm
Full Day Practical Courses (PC09 - PC14)

8:00 am - 12:00 pm
Morning Practical Courses (PC15 - PC24)

1:00 - 5:00 pm
Afternoon Practical Courses (PC25 - PC35)

3:00 - 6:00 pm
Resident SANS Challenge Preliminary Rounds

6:30 - 8:30 pm
CNS Opening Reception
USS Midway
San Diego's Aircraft Carrier Museum



MONDAY SEPTEMBER 17

7:00 - 11:45 am
General Scientific Session I
Navigating Change: Charting a New Course in Brain Tumor Therapy

7:40 - 8:50 am
Integrated Medical LearningSM Session I

9:00 - 9:30 am
Robert Sapolsky:
CNS Julian T. Hoff Lecture

9:00 am - 4:30 pm
Exhibits Open

9:30 - 10:30 am
Coffee with Exhibitors

10:30 - 10:55 am
L. Dade Lunsford:
Honored Guest Lecture

11:05 - 11:45 am
Douglas Kondziolka:
Presidential Address

12:30 - 2:00 pm
Luncheon Seminars

2:00 - 5:30 pm
Special Courses

2:00 - 5:45 pm
CNS Original Science Program: Neurosurgical Forum and Select Abstract Session

3:30 - 4:00 pm
Refreshments with Exhibitors

TUESDAY SEPTEMBER 18

7:00 - 11:45 am
General Scientific Session II
Navigating Change: Charting a New Course in Degenerative Spine Disorders

7:40 - 8:50 am
Integrated Medical LearningSM Session II

8:55 - 9:30 am
Robert D. Ballard:
Special Lecture

9:00 - 4:30 pm
Exhibits Open

9:30 - 10:30 am
Coffee with Exhibitors

10:30 - 10:50 am
L. Dade Lunsford:
Honored Guest Lecture

11:15 - 11:45 am
Michael Tilson Thomas:
CNS Michael L.J. Apuzzo Lecture on Creativity and Innovation

12:30 - 2:00 pm
Luncheon Seminars

2:00 - 5:30 pm
3-D Live Cadaveric Demonstration, Special Courses, **Sections*** and Consensus Conference

3:30 - 4:00 pm
Refreshments with Exhibitors

5:00 - 6:00 pm
Resident SANS Challenge Finals

5:30 - 6:30 pm
CNS Annual Business Meeting

6:00 - 7:00 pm
Resident Recruitment Social

WEDNESDAY SEPTEMBER 19

7:00 - 11:45 am
General Scientific Session III
Navigating Change: Charting a New Course in Vascular Neurosurgery

7:40 - 8:50 am
Integrated Medical Learning SessionSM III

8:50 - 9:10 am
L. Dade Lunsford:
Honored Guest Lecture

9:00 am - 4:00 pm
Exhibits Open

9:10 - 9:30 am
Paul R. Sanberg:
Special Lecture

9:30 - 10:30 am
Coffee with Exhibitors

10:30 - 10:52 am
Jack El-Hai: John Thompson History of Medicine Lecture

10:58 - 11:10 am
Teiji Tominaga:
Special Lecture

11:10 - 11:45 am
Salman Rushdie:
Walter E. Dandy Orator

12:30 - 2:00 pm
Luncheon Seminars

2:00 - 5:30 pm
Digital Masters Video Symposium, Special Courses, **Sections**** and Consensus Conference

3:30 - 4:00 pm
Refreshments with Exhibitors

THURSDAY SEPTEMBER 20

7:00 - 8:20 am
Interactive Case Discussions

8:30 - 11:30 am
General Scientific Session IV
Navigating Change: Managing Risk, Growth and Transformation

9:50 - 10:10 am
Coffee Break

10:10 - 10:40 am
Steve Squyres:
Special Lecture

*Tuesday Sections

2:00 - 3:30 pm
Section on Disorders of the Spine and Peripheral Nerves I
Section on Neurotrauma and Critical Care I
Section on Pain
Section on Pediatric Neurological Surgery I

4:00 - 5:30 pm
Section on Cerebrovascular Surgery I
Section on Stereotactic and Functional Neurosurgery I
Section on Tumors I
Consensus Conference I: Meeting Design

**Wednesday Sections

2:00 - 3:30 pm
Section on Cerebrovascular Surgery II
Council of State Neurosurgical Societies
Section on Stereotactic and Functional Neurosurgery II
Section on Tumors II

4:00 - 5:30 pm
Section on Disorders of the Spine and Peripheral Nerves II
Section on Neurotrauma and Critical Care II
Section on Pediatric Neurological Surgery II
Consensus Conference II: The Aging Surgeon

SATURDAY, SEPTEMBER 15, 2007
AFTERNOON PRACTICAL COURSES (PC01 – 08)
1:00 – 5:00 PM



PC01 \$375

3-D Anatomy (Supratentorial)

Course Director: Albert L. Rhoton, Jr.

Learning Objective: This course will provide three-dimensional microsurgical instruction on routes through the anterior and posterior cerebrum and temporal lobe; anatomy and approaches to the later and third ventricles and pineal region; anterior skull base and cavernous sinus; and transsphenoidal, transmaxillary and transoral approaches. Upon completion of this course, participants will be able to describe the anatomy of these areas and develop an appreciation for the three-dimensional neurovascular relationships of each region.

PC02 \$425

Operating in Eloquent Cortex

Course Directors: Michael M. Haglund, Jeffrey P. Blount

Faculty: Webster H. Pilcher, Michel S. Berger

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 be able to discuss the available technologies for performing safer and more effective procedures within and around the eloquent cortex.

PC03 \$425

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

Course Directors: Bernard R. Bendok, Lee R. Guterman, Elad I. Levy

Faculty: Daniel Surdell, Erol Veznedaroglu, Adnan H. Siddiqui, Cameron G. McDougall, Ricardo A. Hanel, Alan S. Boulos

Learning Objective: At the completion of this course, the participants will have hands-on experience with realistic simulators of carotid stenting, aneurysm coiling, and stroke thrombolysis, be exposed to basic concepts and techniques in endovascular neurosurgery, and be able to discuss endovascular device capabilities.

PC04 \$425

Spinal Radiosurgery

Course Director: Peter C. Gerszten

Faculty: Jason P. Sheehan, Mark H. Bilsky, Fraser C. Henderson, Steven D. Chang, Lilyana Angelov

Learning Objective: This course will provide the attendee with an exposure to the background of spinal radiosurgery, including radiobiological principles of hypofractionated radiotherapy. An emphasis will be placed on the indications and limitations of spinal radiosurgery. The various technologies available to perform spinal radiosurgery will also be described and compared. The attendee will be able to 1) Describe the most commonly used techniques for spinal radiosurgery; 2) Discuss the current indications for and preliminary outcomes after spine radiosurgery; 3) Describe the current relative contraindications to spine radiosurgery; 4) Discuss the potential risks and complications of spine radiosurgery.



PC05 \$375

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

Course Directors: Joshua B. Bederson, Owen Samuels

Faculty: Jennifer A. Frontera, Michael DeGeorgia, E. Sander Connolly, Jr.

Learning Objective: This course will provide the attendee to a broad spectrum of information regarding the management of a critically-ill neurosurgical patient. The attendee will learn the most up-to-date recommendations for ICP management, hemodynamic monitoring and measurement, ventilatory support, infection prevention and treatment, neurological examination, EEG monitoring, etc.

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

PC06 \$375

CPT Coding: Fall 2007 Update

Course Director: Gregory J. Przybylski

Faculty: Mina Foroohar, Robert R. Johnson, Alexander Mason, William Mitchell

Learning Objective: This course provides a summary of the anticipated CPT 2008 coding changes and reviews the 2007 coding changes as well. Subspecialty areas of spine, intracranial, functional/pain and vascular surgery will be highlighted. Upon completion of this course, participants will have gained exposure to coding changes, their proper applications and compliance issues with regard to new regulations.

PC07 \$425

Techniques and Technologies in Achieving Spinal Arthrodesis/Stabilization of the Cervical Spine

Course Directors: Daniel K. Resnick, Michael G. Kaiser

Faculty: Christopher P. Ames, James S. Harrop, Neill M. Wright, Langston Holly, Junichi Mizuno

Learning Objective: The indications, techniques, and complications of arthrodesis and stabilization of the cervical spine, including the craniovertebral and cervicothoracic junction, will be reviewed using lectures, case-presentations, and hands-on practical exercises. Upon completion of this course, participants will be able to discuss the appropriate indications and state of the art techniques for arthrodesis and instrumentation of the occipitocervical to cervicothoracic spine, as well as steps to avoid common complications.

PC08 \$375

Applied Spinal Biomechanics

Course Director: Edward C. Benzel

Faculty: James S. Harrop, Richard P. Schlenk, Praveen V. Mummaneni, Michael P. Steinmetz

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

Attention Residents:



Compete in the CNS Resident **sans** Challenge at the 2007 CNS Annual Meeting!

- Earn the opportunity to compete in a live game show-style competition at the 2007 CNS Annual Meeting on Sunday, September 16 and Tuesday, September 18 and you could win bragging rights, trophies, and a cash prize for your program. (All North American, Mexican and Canadian Residents eligible).
- Take the online quiz at www.cns.org! The nine highest-scoring training programs will each send their top two players to live rounds at the 2007 CNS Annual Meeting. (Travel Expenses to the CNS Annual Meeting must be covered by program or individual).
- The winning programs at the 2007 CNS Annual Meeting will receive:

1st Place Team	\$2,500
2nd Place Team	\$1,500
3rd Place Team	\$1,000

All scores are confidential.

*Log on to play:
July 16, 2007 - July 31, 2007
www.cns.org*

SUNDAY, SEPTEMBER 16, 2007
ALL DAY PRACTICAL COURSES (PC09 – 14)
8:00 AM – 5:00 PM



PC09 \$475

Brain Tumor Update

Course Directors: Jeffrey J. Olson, Jeffrey Bruce

Faculty: Frederick F. Lang, Frederick G. Barker, Gene H. Barnett, Ennio Antonio Chiocca, Franco DeMonte, Mark E. Linskey, Michael William McDermott, Andrew T. Parsa, Ian F. Pollack, Andrew E. Sloan, Gail L. Rosseau

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

PC10 \$800

Hands On: Cerebral Revascularization

Course Directors: Fady T. Charbel, Sepideh Amin-Hanjani

Faculty: Saleem I. Abdulrauf, David J. Langer, Jacques J. Morcos, Fredrick B. Meyer, Gary K. Steinberg, Ketan R. Bulsara, Vini G. Khurana, Gregory J. Zipfel

Learning Objective: This course will review the indications for cerebral revascularization in the setting of cerebral ischemia and aneurysm/skull base tumor surgery. Extracranial-intracranial bypass procedures for revascularization in the anterior and posterior circulation will be demonstrated. Participants will have the opportunity to practice micro-suturing and anastomosis skills. Upon completion of this course, participants will have gained hands-on experience with micro-suturing and anastomosis techniques, be able to discuss the indications for cerebral revascularization in ischemia and aneurysm/skull base tumor surgery and describe the different bypass procedures for revascularization of the anterior and posterior circulation.

PC11 \$475

Traumatic Brain Injury

Course Directors: Raj K. Narayan, Lori Anne Shutter

Faculty: Jamshid Ghajar

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

PC12 \$375

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

Course Directors: Mark E. Shaffrey, Andrea L. Strayer, MSN, APNP, CNRN

Faculty: Aaron S. Dumont, John A. Jane, Jr., David O. Okonkwo, W. Jeffrey Elias, Christopher I. Shaffrey, Gregory R. Trost, Connie Marple, APRN, Karen Casile, PA-C

Learning Objective: Upon completion of this course, participants will be able to discuss clinical management for a variety of cranial and spinal conditions. Topics include new directions in functional neurosurgery, brain tumor treatment options, cervical disc arthroplasty, endoscopic approach to the skull base and ventricles, spinal trauma, NSAID use after fusion, current interventions for traumatic brain injury, and the vascular patient: clip versus coil. These topics will illustrate patient selection, clinical decision making, and patient outcomes for the allied health professional in outpatient and inpatient settings.

Physician attendees will not be awarded CME credit for this course. Nursing contact hours will be provided through AANN. The American Association of Neuroscience Nurses is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Physician assistants will receive credit for attendance. Each physician assistant will need to contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a confirmation of attendance.

PC13 \$375

Neurosurgical Practice Development, Negotiation and Liability

Course Directors: William E. Bingaman, Alan M. Scarrow, Michael P. Steinmetz

Faculty: Victoria Vance, JD, James R. Bean, Fernando G. Diaz, Richard N. Wohns, Gregory J. Przybylski, Andrea L. Strayer, Nathan R. Selden, Anthony L. Asher, Mark E. Linskey, Edward C. Benzel, Robert F. Harbaugh, L. Nelson Hopkins, III, Richard G. Ellenbogen, Alex B. Valadka

Learning Objective: Techniques to effectively build and develop a neurosurgical practice will be presented. The mechanics of operating a practice will be explored. Key aspects of medical liability will be discussed. Upon completion of this course, participants will be able to describe the neurosurgical political process and how to get involved.

PC14 \$875

Nuances of Minimally Invasive Spinal Surgery

Course Directors: Kevin T. Foley, Larry T. Khoo

Faculty: Muwafak Abdulhak, Donald L. Hilton, Langston Holly, Jean-pierre Mobasser, Sylvain Palmer, Paul Park, Maurice M. Smith, Najeeb M. Thomas

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



SUNDAY, SEPTEMBER 16, 2007
MORNING PRACTICAL COURSES (PC15 – 24)
8:00 AM – 12:00 PM

PC15 \$425

Surgical Approaches to the Ventricular System

Course Directors: Alan Cohen, Mark M. Souweidane

Faculty: Jacques Caemaert, Albert L. Rhoton, Jr., George I. Jallo, Jeffrey Bruce, Joseph M. Piepmeier

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



PC16 \$425

Modern Indications and Techniques for Open Aneurysm Surgery

Course Directors: Byron Gregory Thompson, Jr., Michael T. Lawton

Faculty: Jacques J. Morcos, Ali F. Krisht, Saleem I. Abdulrauf, Howard A. Riina

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



PC17 \$425

Surgical Indications, Techniques and Alternatives for Cranial Vascular Malformations

Course Directors: Rafael J. Tamargo, E. Sander Connolly, Jr.

Faculty: H. Hunt Batjer, Neil A. Martin, Christer E. Lindquist, Robert A. Mericle

Learning Objective: Following participation in this course, participants will be able to discuss definitive endovascular treatment or pre-operative endovascular treatment techniques for treating cranial vascular malformations. A variety of transcranial approaches will be reviewed and compared, allowing the participant to compare the advantages and disadvantages inherent in each particular approach and surgical technique. The participant will also be able to discuss complication avoidance and management or peri-operative or intraoperative complications or challenges.

PC18 \$375

Endovascular Aneurysm Therapy: Technical Aspects

Course Directors: Henry H. Woo, Peter A. Rasmussen

Faculty: Peter Kim Nelson, David Fiorella, Cameron G. McDougall, Elad I. Levy, Felipe Albuquerque

Learning Objective: This course will discuss new literature and potential future technology in the endovascular treatment of intracranial aneurysms. Upon completion of this course, participants will have gained exposure to newly developed coil and stent technology in the treatment of wide-necked aneurysms and will observe hands-on delivery of these devices in flow models.



PC19 \$425

Cranial Radiosurgery: Current State-of-the-Art

Course Director: Andrew E. Sloan

Faculty: Steven D. Chang, Antonio DeSalles, Michael William McDermott, Frank J. Bova

Learning Objective: This course will familiarize participants with the basic features of the most commonly used radiosurgery treatment platforms, their similarities and differences, provide participants with basic principles for radiosurgery treatment planning for benign and malignant tumors, AVM's and functional disorders and provide participants with practical experience planning treatments with expert guidance using various radiosurgery treatment platforms.

PC20 \$425

Functional Neurosurgery: New Frontiers

Course Director: Ali R. Rezaei

Faculty: Gordon H. Baltuch, Nicholas M. Boulis, Gerhard Friehs, Robert R. Goodman, Brian H. Kopell, Robert M. Levy, Robert J. Maciunas

Learning Objective: DBS for movement disorders such as Parkinson's disease, tremor and dystonia is now routinely performed and is accepted as the standard of care for advanced intractable patients. In the past several years, a number of new functional neurosurgical applications are being investigated. The faculty will discuss the indications, scientific principles, patient selection, technical aspects, outcome and complications of these emerging applications in functional neurosurgery: DBS and responsive stimulation for epilepsy DBS for Tourette's DBS for obsessive compulsive disorder and depression Cortical stimulation for stroke and Tinnitus Gene and stem cell therapy for Parkinson's disease Brain Machine Interface.

SUNDAY, SEPTEMBER 16, 2007
MORNING PRACTICAL COURSES (PC15 – 24)
8:00 AM – 12:00 PM



NEW! **PC21 \$425**
Debates in Spinal Dysraphism

Course Directors: J. Gordon McComb, Karin M. Muraszko

Faculty: Mark S. Dias, Dale Swift, Leslie N. Sutton, Michael D. Partington, Dachling Pang, David O. Cochrane, Douglas L. Brockmeyer, Hugh Garton

Learning Objective: At the conclusion of this course, participants should be able to describe the natural history and outcomes following intervention for patients with spinal dysraphisms presenting with lipomas, myelomeningocele, tethered cord, and congenital scoliosis or kyphosis; discuss the methods of evaluation for spinal dysraphism, describe the surgical approaches to repair of spinal dysraphism, report the complications and outcomes associated with such repair, and describe long term outcome for such patients.

PC22 \$425
Cervical Arthroplasty

Course Director: Vincent C. Traynelis

Faculty: Jan Goffin, Steven Gill, Domagoj Coric, Robert J. Hacker, Daniel B. Murrey

Learning Objective: This course will focus on the biomechanics of cervical disk arthroplasty and the clinical indications for which it may be found useful. Following completion of this course, participants will be able to discuss the indications, implantation techniques and clinical results of arthroplasty in single level and multiple level disc operations.

PC23 \$425
Adult and Pediatric Spinal Trauma Surgery

Course Director: James S. Harrop

Faculty: Dachling Pang, Ashwini D. Sharan, Douglas L. Brockmeyer, Eric M. Massicotte, R. John Hurlbert, Michael Y. Wang

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

PC24 \$425
Challenges in Anterior Spinal Access

Course Directors: Brian R. Subach, John C. Liu

Faculty: Michael K. Rosner, Arnold H. Menezes, Marc Eichler, Robert F. Heary, Stephen L. Ondra

Learning Objective: Surgical corridors to the cervical, thoracic and lumbar spine would be presented in detail. Rationale, limitations and details of approaches could include transoral, thoracotomy, anterolateral thoracolumbar, retroperitoneal, and transperitoneal routes. Concepts will be solidified by surgical video. The presentations will be case-intensive to include considerations for optimizing approach selection and complication avoidance and management. Following completion of this course, participants will be able to discuss and describe the common routes of access to the anterior spine.

SUNDAY, SEPTEMBER 16: MORNING PRACTICAL COURSES

THE CONGRESS OF NEUROLOGICAL SURGEONS
EXPRESSES ITS SINCERE APPRECIATION TO

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SUNDAY, SEPTEMBER 16, 2007
AFTERNOON PRACTICAL COURSES (PC25 – 35)
1:00 – 5:00 PM

PC25 \$375

3-D Anatomy (Infratentorial)

Course Director: Albert L. Rhoton, Jr.

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

PC26 \$375

Operative Colloquium: Masters of Neurological Surgery

Course Directors: L. Dade Lunsford, Issam A. Awad

Faculty: Andres M. Lozano, Daniel K. Resnick, Chandra N. Sen, Philip H. Gutin, Robert H. Rosenwasser

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



PC27 \$425

Endovascular Digital Video Masters

Course Directors: Elad I. Levy, C. Michael Cawley

Faculty: Jacques E. Dion, Michael J. Alexander, Randall T. Higashida, Robert A. Mericle, Robert H. Rosenwasser, Howard A. Riina, Peter A. Rasmussen, L. Nelson Hopkins

Learning Objective: Following participation in this course, participants will be able to discuss the indications and techniques for treating both common and complex cerebrovascular pathologies via endovascular means. The Video Masters will discuss their respective topics and present narrated video of specific case(s) illustrating the various technical challenges and advanced techniques used to meet these challenges.

PC28 \$800

Cranial Endoscopic Procedures in Neurosurgery

Course Directors: David F. Jimenez, Mark G. Luciano

Faculty: Amin Kassam, John G. Frazee, Michael R. Gaab, Graciela N. Zuccaro

Learning Objective: Upon completion of this course, through didactic and hands-on instruction, participants will have gained exposure to the use of endoscopy for intracranial applications, including management of hydrocephalus, intraventricular tumors, microneurosurgery, and transsphenoidal procedures. Participants will have gained exposure to the latest endoscopic instrumentation available.

PC29 \$375

Neurosurgery 2007: Literature Review

Course Directors: Paul C. McCormick, Daniel K. Resnick

Faculty: Peter D. Angevine, E. Sander Connolly, Jr., Paul G. Matz

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

PC30 \$425

Advanced Concepts in Neuro-Critical Care

Course Directors: E. Sander Connolly, Jr., Michael DeGeorgia

Faculty: Chad Miller, Ricardo Carhuapoma, Owen B. Samuels, Jeff Frank, Marc Popovich, Andrew Naidech

Learning Objective: This course will discuss diagnostic and therapeutic options, as well as perioperative management in the following conditions: ischemic stroke, intracerebral hemorrhage, subarachnoid hemorrhage and vasospasm. Upon completion of this course, participants will be able to describe 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. Management of Adult Respiratory Distress Syndrome (ARDS) and cardiac dysfunction in the intensive care unit will also be reviewed.

SUNDAY, SEPTEMBER 16, 2007
AFTERNOON PRACTICAL COURSES (PC25 – 35)
1:00 – 5:00 PM



NEW! **PC31 \$425**
Pediatric Brain Tumor Update

Course Directors: James T. Rutka, Corey Raffel

Faculty: Michael D. Taylor, Ian F. Pollack, Nalin Gupta, Karin M. Muraszko, Shenandoah Robinson, John A. Jane, Jr., John Wellons, III, Bermans Iskandar, John Kestle, Andrea Jea

Learning Objective: This course will provide the practicing neurosurgeon and the neurosurgery resident with an up-to-date overview of current management strategies for all types of benign and malignant brain and spinal tumors that occur in the pediatric population. The course will focus on practical management issues and neurosurgical approaches in particular for pediatric brain tumors through a series of didactic lectures and video demonstrations given by established pediatric neurosurgeons.

After completing this educational activity, participants should be able to identify the state-of-the-art treatment for benign and malignant brain tumors including astrocytoma, germ cell tumors, choroid plexus tumors, pineal region tumors, brainstem tumors, and posterior fossa tumors; discuss the various neurosurgical approaches to pediatric brain tumors depending on tumor location, imaging features, and patient age; and describe the different brain and spinal tumors that affect the pediatric population.

PC32 \$425
Lumbar Arthroplasty

Course Director: William C. Welch

Faculty: Eric J. Woodard, Todd Hopkins Lanman, Fred H. Geisler, Charles Theofilos

Learning Objective: Following participation in this course, the participant will be exposed to the biomechanics of lumbar disc arthroplasty, the clinical indications for the procedure, and be able to describe patients who are not suitable candidates for surgery. Pertinent diagnostic studies and clinical history will be reviewed. Participants will also be exposed to pearls and pitfalls concerning the approach and implantation of a lumbar arthroplasty device and how complications can be avoided and, if present, managed.

PC33 \$500
Mastering Spinal Disorders: Dealing with Complexities

Course Directors: Stephen L. Ondra, Charles Kuntz, IV

Faculty: Praveen V. Mummaneni, Christopher I. Shaffrey, Laurence D. Rhines, Richard G. Fessler, Regis W. Haid, Jr.

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

PC34 \$350
Pain of Spinal Origin: A Comprehensive Approach

Course Director: Jaimie M. Henderson

Faculty: Edward C. Benzel, Christopher I. Shaffrey, Joel L. Seres, Joshua P. Prager

Learning Objective: This course reviews the practical aspects of pain physiology through a discussion of the anatomical structures that have the potential to be painful. Participants will be exposed to the skills necessary to make an accurate structural diagnosis using the history, physical examination, radiological findings, and confirmatory diagnostic injections. Upon completion of this course, participants will be able to describe therapeutic options for spinal pain management, including the use of rehabilitation techniques, medications, radiofrequency neurotomy, spinal cord stimulation, and surgery.

NEW! **PC35 \$425**
Dynamic Stabilization: Fad or Future?

Course Directors: Russ P. Nockels, Nevan G. Baldwin

Faculty: Larry T. Khoo, Edward C. Benzel, Fred H. Geisler

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

CNS OPENING RECEPTION

6:30 - 8:30 pm

Hosted by the CNS

San Diego Aircraft Carrier Museum

Live the adventure. Honor the legend. Join us aboard the historical USS Midway – San Diego's Aircraft Carrier Museum—for the 2007 CNS Opening Reception. You'll build a lifetime of memories and camaraderie with your colleagues, as you take in an unparalleled 360-degree view of San Diego's sparkling skyline and Coronado Bay Bridge.



Each Annual Meeting registrant will receive one complimentary ticket to the CNS Opening Reception to join their colleagues for an assortment of sumptuous hors d'oeuvres and beverages aboard the breathtaking, historical USS Midway.

*Photo: Courtesy San Diego Aircraft Carrier Museum.

WELCOME



The Congress of Neurological Surgeons extends a special welcome to our colleagues from the Japanese Congress of Neurological Surgeons (JCNS).



Be sure to join us for these Special Lectures and Events:

Japanese Luncheon Seminar:
Surgical Resection of Skull Based Neoplasms (T20)
Tuesday, September 18, 12:30 - 2:00 pm

JCNS Guest Lecture:
Treatment Considerations in Cervical OPLL and Spondylosis
Yoshinobu Iwasaki
Tuesday, September 18 (GSS II) 11:00 - 11:15 am

Special Lecture:
Moyamoya Disease: New Insights Into its Etiology and Management
Teiji Tominaga, Japanese Congress of Neurological Surgeons President
Wednesday, September 19 (GSS III) 10:58 - 11:10 am

CNS International Reception
Wednesday, September 19, 2007 - See Page 64 for Details.

Be Part of the Future of Neurosurgical Education!

IML
Integrated Medical LearningSM

The Congress of Neurological Surgeons introduces Integrated Medical LearningSM (IML) for the 2007 CNS Annual Meeting.

Pre-meeting Surveys are now available. Log in today to share your experience and opinions. Survey results drive the agenda for each of these IML Sessions:

- ❖ **Monday, September 17 – Tumor**
Navigating Rational Treatment Strategies for Brain Metastases: Data and Practice.
- ❖ **Tuesday, September 18 – Spine**
Navigating Rational Treatment Strategies for Spondylolisthesis: Data and Practice.
- ❖ **Wednesday, September 19 – Vascular**
Navigating Rational Treatment Strategies for Cerebral Aneurysms: Data and Practice.

The CNS offers additional opportunities for attendee feedback and scientific interchange during and following these interactive sessions. Attendees will receive additional CME credit for participating in all three phases of IML.

Pre-meeting surveys were sent via e-mail in early May. To request a survey, contact us at info@1cns.org.

MONDAY, SEPTEMBER 17, 2007

GENERAL SCIENTIFIC SESSION I



MONDAY, SEPTEMBER 17: GENERAL SCIENTIFIC SESSION I

AT-A-GLANCE

7:00 - 11:45 am

General Scientific Session I

Navigating Change: Charting a New Course in Brain Tumor Therapy

7:40 - 8:50 am

Integrated Medical LearningSM Session I

9:00 - 9:30 am

Robert Sapolsky:
CNS Julian T. Hoff Lecture

9:00 am - 4:30 pm

Exhibits Open

9:30 - 10:30 am

Coffee with Exhibitors

10:30 - 10:55 am

L. Dade Lunsford:
Honored Guest Presentation

11:05 - 11:45 am

Douglas Kondziolka:
Presidential Address

12:30 - 2:00 pm

Luncheon Seminars

2:00 - 5:30 pm

Special Courses

2:00 - 5:45 pm

CNS Original Science Program: Neurosurgical Forum and Select Abstract Session

3:30 - 4:00 pm

Refreshments with Exhibitors

Navigating Change: Charting a New Course in Brain Tumor Therapy

7:00 - 11:45 am

Presiding Officer: Anthony L. Asher

Moderators: Frederick G. Barker, Michael A. Vogelbaum

Learning Objective: This General Scientific Session investigates novel techniques in the diagnosis, imaging, intra-operative detection of, and treatment

of gliomas and cerebral metastases. The session incorporates interactive components and review of medical evidence designed to evolve current knowledge, attitudes and practice in this area of treatment. At the end of the session, participants will be able to list new treatment algorithms, identify novel diagnostic and therapeutic techniques, and participate in the evolution of knowledge in this practice area.

"Extending the Horizons of Glioma Surgery: New Techniques, Novel Goals"

7:00 - 7:10 am

Mapping the Horizon: Techniques to Optimize Tumor Resection Before and During Surgery
Mitchel S. Berger

7:10 - 7:20 am

Creating an Intra-operative Map: Fluorescent Visualization of Residual, Resectable Tumor
Jorg-Christian Tonn

7:20 - 7:30 am

Voyaging Beyond Resection: Finding and Treating Residual Disease
Michael A. Vogelbaum

7:30 - 7:40 am

Crossing Borders: Surgically-mediated Drug Delivery Techniques
Russell R. Lonser

IML Integrated Medical LearningSM

Navigating Rational Treatment Strategies for Brain Metastases: Data and Practice

7:40 - 7:45 am

Introduction to Integrated Medical LearningSM (IML)
Anthony L. Asher

7:45 - 8:50 am

Integrated Medical LearningSM Session I
Moderators:
Frederick G. Barker, Michael A. Vogelbaum

Case Presentations

Audience Polls

- Current Opinion
- Evidence
- Practice

Digitally Submitted Questions

Expert Discussion: Up-Front Therapies for Patients with Brain Metastases

Minesh P. Mehta, Stephen B. Tatter



8:50 - 8:55 am
CNS Fellowship Presentation

8:55 - 9:00 am

Inauguration of the CNS Julian T. Hoff Lectureship
Anthony L. Asher Sanjay Gupta

9:00 - 9:05 am

Introduction of CNS Julian T. Hoff Lectureship
Robert Sapolsky



9:05 - 9:30 am
CNS Julian T. Hoff Lectureship: **Navigating Change and the Open Mind**
Robert Sapolsky

9:30 - 10:30 am
Coffee with Exhibitors

10:30 - 10:35 am
Introduction of Honored Guest L. Dade Lunsford
Douglas Kondziolka



10:35 - 10:55 am
Honored Guest Lecture: **Navigating Change and the Acoustic Neuroma Story: Methods, Outcomes and Myths**
L. Dade Lunsford

10:55 - 11:05 am
The CNS Resident Award: Intrinsic Axon Growth Capacity of Adult Sensory Neurons Requires Smad1 and is Enhanced by BMPs
Hongyan Jenny Zou

11:05 - 11:15 am
Introduction of CNS President Douglas Kondziolka
Mark N. Hadley



11:15 - 11:45 am
Presidential Address
Douglas Kondziolka



MONDAY, SEPTEMBER 17, 2007
LUNCHEON SEMINARS
12:30 – 2:00 PM

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

M01
Resident/Honored Guest Luncheon
COMPLIMENTARY TO CNS RESIDENT MEMBERS!

Moderator: Michael P. Steinmetz

Faculty: L. Dade Lunsford

Learning Objective: Participants and our Honored Guest will review and discuss the Honored Guest's thoughts on neurosurgical education, career development, and life-long learning.

M02
Disk Arthroplasty of the Cervical and Lumbar Spine

Moderator: Stephen Papadopoulos

Faculty: Robert J. Hacker, Vincent C. Traynelis, Domagoj Coric

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

M03
Minimally Invasive Spine Surgery

Moderator: Richard G. Fessler

Faculty: Kevin T. Foley, Iain H. Kalfas, Tim E. Adamson

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

M04
Anterior Skull Base Approaches: What, When and How?

Moderator: Anil Nanda

Faculty: Fred Gentili, Franco DeMonte, Rafael J. Tamargo

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the techniques available in anterior skull base surgery including endoscopic techniques and be able to discuss when these techniques are appropriate to use. Participants will be able to discuss the key steps in the successful execution of a particular anterior skull base approach.

M05
Acoustic Schwannomas: Options, Approaches and Results

Moderator: John G. Golfinos

Faculty: Michael B. Sisti, Frederick G. Barker, Robert C. Rostomily

Learning Objective: At the conclusion of this seminar, participants will be able to discuss treatment options for acoustic schwannomas, be able to discuss the surgical approaches, and be able to discuss treatment results of acoustic schwannomas, including surgical and radiosurgical techniques.

M06
State of the Art Management of Brain Metastases

Moderator: Raymond Sawaya

Faculty: William A. Friedman, Abhijit Guha, Masaaki Yamamoto, Akira Matsumura

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

M07
Malignant Gliomas: Future Treatment Alternatives

Moderator: Henry Brem

Faculty: Mark L. Rosenblum, Kevin A. Walter, Marc Levivier, Hiroki Namba

Learning Objective: At the conclusion of this seminar, participants will be able to discuss current and emerging techniques in the treatment of malignant gliomas. Participants will also be able to discuss the role of these techniques in the development and implementation of new therapies for malignant glioma tumor patients.

M08
Intraventricular Endoscopy

Moderator: Alan Cohen

Faculty: Benjamin Warf, Anthony M. Avellino, Kiroyuki Kinouchi, Amin Kassam

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



M09
Modern Management of Posterior Circulation Aneurysms

Moderator: Daniel L. Barrow

Faculty: Robert H. Rosenwasser, Michael T. Lawton, Gazi Yasargil, Nobuhito Saito

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the natural history, surgical and endovascular treatment of anterior circulation aneurysms. Participants will be able to choose appropriate treatment strategies and discuss the advantages and risks associated with each.

M10
Salvage Strategies for Pseudoarthrosis in the Cervical and Lumbar Spine

Moderator: William C. Welch

Faculty: William E. Krauss, Anthony Frempong-Boadu, Michael Y. Wang

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

M11
Endovascular Management of Cerebrovascular Pathology: Indications, Techniques, and Outcomes

Moderator: Michael B. Horowitz

Faculty: Charles J. Prestigiacomo, Nobuo Hashimoto, Sean D. Lavine

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the evidence-based indications for endovascular management of cerebrovascular disease and be able to discuss the limitations and complications associated with endovascular therapies.

M12
Craniosynostosis

Moderator: James T. Goodrich

Faculty: Ian F. Pollack, Michael L. Levy, Mark R. Proctor

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the craniosynostosis syndromes and discuss the appropriate indications for microsurgical management for each type and comprehend the management of syndromic craniosynostosis. Participants will be exposed to new techniques relevant in the management of craniosynostosis including endoscopic approaches.

M13
Surgery for Psychiatric Disorders: Current Treatments and Emerging Applications

Moderator: Ali R. Rezai

Faculty: Rees Cosgrove, Kelly D. Foote, Brian H. Kopell

Learning Objective: At the conclusion of this seminar, participants will be able to discuss current surgical treatments for obsessive-compulsive disorder, major depression, and other psychiatric disorders, as well as potential future applications of neuromodulatory techniques for these disorders.

M14
Pituitary Surgery: Fundamentals and Nuances

Moderator: Nelson M. Oyesiku

Faculty: Edward H. Oldfield, William T. Couldwell, Kaoru Kurisu, John A. Jane, Jr.

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

M15
Error and Complications and Their Avoidance

Moderator: Mark A. Bernstein

Faculty: Stephen M. Russell, Frederick F. Lang, H. Louis Harkey

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the ethical decisions involved in everyday neurosurgical practice as well as collaborations that may be considered a conflict of interest in the academic arena.

M16
Neurosurgical Management of Difficult Pediatric Problems: Case Studies

Moderator: Joseph R. Madsen

Faculty: A. Leland Albright, Rick Abbott, Richard C. Anderson

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the surgical management of challenging problems in children including difficult shunts, pediatric stroke, spasticity, deep seated tumors and challenging congenital anomalies. Participants will be able to discuss complication avoidance and outcomes in the treatment of spasticity.

M17
Neuromodulation for Pain, Movement Disorders and Stroke Rehabilitation

Moderator: Jaimie M. Henderson

Faculty: Jeffrey A. Brown, Giovanni Broggi, Aviva Abosch

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



MONDAY, SEPTEMBER 17, 2007 NEUROSURGICAL FORUM

CNS Original Science Program CNS Neurosurgical Forum

The Congress of Neurological Surgeons has been committed throughout its history to promoting and facilitating scientific inquiry, education and exchange. Consistent with that central tradition, the Scientific Program Committee has developed the CNS Neurosurgical Forum, during which the most compelling, novel and high impact science from all neurosurgical subspecialties will be presented in a concentrated, interactive symposium. During the Forum, investigators will communicate their observations in two distinct formats: Open Papers and Select Abstracts. During the CNS Open Paper programs (2:00 - 4:00 pm), leaders in neurosurgical science will share with you results of their cutting-edge research. These sessions will consist of platform presentations specifically designed to make science relevant to your neurosurgical practice. The Open Paper programs will be organized by neurosurgical subspecialty and will be conducted simultaneously in physically contiguous lecture halls. This arrangement will allow attendees to shuttle rapidly between venues to see various specific presentations, thereby encouraging interdisciplinary communication and facilitating scientific exchange. An expanded and enhanced Select Abstracts session (4:00 - 5:45 pm) will provide you an opportunity to talk directly with the author of the

abstract that interests you most. Ask questions, talk through techniques, and listen to poster presentations live. Authors of Select Abstracts will be asked to present their work during a multi-disciplinary open poster session in the CNS Neurosurgical Forum arena after the Open Paper programs. This is an outstanding opportunity for interactive science with neurosurgeons from all subspecialty areas of practice and scientific interests.

Entirely new this year is an Open Papers session concentrating on funding mechanisms and implementation of both basic and clinical research. During the Select Abstracts session, there will also be a gathering area for investigators as the focus of a poster collection presenting currently active clinical trials. Trial investigators will be available to discuss these cutting edge clinical research opportunities. Finally, another new feature of this year's Forum is the ability of all participants to continue their scientific dialogue through web-based interactive mechanisms after the end of the meeting.

Learning Objective: At the conclusion of this interactive educational session, participants will be able to discuss the current basic and clinical scientific data relevant to the major subspecialties of neurosurgery. They will also become familiar with those areas in neuroscience where the present knowledge base is incomplete and will be better able to help define priorities for future research efforts.

2:00 - 3:00 pm

CNS Neurosurgical Forum – Council of State Neurosurgical Societies

Moderators: Joshua M. Rosenow, Catherine A. Mazzola

2:00 - 2:10 pm

CSNS Resident Award

801

Geographical Neurosurgical Workforce Analysis from 1990-2005 Improves Our Understanding of the Role of Market Factors

Todd Cameron Hankinson; Leif Bohman; Monique Vanaman; Natalia Egorova; Katie O. Orrico; Jeffrey Bruce; Deborah Benzil

2:10 - 2:20 pm

802

Council of State Neurosurgical Societies Neurosurgical Forum The Impact of Government Regulation of Ambulatory Surgical Facilities on Access to Elective Neurosurgical Procedures

Elana C. Fric-Shamji; Mohammed F. Shamji

2:20 - 2:30 pm

803

Referral Criteria for Non-traumatic Intracranial Hemorrhage: Neurology versus Neurological Surgery

N. Scott Litofsky; Itay Melamed; Josh Mathews

2:30 - 2:40 pm

804

National Trends in Vertebral Augmentation Procedures for the treatment of Vertebral Compression Fractures in the United States: 1993-2004.

Shivanand P. Lad; Chirag G. Patil; Eleonora M. Lad; Justin G. Santarelli; Maxwell Boakye

2:40 - 2:50 pm

805

Microbial Infections and Chemoprophylaxis in a Quaternary Neurosurgical Unit: An Analysis of 26,018 Consecutive Procedures (1997-2006)

Manish S. Sharma; Bhawani S. Sharma; Ashma Vohra; Arti Kapil

2:50 - 3:00 pm

806

Surgical Site Infections (SSIs) after Elective Neurosurgery: Results of a Prospective Clinical Study on 3394 Consecutive Operations

Laura Grazia D. Valentini; Cecilia Casali; Federico G. Legnani; Sergio D. Visintini; Giovanni Broggi; Caterina Uberti Foppa

4:00 - 5:45 pm

Council of State Neurosurgical Societies Select Abstract Session

Moderator: Satish Krishnamurthy



2:00 - 4:00 pm

CNS Neurosurgical Forum – Section on Cerebrovascular Surgery

Moderators: E. Sander Connolly, Jr., Robert M. Friedlander

2:00 - 2:10 pm

807

Long-term Excess Mortality in 623 Patients with Brain Arteriovenous Malformations

Aki Laakso; Reza Dashti; Johanna Seppänen; Seppo Juvela; Kristjan Väärt; Mika Niemelä; Risto Sankila; Juha A. Hernesniemi

2:10 - 2:20 pm

808

Endovascular Treatment of Dural Arteriovenous Fistulas (dAVFs) of the Cavernous Sinus, Clinical Outcomes and Techniques Over an 18-year Period

Zachary A. Smith

2:20 - 2:30 pm

809

Treatment of Giant and Complex Intracranial Aneurysms with Cardiac Standstill: Experience with 103 Patients

Francisco A. Ponce; Robert F. Spetzler; Patrick P. Han

2:30 - 2:40 pm

810

Management of Large and Giant Cerebral Aneurysms by Endovascular Therapy: A Series of 61 Consecutive Patients

Michael J. Alexander; Ketan R. Bulsara; Ali R. Zomorodi

2:40 - 2:50 pm

Galbraith Award

811

Genetic Risk Factors for Subarachnoid Haemorrhage: Insights into Pathophysiology from Candidate Gene Approaches

Laleh Morgan; Jackie Cooper; Hugh Montgomery; Steve Humphries; Neil Kitchen

2:50 - 3:00 pm

812

Linkage and Copy Number Variation Analysis of Large Families and Sibling Pairs Demonstrates Locus Heterogeneity for Familial Intracranial Aneurysms

Kaya Bilguvar; Fatih Bayrakli; Yasar Bayri; Ali Kemal Ozturk; Michael L. DiLuna; Mohamad Bydon; Murat Gunel

2007 CNS NEUROSURGICAL FORUM & SELECT ABSTRACTS SESSION

Monday, September 17, 2007

2:00 - 5:45 PM

The centerpiece of Monday afternoon is the CNS Neurosurgical Forum and Select Abstracts, now featuring a new, interactive format!

Neurosurgical Forum

- ❖ Concentrated Neurosurgical symposium featuring the most compelling, novel and high-impact clinical and basic science.
- ❖ Multi-subspecialty assembly presented in simultaneous and physically-contiguous sessions.
- ❖ Attendees move efficiently between adjacent meeting rooms to see various presentations and interact with presenters outside their subspecialty.
- ❖ Attendees submit comments electronically to abstract authors following their presentations.

Select Abstracts Session

- ❖ Authors present their work during a multi-disciplinary Open Poster Session following the CNS Neurosurgical Forum Sessions.
- ❖ Attendees listen to poster presentations live, talk through techniques with the author and ask questions about the abstract that interests them most.
- ❖ Attendees and authors participate in electronic discussions on each poster throughout and following the Annual Meeting.





MONDAY, SEPTEMBER 17, 2007 NEUROSURGICAL FORUM

MONDAY, SEPTEMBER 17: NEUROSURGICAL FORUM

3:00 - 3:10 pm

813

Haptoglobin 2-2 Genotype Determines Chronic Vasospasm after Experimental Subarachnoid Hemorrhage

Kaisorn L. Chaichana; Andrew P. Levy; Rachel Miller-Lotan; Sophia Shakur; Rafael J. Tamargo

3:10 - 3:20 pm

814

Intracranial Atherosclerosis: Treatment with Balloon Expandable and Self Expanding Stents

David B. Niemann; Aquilla S. Turk; Azam S. Ahmed; Kari A. Pulfer; Beverly Aagaard-Kienitz; Ross Levine

3:20 - 3:30 pm

815

Aortic Arch Anatomy and Neurologic Complications with Carotid Artery Stenting Among Octogenarians

Rodney Samuelson; Ramachandra P. Tummala; Babak S. Jahromi; Junichi Yamamoto; Gursant Atwal; Elad I. Levy; Adnan H. Siddiqui; Charles A. Guidot; L.N. Hopkins

3:30 - 3:40 pm

816

Long-term Clinical Outcome of Patients Who Underwent Revascularization Surgery for Moyamoya Disease Compared to the Natural History

Raphael Guzman; Michael E. Kelly; Michael Lim; Teresa Bell-Stephens; Marco B. Lee; Gary K. Steinberg

3:40 - 3:50 pm

817

Regional Cerebrovascular Reactivity Predicts Outcome in Moyamoya Patients Who Underwent Revascularization

Abel Huang

3:50 - 4:00 pm

818

The Beneficial Role of Extracellular Signal Regulated Kinases 1 and 2 (ERK1/2) in Exercise-induced Neuroprotection after Stroke

David F. Jimenez; Yuchuan Ding

4:00 - 5:45 pm

Section on Cerebrovascular Surgery Select Abstract Session

Moderator: Murat Gunel

2:00 - 4:00 pm

CNS Neurosurgical Forum – Section on Disorders of the Spine and Peripheral Nerves

Moderators: Mark R. McLaughlin, Praveen V. Mummaneni

2:00 - 2:10 pm

819

2-Year Results from a Prospective, Randomized IDE Study of the Prestige ST Cervical Disc

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

2:10 - 2:20 pm

820

A Long-term Radiographic and Clinical Evaluation of a New rhBMP-2 Formulation in a Prospective Randomized Lumbar Posterolateral Spine Fusion Study

David Alexander; Stewart Bailey; R. John Hurlbert; Edward Abraham; Robert McBroom; James Mahood; Charles Fisher

2:20 - 2:30 pm

821

Superiority of Multiple level Cervical Arthroplasty Outcomes versus Single level Outcomes 229 Consecutive PCM Prostheses

Luiz H.D.M. Pimenta; Paul C. McAfee; Bryan W. Cunningham; Andy Cappuccino; Juliano Lhamby; Ihab Gharzeddine; Carlos Fernando Arias Pesántez

2:30 - 2:40 pm

822

Optimal Timing of Surgery for Traumatic Central Cord Syndrome

Alexander K. Powers; John A. Wilson, Jr.; Charles L. Branch, Jr.

2:40 - 2:50 pm

823

National Inpatient Complications and Outcomes after Surgery for Spinal Metastasis from 1993-2002

Chirag Gadkary Patil; Shivanand P. Lad; Teja S. Patil; Justin Santarelli; Maxwell Boakye

2:50 - 3:00 pm

824

Role of PET Imaging in the Surgical Management of Peripheral Nerve Sheath Tumors in Patients with NF1

Ziv Williams; Jean-Valery Coumans; Miriam A. Bredella; Martin Toriani; Francis Hornicek; Hugue Ouellette; William Palmer; Allan Fischman; Scott Plotkin

3:00 - 3:10 pm

825

Use of Skin-derived Stem Cells To Promote Peripheral Nerve Regeneration and Recovery from Chronic Denervation

Sarah K. Walsh; Rajiv Midha



3:10 - 3:20 pm

826

A Proposed Grading System for Intramedullary Spinal Cord Tumors in Children: Predictive Value for Subsequent Progressive Spinal Deformity

Matthew McGirt; Kevin C. Yao; Timothy F. Witham; Ali Bydon; Kaisorn L. Chaichana; Fred Epstein; George I. Jallo

3:20 - 3:30 pm

827

Time Course of Syringomyelia Resolution after Decompression of Chiari I Malformation

Nicholas Michael Wetjen; John D. Heiss; Edward H. Oldfield

3:30 - 3:40 pm

828

Aggressive Surgical Correction of Cervical Kyphotic Deformity Results in Improved Neurological Outcome

Sanjay S. Dhall; Regis W. Haid Jr.; Gerald E. Rodts, Jr.; Praveen V. Mummaneni

3:40 - 3:50 pm

829

Does Proximal Facet Violation with Intrapedicular Fixation Destabilize the Adjacent Level? An In-Vitro Human Cadaveric Assessment

Mario J. Cardoso; Michael K. Rosner; Anton E. Dmitriev; Melvin D. Helgeson; Norman W. Gill; Timothy R. Kuklo; Ronald A. Lehman

3:50 - 4:00 pm

830

Postoperative Infection of the Instrumented Spine: A Review of 1,332 Procedures Over 5 Years

Gregory S. McLoughlin; Daniel M. Sciubba; Jean Paul Wolinsky; Ali Bydon; Ziya L. Gokaslan; Timothy F. Witham

4:00 - 5:45 pm

Section on Disorders of the Spine and Peripheral Nerves Select Abstract Session

Moderator: Michael Y. Wang

2:00 - 4:00 pm

CNS Neurosurgical Forum – Section on Neurotrauma and Critical Care

Moderators: Eve Tsai, Craig H. Rabb

2:00 - 2:10 pm

Synthes Award for Resident Research on Brain and Craniofacial Injury

831

Oxidation in Cerebral Cellular and Mitochondrial Compartments Induced by Normobaric Hyperoxia after Traumatic Brain Injury

Martin M. Tisdall; Ilias Tachtsidis; Terence S. Leung; Neil Kitchen; Clare E. Elwell; Martin Smith

2:10 - 2:20 pm

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

832

Cannabinoid CB2 Receptor Activation Attenuates Motor and Autonomic Function Deficits in a Mouse Model of Spinal Cord Injury.

Darric E. Baty; Ming Zhang; Hongbo Li; Carolyn J. Erb; Doina Ganea; Christopher M. Loftus; Jack Jallo; Ronald F. Tuma

2:20 - 2:30 pm

Novo Nordisk Award

833

Safety and Efficacy of Recombinant Activated Factor VIIa (rFVIIa) in Traumatic Intracerebral Hemorrhage: Results of a Prospective, Randomized, Multicenter Dose-escalation Clinical Trial

Brett E. Skolnick; Raj K. Narayan; Lawrence Marshall; Michael N. Tillinger; Andrew Maas; the rFVIIa Traumatic ICH Study Group

2:30 - 2:40 pm

834

Treatment of Severe Diffuse Axonal Injury in Rats with an Acute Intravenous Dose of Polyethylene Glycol Dramatically Reduces Cytotoxic Edema Formation at One Week on Diffusion-weighted Imaging

Philip Yoder Smucker; S. K. Hekmatyar; Navin Bansal; Richard Borgens

2:40 - 2:50 pm

835

The Impact of Neurosurgical Coverage and Trauma Center Status on Patient Outcome

Arash Farahvar; Sudha Pandalai; Mark Gestring; Jason M. Schwalb

2:50 - 3:00 pm

836

Treatment of Traumatic Brain Injury in Mice with Erythropoietin

Asim Mahmood; Ye Xiong; Dunyue Lu; Michael Chopp

3:00 - 3:10 pm

837

Hippocampal Changes in the Lateral Controlled Cortical Impact Traumatic Brain Injury Model in Mice

Jeffrey Catrambone; Wenzhuan He; Joseph Menonna; Allen H. Maniker; Peter W. Carmel; Peter Dowling



MONDAY, SEPTEMBER 17, 2007
NEUROSURGICAL FORUM

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3:10 - 3:20 pm

838

Monitoring of Cerebral Metabolism: Non-ischemic Impairment of Oxidative Metabolism following Severe Traumatic Brain Injury

Menashe Zaaroor; Gill E. Svirin; Jean F. Soustiel

3:20 - 3:30 pm

839

Early Hemispheric Blood Flow Asymmetry is Associated with the Onset of Vasospasm

Darrin J. Lee; Thomas C. Glenn; Paul M. Vespa; Neil A. Martin

3:30 - 3:40 pm

840

MRI Fails To Identify Unstable Cervical Spine Injuries Missed by CT in Patients without Neurologic Deficit: The Four-Year Experience of a Level I Trauma Center

Nestor D. Tomycz; Brandon Chew; Yue-Fang Chang; Richard M. Spiro; David O. Okonkwo

3:40 - 3:50 pm

841

The Use of Biodegradable Poly(e-caprolactone) Scaffolds in a Rat Spinal Cord Injury Model

Hunter Geoffrey Brumblay; Jean-Christophe A. Leveque; Darice Y. Wong; Angela Fuller; Scott Hollister; Frank La Marca

3:50 - 4:00 pm

842

Transplantation of Bone Marrow Derived Mesenchymal Stromal Cells as a Scaffold for Adult Neural Stem/Progenitor Cells in the Injured Adult Rat Spinal Cord

Ann Margaret Parr; Charles Tator

4:00 - 5:45 pm

**Section on Neurotrauma and Critical Care
Select Abstract Session**

Moderator: Odette Harris

2:00 - 4:00 pm

**CNS Neurosurgical Forum – Section on
Pediatric Neurological Surgery**

Moderators: Joseph R. Madsen, Edward R. Smith

2:00 - 2:10 pm

843

Duraplasty versus Cranial Decompression Alone Reduces Treatment Failure for Pediatric Chiari I Patients with Tonsil Herniation Caudal to C1 but Does Not Effect Outcome in Patients with Tonsil Herniation Rostral to C1

Matthew McGirt; Frank Attenello; Kaisorn L. Chaichana; Jon D. Weingart; Benjamin S. Carson; George I. Jallo

2:10 - 2:20 pm

844

Clinical and Radiological Predictors of Treatment Failure after Suboccipital Decompression for Pediatric Chiari I Malformation: Analysis of 279 Consecutive Cases

Matthew McGirt; Frank J. Attenello; Kaisorn L. Chaichana; Jon Weingart; Benjamin Carson; George I. Jallo

2:20 - 2:30 pm

845

Aquaporin 1 and Carbonic Anhydrase II Expression in Choroid Plexus Pathology

Parham Moftakhar; Zachary Smith; Dennis Malkasian; Harry V. Vinters; Jorge A. Lazareff

2:30 - 2:40 pm

846

IQ and Scholastic Achievement in Children with Hydrocephalus: Are There Strategies of Remediation?

Maureen Lacy; Martin Oliveira; Benjamin Pyykkonen; Scott Hunter; David M. Frim

2:40 - 2:50 pm

847

Three Dimensional Endoscopy in Concurrent ETV and Biopsy of Third Ventricular Lesions

Lissa Catherine Baird; Hal S. Meltzer; Michael L. Levy

2:50 - 3:00 pm

848

Endoscopic Endonasal Skull Base Surgery in the Pediatric Population: Outcomes and Complications in 54 Young Patients

Daniel M. Prevedello; Amin Kassam; Ajith J. Thomas; Paul A. Gardner; Arlan H. Mintz; Carl Snyderman; Ricardo Carrau

3:00 - 3:10 pm

849

Rac1-regulated Signaling as a Novel Therapeutic Target for Medulloblastoma

Salvatore M. Zavarella; Shawn Belverud; Amanda Chan; Bettie Steinberg; Mark Mittler; Steven J. Schneider; Marc H. Symons

3:10 - 3:20 pm

850

Expression Profiling of Embryonal Tumors Reveals the mTOR Pathway as a Therapeutic Target

Manuel Ferreira; Scott L. Pomeroy



3:20 - 3:30 pm

851

Laminoplasty versus Laminectomy Is Associated with a Decreased Incidence of Spinal Deformity after Resection of Intramedullary Spinal Cord Tumors in Children

Matthew McGirt; Kevin C. Yao; Timothy F. Witham; Ali Bydon; Kaisorn L. Chaichana; Fabien Bitan; Fred Epstein; George I. Jallo

3:30 - 3:40 pm

852

Minimally Invasive Tethered Cord Release in Pediatric Patients

Medina Calli Kushen; Daniel Curry

3:40 - 3:50 pm

853

Dural Inversion Procedure for Cranial Revascularization in Children with Moyamoya Syndrome: Surgical Results and Clinical Outcome over a 10-year Period

Andrew C. Roeser; Charles W. McCluggage; Robert C. Dauser

3:50 - 4:00 pm

854

A Relevant Animal Model of Human Neural Tube Defects, Implications for Fetal Surgery

Timothy M. George; Yohannes G. Asfaw; Thomas J. Cummings

4:00 - 5:45 pm

Section on Pediatric Neurological Surgery Select Abstract Session

Moderator: Sarah J. Gaskill

2:00 - 4:00 pm

CNS Neurosurgical Forum – Section on Stereotactic and Functional Neurosurgery

Moderators: Philip A. Starr, Michael Schulder

2:00 - 2:10 pm

855

Subcortical Ensemble Recordings for the Control of a Brain Machine Interface

Daniel A. Clayton; Timothy Hanson; Miguel A.L. Nicolelis; Dennis A. Turner

2:10 - 2:20 pm

856

Intracranial EEG Seizure Onset Pattern and Surgical Outcome in Non-Lesional Extratemporal Epilepsy

Nicholas Michael Wetjen; Greg Worrell; Jeffrey Britton; Gregory Cascino; W. R. Marsh; Fredric B. Meyer; Cheolsu Shin; Elson So

2:20 - 2:30 pm

857

Improving the Selection of Temporal Lobectomy Candidates through the Use of Multiple Subdural Electroencephalographic Prognostic Parameters

Namath Syed Hussain; James Bogert; Martin E. Weinand

2:30 - 2:40 pm

858

Developing a Two Dimensional Brain Computer Interface Using Electrocrticography

Eric C. Leuthardt; Miller Kai; Nick Anderson; Dave Limbrick; Joshua Dowling; Jonathan Wolpaw; John Miller; Daniel Moran; Jeffrey G. Ojemann; Gerwin Schalk

2:40 - 2:50 pm

859

Stereotactic Ventroraal Thalamotomy for Task-specific Focal Hand Dystonia (Writer's or Musician's Cramp)

Takaomi Taira

2:50 - 3:00 pm

860

Accuracy of Targeting Using a Frameless Stereotactic Targeting System for Deep Brain Stimulation Surgery

Milind S. Deogaonkar

3:00 - 3:10 pm

861

Long-term Results of Bilateral Anterior Cingulotomy for Severe Treatment-Resistant Major Depression

Donald C. Shields; Emad N. Eskandar; Scott Rauch; Ned Cassem; Alice Flaherty; Bruce Price; Rees Cosgrove; Darin D. Dougherty

3:10 - 3:20 pm

862

Feasibility Study of the Safety, Tolerability, and Efficacy of Deep Brain Stimulation in the Anterior Internal Capsule for Intractable Major Depression

Emad N. Eskandar; Scott Rauch; Mariko Jameson; Alice Flaherty; Dougherty Darin

3:20 - 3:30 pm

863

Feasibility Study of the Safety and Effectiveness of an Implantable Cortical Stimulation System for Subjects with Major Depression

Brian H. Kopell; Douglas Kondziolka; Darin D. Dougherty; Robert Howland; Harold H. Harsch; Jerry L. Halverson; Emad N. Eskandar; Alvaro Pascual-Leone; Michael Thase



MONDAY, SEPTEMBER 17, 2007 NEUROSURGICAL FORUM

MONDAY, SEPTEMBER 17: NEUROSURGICAL FORUM

3:30 - 3:40 pm

864

From Tail Cell to Functioning Dopamine Neuron: Therapeutic Cloning or Tall Tales

Viviane S. Tabar

3:40 - 3:50 pm

865

CD34+ Stem Cell Therapy in Chronic Stroke Patients

Shinn-Zong (John) Lin; Woei-Cherng Shyu; Hung Li

3:50 - 4:00 pm

866

Analyses of A Phase 1 Clinical Trial of AAV-NGF (CERE-110) Gene Therapy in Alzheimer's Disease

Roy A.E. Bakay; Zoe Arvanitakis; Mark Tuszynski; Steve Potkin; Ray Bartus; David Bennett

4:00 - 5:45 pm

**Section on Stereotactic and Functional Neurosurgery
Select Abstract Session**

Moderator: Konstantin Slavin

CNS Neurosurgical Forum – Section on Tumors

2:00 - 4:00 pm

Moderators: Frederick G. Barker, Jeffrey Bruce

2:00 - 2:10 pm

867

Complications in Expanded Endonasal Approaches: An Analysis of the Initial 700 Patients

Amin Kassam; Daniel M. Prevedello; Carl Snyderman; Ajith J. Thomas; Paul A. Gardner; Arlan H. Mintz; Ricardo Carrau

2:10 - 2:20 pm

Preuss Resident Research Award

868

Loss of the Mismatch Repair Protein MSH6 in Human Glioblastomas Is Associated with Tumor Progression during Temozolomide Treatment

Daniel P. Cahill; Patrick J. Codd; Tracy Batchelor; William T. Curry, Jr.; David N. Louis

2:20 - 2:30 pm

869

Comparison of Progenitors Isolated from the Subventricular Zone and Intracranial Tumors in the Adult Human Brain

Einar Osland Vik-Mo; Mercy Varghese; Havard Olstorn; Cecilie Sandberg; Morten C. Moe; Jon Berg-Johnsen; Iver A. Langmoen

2:30 - 2:40 pm

870

A Cost-Utility Analysis of Surgery and Radiotherapy versus Radiotherapy Alone in the Management of Patients with Metastatic Spinal Cord Compression

Julio C. Furlan; Chan Kelvin; Guillermo Sandoval; Christopher A. Klingler; Kenneth Lam; Roy A. Patchell; Audrey Laporte; Michael G. Fehlings

2:40 - 2:50 pm

871

Enhanced Immunity to an Intracerebral Tumor Upon Immunization with an Enriched DNA-Based Vaccine

Terry Lichtor; Roberta P. Glick; Lisa Feldman; Goro Osawa; Julian Hardman; Edward P. Cohen

2:50 - 3:00 pm

Synthes Skull Base Award

872

Management of Recurrent and Refractory Cushing's Disease with Reoperation and/or Proton Radiosurgery: Analysis of a Single Institution Experience

Manish K. Aghi; Josh Petit; Paul H. Chapman; Jay Loeffler; Anne Klibanski; Beverly Biller; Brooke Swearingen

3:00 - 3:10 pm

Mahaley Clinical Research Award

873

Outcomes of Patients with Brain Metastases for Melanoma and Renal Cell Carcinoma Primarily Managed with Stereotactic Radiosurgery

Randy L. Jensen; Dennis Shrieve

3:10 - 3:20 pm

874

Comparative Results of fMRI and Intra-operative Electrophysiologic Cortical Mapping in Sensory-motor and Language Area Localization in Patients with Supra-tentorial Tumors

Ioannis Z. Kapsalakis; Efsthathios D. Gotsis; Panagiotis Toulas; Dimitrios Verganelakis; Alexandros Papadimitriou; Joe S. Robinson; Ioannis Fezoulidis; Eftychia Z. Kapsalaki; Kostas N. Fountas

3:20 - 3:30 pm

875

The Cell Surface Chemokine Receptor CXCR4 Mediates the Proliferation of Glioblastoma Cancer Stem Cells

Moneeb Ehtesham; Khubaib Y. Mapara; Karen K. Deal; Charles B. Stevenson; Siprachanh Chanthaphaychith; John Kuttesch; Reid C. Thompson



3:30 - 3:40 pm

876

Targeting EGFR Over-expression in Glioblastoma Multiformes by Inhibition of DNA Repair

Clark C. Chen; Alan D'Andrea

3:40 - 3:50 pm

877

Nonreplicating Glioma Cells Support Oncolytic Herpes Replication If They Carry Specific Oncogene Deletions

Manish K. Aghi; Therese Visted; Ennio Antonio Chiocca

3:50 - 4:00 pm

878

Management of Spinal Intramedullary Ependymomas: The BNI Experience

Nicholas Bambakidis; Elisa Beres; Robert F. Spetzler

4:00 - 5:45 pm

Section on Tumors Select Abstract Session

Moderator: Mark E. Linskey

3:00 - 4:00 pm

**CNS Neurosurgical Forum –
Section on Pain**

Moderators: Joshua M. Rosenow, Christopher J. Winfree

3:00 - 3:10 pm

879

A Cellular Treatment for Chronic Neuropathic Pain: Intrathecal Transplant of the hNT2.17 Human Neuronal Cell Line

Stacey Quintero Wolfe; Nadia Cumberbatch; Miguel Martinez; Mary Eaton

3:10 - 3:20 pm

880

Stimulating the Brain to Relieve Pain: From Homunculi to Consciousness and Deep Brain Recording to Magnetoencephalography

Erlick A.C. Pereira; Alexander L. Green; Shouyan Wang; Nicola Ray;

Morten L. Kringelbach; Sarah L.F. Owen; Ned Jenkinson;

Dipankar Nandi; John F. Stein; Tipu Z. Aziz

3:20 - 3:30 pm

881

Spinal Cord Stimulation versus Reoperation for Failed Back Surgery Syndrome: A Cost Effectiveness and Cost Utility Analysis Based on a Randomized, Controlled Trial

Richard B. North; David Kidd; Jane Shipley; Rod S. Taylor

3:30 - 3:40 pm

882

Spinal Cord Stimulation with Interleaved Pulses: A Randomized, Controlled Trial

Richard B. North; David Kidd; John Olin; Jeffrey M. Sieracki; Marc Boulay

3:40 - 3:50 pm

Ronald R. Tasker Award

883

Classification of Trigeminal Neuralgia: Clinical, Therapeutic, and Prognostic Implications in a Series of 144 Patients Undergoing Microvascular Decompression

Jonathan P. Miller; Feridun Acar; Kim J. Burchiel

3:50 - 4:00 pm

884

Vascular Compression of Trigeminal Nerve in Normal Individuals: 3 Tesla MR Examination of 200 Nerves with 3D CISS Sequence

Selcuk Peker; Alp Dincer; Necmettin Pamir

4:00 - 5:45 pm

Section on Pain Select Abstract Session

Moderator: George T. Mandybur



2:00 - 4:00 pm

CNS Neurosurgical Forum – Navigating Clinical Trial Design and Translational Science

Learning Objective: Learners will hear didactic information on basic science and clinical research in neurological surgery. The session will include experts in neurosurgical basic science discussing examples of investigatory strategies as well as barriers to the careers of clinician-scientists. The session will also include experts active in clinical trial design and implementation, including leaders of current North American clinical trials. Learners will be able to list the criteria for participating as a center in trials as well as the benefits to neurosurgery and to individual patients of trial participation. They will also describe how to identify active trials that may be joined by additional centers.

2:00 - 3:00 pm

Navigating Basic and Translational Science

Moderator: Robert M. Friedlander

The Role of Neural Stem Cells in Brain Tumors

Peter B. Dirks

Understanding Brain Swelling

J. Marc Simard

The Operating Room as the Laboratory of the Neurosurgeon

Michael M. Haglund

Development of Neuroprotective Drugs

Robert M. Friedlander



MONDAY, SEPTEMBER 17, 2007 NEUROSURGICAL FORUM

MONDAY, SEPTEMBER 17: NEUROSURGICAL FORUM

3:00 - 4:00 pm

Navigating Clinical Trial Design and Participation

Moderator: Michael A. Vogelbaum

The Importance of Equipoise

Frederick G. Barker

Leveraging Academic-Community Relationships

Anthony L. Asher

How Neurocognitive Endpoints May Change Clinical Trial Designs

Elana Farace

Call for Participation: Open Trials of Interest to Neurosurgeons

Moderated by Michael A. Vogelbaum



4:00 - 5:45 pm

Active Clinical Trials Select Abstract Session

2:00 - 3:30 pm

Special Course I – Functional Neurosurgery Beyond Movement Disorders: Brain Implants for Epilepsy, Depression, Obsessive Compulsive Disorder, Stroke and Brain-Machine Interfaces

Course Director: Ali R. Rezai

Learning Objective: In the past decade, deep brain stimulation (DBS) has been demonstrated to be safe and effective for treating advanced and medication intractable Parkinson's disease, tremor and dystonia. There have been over 35,000 DBS implants worldwide and over 1000 publications pertaining to DBS for movement disorders. The safety, efficacy and adjustable profile of DBS has prompted clinical trials for treatment of intractable epilepsy, chronic pain, major depression and obsessive compulsive disorders. In addition to DBS, cortical stimulators are under investigation for applications such as stroke and other conditions. The field of brain machine interface and chronic recording from the brain is maturing rapidly beyond animal studies with human applications. At the completion of this course, participants will be able to describe the indications, rationale, technical approach, and preliminary outcomes of brain implants beyond the established movement disorders indication.

DBS for Psychiatric Disorders

Rees Cosgrove

DBS for Epilepsy

Gordon H. Baltuch

Cortical Stimulation for Stroke Rehabilitation

Roy A. Bakay

Brain Machine Interfaces

Gerhard Friehs

3:30 - 4:00 pm

Refreshments with Exhibitors

4:00 - 5:30 pm

Special Course II – Advances in the Management of Spinal Cord Injury

Course Director: Mark N. Hadley

Learning Objective: At the completion of the course, participants will list and explain the fundamentals of the acute and chronic management of spinal cord injuries. Rationale for treatment strategies and alternative approaches will be presented along with controversies and complication avoidance. Advances in rehabilitation science of spinal cord injury will be presented. New frontiers using stem cells and other emerging approaches will be discussed by experts in the field.

Acute Management Strategies

David O. Okonkwo

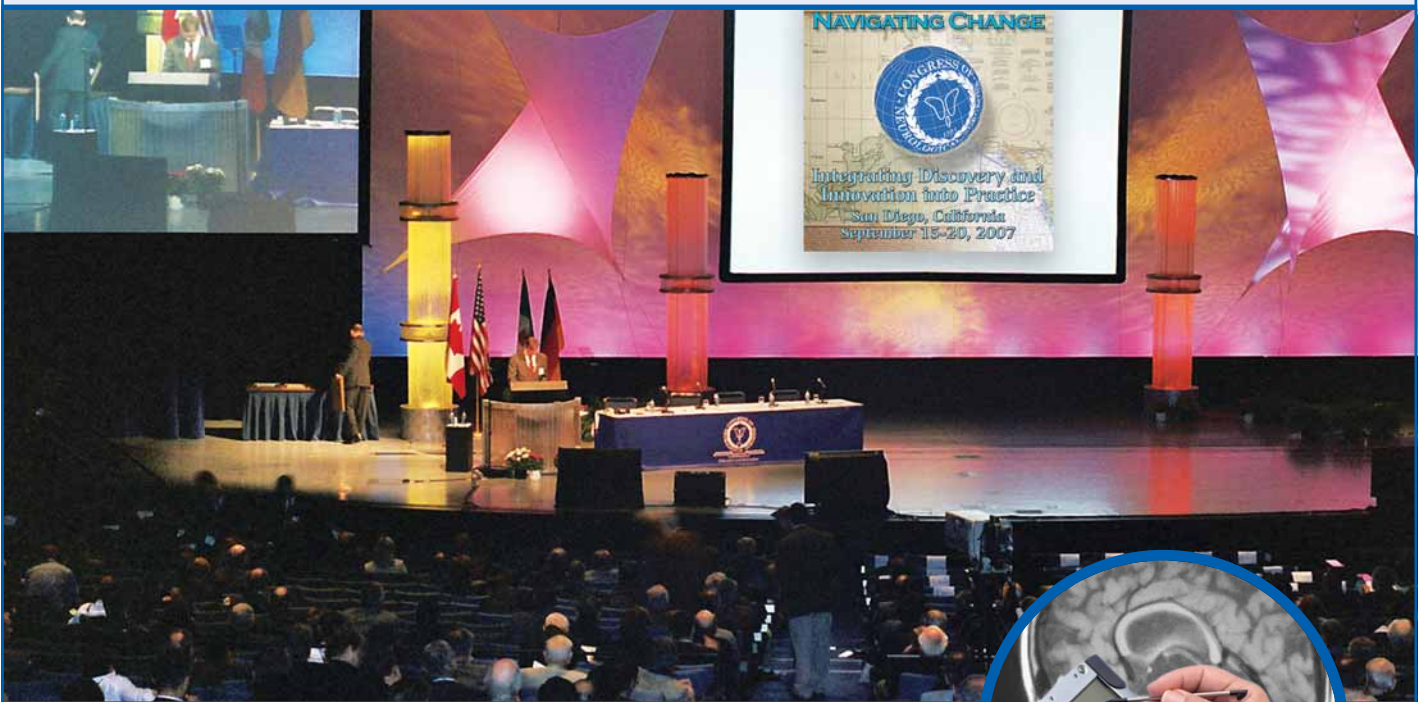
Advances in Spinal Cord Injury Science and Rehabilitation

Michael P. Steinmetz

Future Advances: Stem Cell Therapy, Regeneration, and Robotics

Michael G. Fehlings

IT IS WITH SINCERE APPRECIATION THAT THE
CONGRESS OF NEUROLOGICAL SURGEONS
ACKNOWLEDGES THE INTEGRA FOUNDATION AS
THE OFFICIAL 2007 CNS EDUCATION PARTNER.



IML Sessions at the 2007 CNS Annual Meeting were made possible through an educational grant provided by the Integra Foundation. Please be sure to join us for these interactive sessions:

MONDAY, SEPTEMBER 17 – TUMOR

Navigating Rational Treatment Strategies for Brain Metastases: Data and Practice.

TUESDAY, SEPTEMBER 18 – SPINE

Navigating Rational Treatment Strategies for Spondylolisthesis: Data and Practice.

WEDNESDAY, SEPTEMBER 19 – VASCULAR

Navigating Rational Treatment Strategies for Cerebral Aneurysms: Data and Practice.

CONGRATULATIONS TO THE CNS ABSTRACT AWARD WINNERS

CNS Resident Award

Monday, September 17

10:55 - 11:05 am

Hongyan Jenny Zou, MD

Intrinsic Axon Growth Capacity of Adult Sensory Neurons Requires Smad1 and is Enhanced by BMPs

BrainLab Community Neurosurgery Award

Monday, September 17

4:00 - 5:45 pm - Select Abstract

Luciano Mastronardi, MD

Utility of Intraoperative MR-tractography for the Resection of Intracranial Tumors

CSNS Resident Award

Monday, September 17

2:00 - 2:10 pm

Todd Cameron Hankinson, MD

Geographical Neurosurgical Workforce Analysis from 1990-2005 Improves Our Understanding of the Role of Market Factors

Galbraith Award

Tuesday, September 18

4:25 - 4:27 pm

Laleh Morgan, BSc, MBBS

Genetic Risk Factors for Subarachnoid Hemorrhage: Insights into Pathophysiology from Candidate Gene Approaches

Integra Foundation Award

Monday, September 17

4:00 - 5:45 pm - Select Abstract

Martin A. Baggenstos, MD

Mechanisms of Morbid Hearing Loss Associated with Tumors of the Endolymphatic Sac in von Hippel-Lindau Disease

Mahaley Clinical Research Award

Monday, September 17

3:00 - 3:10 pm

Randy L. Jensen, MD

Outcomes of Patients with Brain Metastases for Melanoma and Renal Cell Carcinoma Primarily Managed with Stereotactic Radiosurgery

Novo Nordisk Award

Monday, September 17

2:20 - 2:30 pm

Raj K. Narayan, MD, FACS

Safety and Efficacy of Recombinant Activated Factor VIIa (rFVIIa) in Traumatic Intracerebral Hemorrhage: Results of a Prospective, Randomized, Multicenter Dose-escalation Clinical Trial

Preuss Resident Research Award

Monday, September 17

2:10 - 2:20 pm

Daniel P. Cahill, MD, PhD

Loss of the Mismatch Repair Protein MSH6 in Human Glioblastomas Is Associated with Tumor Progression during Temozolomide Treatment

Ronald R. Tasker Award

Monday, September 17

3:40 - 3:50 pm

Jonathan P. Miller, MD

Classification of Trigeminal Neuralgia: Clinical, Therapeutic, and Prognostic Implications in a Series of 144 Patients Undergoing Microvascular Decompression

Sherry Apple Resident Travel Scholarship

Monday, September 17

4:00 - 5:45 pm - Select Abstract

Jobyna Whiting, MD

Atypical Non-Benign Clinical Course for Spontaneous Angiogram-negative Subarachnoid Hemorrhage: A Single Center Experience with 95 Patients

Stereotactic and Functional Neurosurgery Resident Award

Monday, September 17

4:00 - 5:45 pm - Select Abstract

Sameer Anil Sheth, MD, PhD

Facilitation of Associative Learning by the Globus Pallidus

Synthes Award for Resident Research on Brain and Craniofacial Injury

Monday, September 17

2:00 - 2:10 pm

Martin Tisdall, MBBS

Oxidation in Cerebral Cellular and Mitochondrial Compartments Induced by Normobaric Hyperoxia after Traumatic Brain Injury

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

Monday, September 17

2:10 - 2:20 pm

Darric E. Baty, MD

Cannabinoid CB2 Receptor Activation Attenuates Motor and Autonomic Function Deficits in a Mouse Model of Spinal Cord Injury.

Synthes Skull Base Award

Monday, September 17

2:50 - 3:00 pm

Manish K. Aghi, MD, PhD

Management of Recurrent and Refractory Cushing's Disease with Reoperation and/or Proton Radiosurgery: Analysis of a Single Institution Experience

Tumor ATBA Young Investigator Award

Monday, September 17

4:00 - 5:45 pm - Select Abstract

Michael A. Vogelbaum, MD, PhD

Glioma-specific Sequence-independent Toxicity of Small Interfering Double-stranded RNA Molecules

Dedicated to Advancing Neurosurgery

Our sincere thanks and appreciation go out to each committee for their dedication in organizing the 57th 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.



Education and Innovation



AT-A-GLANCE

7:00 - 11:45 am

General Scientific Session II

Navigating Change: Charting a New Course in Degenerative Spine Disorders

7:40 - 8:50 am

Integrated Medical LearningSM Session II

8:55 - 9:30 am

Robert D. Ballard: Special Lecture

9:00 - 4:30 pm

Exhibits Open

9:30 - 10:30 am

Coffee with Exhibitors

10:30 - 10:50 am

L. Dade Lunsford: Honored Guest Lecture

11:15 - 11:45 am

Michael Tilson Thomas: CNS Michael L.J. Apuzzo Lecture on Creativity and Innovation

12:30 - 2:00 pm

Luncheon Seminars

2:00 - 5:30 pm

3-D Live Cadaveric Demonstration, Special Courses, Sections and Consensus Conference

3:30 - 4:00 pm

Refreshments with Exhibitors

5:30 - 6:30 pm

CNS Annual Business Meeting

Navigating Change: Charting a New Course in Degenerative Spine Disorders

7:00 - 11:45 am

Presiding Officer: Christopher E. Wolfla

Moderators: Michael W. Groff, Charles Kuntz, IV

Learning Objective: This General Scientific Session investigates novel techniques in the diagnosis, biomechanical principles and surgical treatment of lumbar spondylolisthesis. The session incorporates

interactive components and review of medical evidence designed to evolve current knowledge, attitudes and practice in this area of treatment. At the end of the session, participants will be able to list new treatment algorithms, including various anterior and posterior surgical reconstructive techniques. They will also be able to describe the advantages and disadvantages of each technique and to participate in the evolution of knowledge in this practice area.

The Spine Toolbox

7:00 - 7:10 am

Classification of Spondylolisthesis and Sagittal Spinal Alignment
Stephen L. Ondra

7:10 - 7:20 am

Enhancing Spine Fusion
Edward C. Benzel

7:20 - 7:30 am

Evolution of Motion Preservation and Dynamic Stabilization
Joseph T. Alexander

7:30 - 7:40

The SPORT Trial: What Neurosurgeons Need to Know
Paul C. McCormick



Navigating Rational Treatment Strategies for Lumbar Spondylolisthesis: Data and Practice

7:40 - 7:45 am

Introduction to Integrated Medical LearningSM (IML)

Gerald E. Rodts, Jr.

7:45 - 8:50 am

Integrated Medical LearningSM Session II
Moderators: Michael W. Groff, Charles Kuntz, IV

Case Presentations

Audience Polls

- Current Opinion
- Evidence
- Practice

Digitally Submitted Questions

Expert Discussion: Evidence Based Surgical Therapies for Patients with Lumbar Spondylolisthesis

Charles L. Branch, Jr., Richard G. Fessler



8:50 - 8:55 am

Distinguished Service Award Presentation

8:55 - 9:00 am

Introduction of Special Lecturer Robert D. Ballard
Douglas Kondziolka



9:00 - 9:30 am

Special Lecture: Navigating Change: Solving the Complex Problems of Discovery
Robert D. Ballard

9:30 - 10:30 am

Coffee with Exhibitors



10:30 - 10:50 am
Honored Guest Lecture: Intraoperative Imaging: Evolution and Options
L. Dade Lunsford

10:50 - 10:55 am

Report from The World Federation of Neurosurgical Societies
Richard G. Perrin

10:55 - 11:00 am

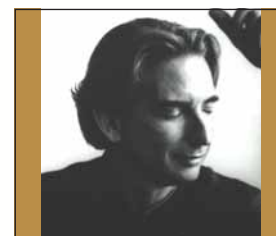
Founders' Laurel Presentation

11:00 - 11:15 am

Japanese Congress of Neurological Surgeons Guest Lecture: Treatment Considerations in Cervical OPLL and Spondylosis
Yoshinobu Iwasaki

11:15 - 11:20 am

Introduction of the CNS Michael L.J. Apuzzo Lecturer on Creativity and Innovation
 Michael Tilson Thomas
Anthony L. Asher



11:20 - 11:45 am
CNS Michael L.J. Apuzzo Lecture on Creativity and Innovation
 Michael Tilson Thomas



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Education and Innovation

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TUESDAY, SEPTEMBER 18, 2007
LUNCHEON SEMINARS
12:30 – 2:00 PM

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

T18
Surgical Intervention for Lumbar Spine Disease: What the Literature Supports

Moderator: Charles L. Branch, Jr.

Faculty: Beverly C. Walters, Charles Kuntz, IV, Naresh P. Patel

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

T19
Cervical Spondylotic Myelopathy: Guidelines for Surgical Management

Moderator: Paul K. Maurer

Faculty: Michael G. Kaiser, Paul G. Matz, Timothy C. Ryken

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

T20
Japanese Luncheon Seminar: Surgical Resection of Skull Based Neoplasms

Moderator: Christopher M. Loftus

Faculty: Kazuhiro Hongo, Hajime Arai, Eiji Kohmura, Kenji Ohata

Learning Objective: This seminar is intended for Japanese speaking participants. At the conclusion of this seminar, participants will be able to discuss state of the art techniques involved with the resection of skull based neoplasms that are commonly employed in Japan.

T21
Intraoperative Salvage Techniques: Getting Out of Trouble in Spinal Surgery

Moderator: Stephen L. Ondra

Faculty: Arnold H. Menezes, Volker K. H. Sonntag, Regis W. Haid Jr.

Learning Objective: At the conclusion of this seminar, participants will have been exposed to situations when intraoperative salvage techniques are necessary in spinal surgery and be able to discuss the steps and techniques necessary to rectify intraoperative difficulties.

T22
Treatment of Peripheral Nerve Entrapment

Moderator: Michel Kliot

Faculty: Robert L. Tiel, Robert J. Spinner, Lynda J. Yang

Learning Objective: At the conclusion of this seminar, participants will be able to discuss basic nerve entrapment syndromes and their medical and surgical management, and will have been exposed to the indications and techniques associated with peripheral nerve surgery. Participants will be able to describe techniques to augment or include peripheral nerve surgery in their practices.

T23
 radiosurgery: What the Literature Supports

Moderator: Bruce E. Pollock

Faculty: Jason P. Sheehan, John G. Golfinos, Hidefumi Jokura, Roman Liscak

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

T24
Management of Low Grade Gliomas: Current Strategies and Dilemmas

Moderator: John Park

Faculty: Joseph M. Piepmeier, Daniel L. Silbergeld, Jun Yoshida, Christopher M. Duma

Learning Objective: At the conclusion of this seminar, participants will gain exposure to the various surgical and medical modalities appropriate for the treatment of low grade gliomas and be able to discuss current research pertaining to the management of these tumors. Participants will be able to discuss various medical and surgical strategies used to manage low grade gliomas.

T25
Cerebral Ischemic Disease: Current Management Strategies

Moderator: Robert L. Macdonald

Faculty: Saleem I. Abdulrauf, Toru Iwama, David J. Langer, George Teitelbaum

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

T26
Hydrocephalus: Current and Emerging Therapies

Moderator: Marvin Bergsneider

Faculty: Neil Feldstein, Michael J. Fritsch, Austin R. Colohan

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the available and emerging technologies relevant to the treatment of hydrocephalus. Participants will be knowledgeable about complications avoidance and outcomes in the treatment of hydrocephalus.



T27
Modern Management of Anterior Circulation and Giant Aneurysms

Moderator: Robert M. Friedlander

Faculty: E. Sander Connolly, Jr., Giuseppe Lanzino, Susumu Miyamoto

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the natural history, surgical and endovascular treatment of anterior circulation aneurysms. Participants will be able to describe appropriate treatment strategies and discuss the advantages and risks associated with each.

T28
Surgical Treatment of Movement Disorders

Moderator: Robert M. Gross

Faculty: Roy A. Bakay, Jaimie M. Henderson, Ajay Niranjana

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

T29
Modern Management of Cranial AVMs

Moderator: Peter Nakaji

Faculty: Christer Lindquist, Neil A. Martin, Teiji Tominaga

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the various treatment modalities available for the treatment of intracranial arteriovenous malformations, be able to discuss multimodality management strategies, and be able to discuss the risks and complications associated with each treatment modality.

T30
Traumatic Brain Injury: Lessons Learned and Future Directions

Moderator: Peter D. Le Roux

Faculty: John Douglas Pickard, Alex B. Valadka, Randall Chestnut

Learning Objective: At the conclusion of this seminar, participants will have been exposed to research advances in traumatic brain injury and be able to discuss various medical and surgical treatment options associated with traumatic brain injury.

T31
Neurosurgical ICD-9 and CPT Coding

Moderator: John A. Wilson, Jr.

Faculty: Frederick A. Boop, Robert R. Johnson, William M. Mitchell

Learning Objective: At the conclusion of this seminar, participants will be able to discuss complex neurosurgical coding problems in both spinal and cranial surgery and will have been exposed to various strategies for improving neurosurgical coding procedures in one's own practice.

T32
Overview of Common Clinical Problems for Allied Health Providers in Neurosurgery

Moderator: Michael W. Groff

Faculty: Michael F. Nido, PA-C, Andrea L. Strayer, MSN, APNP, CNRN, John A. Jane, Jr.

Learning Objective: At the conclusion of this seminar, participants will be able to discuss treatment algorithms for common neurosurgical problems, and will have a better understanding of how allied healthcare professionals can optimize their clinical practice.

Physician attendees will not be awarded CME credit for this course. Nursing contact hours will be provided through AANN. The American Association of Neuroscience Nurses is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Physician assistants will receive credit for attendance. Each physician assistant will need to contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a confirmation of attendance.

T33
Strategies for Financial Growth in Your Professional and Personal Life

Moderator: Gregory J. Przybylski

Faculty: Gary M. Bloomgarden, Alan M. Scarrow

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the skills necessary to develop a strong financial foundation for their practice and personal life, with an emphasis on the utilization of financial benchmarks and economic reporting systems to maximize profit and enhance negotiation skills with health plans to reduce administrative expenditures and increase payments.

T34
Pediatric Brain Tumors

Moderator: Mark M. Souweidane

Faculty: Robert F. Keating, Mark D. Krieger, James T. Rutka

Learning Objective: At the conclusion of this seminar, participants will be familiar with the various types of pediatric brain tumors and will be able to discuss the current modalities appropriate for the treatment of brain tumors in the pediatric population.

T35
Maintenance of Certification: What the Future Holds

Moderator: Robert A. Solomon

Faculty: H. Hunt Batjer, Daniel L. Barrow

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the rationale and process of Maintenance of Certification and the steps necessary to collect data from their clinical practice in order to meet the requirements of MOC.

T36
How to Pursue an Academic Career in Neurosurgery

Moderator: David M. Frim

Faculty: Robert J. Dempsey, Ennio Antonio Chiocca, Henry Brem, Robert M. Friedlander

Learning Objective: Participants in this luncheon seminar will hear from experts in various niches of academic neurosurgery and research. Participants will discuss what is important to achieve during residency training in terms of research, teaching and publications. Participants will be able to describe the essential elements of curriculum vitae preparation, research grant application, how to enter the job search, how to market one's self, and the interview process.



TUESDAY, SEPTEMBER 18, 2007

3-D LIVE DEMONSTRATIONS

TUESDAY, SEPTEMBER 18: 3-D LIVE DEMONSTRATIONS

2:00 - 5:30 pm

Operative Techniques with the Masters

3-D Live Cadaveric Demonstration of Surgical Techniques

Course Director: *Saleem I. Abdulrauf*

Learning Objective: This course will provide:

- Review of the microsurgical principles of the trajectories for lesions involving the basal cisterns.
- Review of the microsurgical principles and surgical trajectories for lesions involving the cerebellopontine angle.
- Review of the microsurgical principles for the resection of a cavernous malformation involving the brainstem.
- Review of the microsurgical principles for the clipping of a complex basilar apex aneurysm.
- Review of the microsurgical principles of surgery involving the Sylvian fissure and clipping of a complex middle cerebral artery aneurysm.
- Review of the anatomic landmarks for surgery of the cervical spinal cord.

- Review of microsurgical principles for the resection of a cervical spinal cord tumor.
- Review of complication avoidance principles during basal cistern surgery, skull base surgery, brainstem surgery, and surgery of the spinal cord.

Surgical Anatomy of the Upper Basilar Region/Microsurgical Clipping of a Complex Basilar Tip Aneurysm
Robert F. Spetzler

Surgical Anatomy of the Cerebellopontine Angle/Microsurgical Resection of an Acoustic Schwannoma
Albert L. Rhoton, Jr.

Surgical Anatomy of the Petrous Region/Microsurgical Resection of a Petroclival Meningioma
Ossama Al-Mefty

3:30 - 4:00 pm

Refreshments with Exhibitors

Surgical Anatomy of the Pontine Region/Microsurgical Resection of a Pontine Cavernoma
Evandro de Oliveira

Surgical Anatomy of the Cervical Spinal Cord/Microsurgical Resection of a Spinal Cord Tumor
Jacques Brotchi

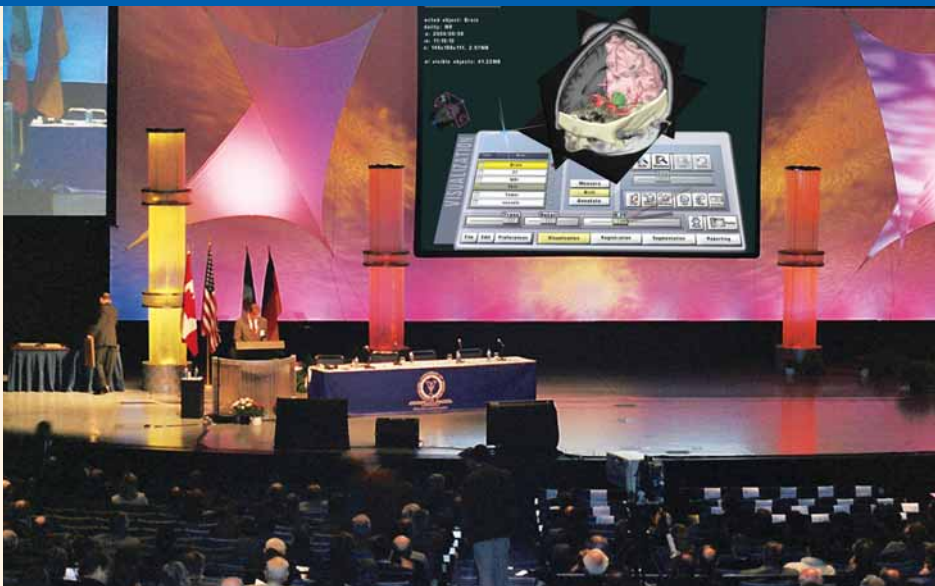
Surgical Anatomy of the Sylvian Fissure/Microsurgical Clipping of an MCA Aneurysm
Arthur L. Day

5:30 - 6:30 pm
CNS Annual Business Meeting

3-D LIVE CADAVERIC DEMONSTRATIONS AT THE 2007 CNS ANNUAL MEETING!

Tuesday, September 18
2:00 - 5:30 PM

Don't miss this opportunity to watch neurosurgical masters demonstrate six microsurgical principles live from our GSS stage! This innovative session features cadaveric demonstrations using state-of-the-art, 3-dimensional imaging technology, followed by cutting-edge videos. Open to all registered medical attendees.



TUESDAY, SEPTEMBER 18, 2007

SPECIAL COURSES



2:00 – 3:30 pm

Special Course III Mental and Physical Health of the Neurosurgeon: Achieving Balance in Your Personal and Professional Life

Course Director: *Allan D. Levi*

Learning Objective: Neurosurgeons' time commitments at work are increasing, leaving less time for family and a balanced life. By sharing real-life stories and experiences, this session will feature several speakers who

have achieved balance in the various stages of personal and professional life through trial and tribulation. In addition, a leading pediatric cardiothoracic surgeon and his wife, a psychologist and leadership counselor, both well known nationally for their work on effective communication and professional development, will explain how to set goals and limitations in and out of the OR for achieving satisfying personal and career experiences. By the end of the course, participants will describe goals for balanced professional and personal life, key objectives for professional development, and specific strategies for attaining these goals.

The Resident's Perspective
Stacy C. Quintero

A Surgeon's Story: Successes, Failures and a Prescription for a Balanced Life
Joseph C. Maroon

Managing the Demands of Professional Life
*Jamie Dickey-Ungerleider, PhD,
Ross Ungerleider*

3:30 – 4:00 pm

Refreshments with Exhibitors

4:00 – 5:30 pm

Special Course IV The Grown-up Children: Taking Care of the Adult "Pediatric" Patient

Course Director: *Richard G. Ellenbogen*

Learning Objective: The participants will learn how to recognize, diagnosis and treat patients with congenital disease in an adult population. Specifically, case studies on adult patients with tethered cords, hydrocephalus, congenital malformations

and pediatric brain tumors will be reviewed. Diagnostic evaluations and treatment paradigms will be discussed and the participant will be able to formulate a treatment plan at the end of this seminar.

Congenital Diseases into Adulthood
David G. McLone

Chiari, Tethered Cord and Hydrocephalus
W. Jerry Oakes

Who Should Care for the Adult
Congenital Patient?
Thomas G. Luerssen

You're Invited!

CNS RESIDENT RECRUITMENT SOCIAL A GREAT OPPORTUNITY MAY BE LOOKING FOR YOU!

Tuesday - September 18, 2007 - 6:00 - 7:00 pm

Residents

If you are within 2-3 years of completing your residency, you won't want to miss this important and complimentary networking event. This is your opportunity to meet exhibiting recruiters and/or practicing physicians who are looking to add partners/colleagues to their practice.

Recruiters

If you are an official exhibitor of the CNS Annual Meeting and are looking to fill positions, this is your opportunity to meet the nation's best and brightest young neurosurgeons. Come build relationships in a relaxed and informal environment. The Resident Recruitment Social is coordinated in close conjunction with the CNS Job Placement Service.

Make Your Reservation Today!
info@1cns.org or call 877 517 1CNS
Reservations accepted through August 24, 2007.



TUESDAY, SEPTEMBER 18, 2007 SECTION SESSIONS

2:00 - 3:30 pm

Section on Neurotrauma and Critical Care I Surgical Treatment of Head Injury

Moderator: P. David Adelson

Learning Objective: At the conclusion of this symposium, participants should be able to describe the effect of surgery for brain contusion on outcome in head injury and understand the scope of neurosurgical basic science and clinical research as it relates to decompressive craniectomy.

2:00 - 2:25 pm

Integra Lecture: Surgery for Cerebral Contusion
Yoichi Katayama

2:25 - 2:30 pm

Interactive Question and Answer Session

Symposium – Decompressive Craniectomy:
Revisiting an Old Concept

2:30 - 2:45 pm

Decompressive Craniectomy in the 1970's:
Fade In/Fade Out
Lawrence Pitts

2:45 - 3:00 pm

Everything Old Is New Again: Results in the Present Day
Dilantha B. Ellegala

3:00 - 3:15 pm

RESCUEicp: A New Randomized Multicenter Trial
Peter J. Hutchinson

3:15 - 3:30 pm

Section on Neurotrauma and Critical Care I
Interactive Panel Discussion

3:30 - 4:00 pm

Refreshments with Exhibitors

2:00 - 3:30 pm

Section on Pain Postoperative Pain

Moderator: Joshua M. Rosenow, George T. Mandybur

Learning Objective: At the conclusion of this session, participants will be able to describe some of the more common postoperative pain syndromes encountered by neurosurgeons and options for their medical and surgical management.

2:00 - 2:25 pm

Postoperative Occipital Neuralgia
Richard L. Weiner

2:25 - 2:50 pm

Postoperative Painful Neuromas
David G. Kline

2:50 - 3:15 pm

Pain after Fusions or Disc Surgery
Richard B. North

3:15 - 3:30 pm

Interactive Panel Discussion

3:30 - 4:00 pm

Refreshments with Exhibitors

2:00 - 3:30 pm

Section on Pediatric Neurological Surgery I The Cervical Spine in Childhood

Moderator: Douglas L. Brockmeyer

Learning Objective: At the conclusion of this symposium, the participant should be able to summarize the development of the cervical spine, explain congenital and traumatic injuries to the cervical spine in childhood, and describe new treatment modalities and approaches to the pediatric cervical spine.

2:00 - 2:20 pm

The Development of the Pediatric Cervical Spine
John A. Jane Jr.

2:20 - 2:40 pm

Anterior Approaches and Instrumentation in the Developing Cervical Spine
Arnold H. Menezes

2:40 - 3:00 pm

Posterior Approaches and Instrumentation in the Developing Cervical Spine
Douglas L. Brockmeyer

3:00 - 3:30 pm

Interactive Panel Discussion

3:30 - 4:00 pm

Refreshments with Exhibitors

TUESDAY, SEPTEMBER 18, 2007

SECTION SESSIONS



2:00 - 3:30 pm

Section on Disorders of the Spine and Peripheral Nerves I ACDF vs. Arthroplasty: Challenges

Moderator: Mark R. McLaughlin

Learning Objective: At the conclusion of this session, the participant will be able to summarize the important factors in patient selection for arthroplasty and will be able to list the biomechanical and technical challenges of an artificial disc design. Also, participants will be able to discuss some of the regulatory issues surrounding artificial disc implants.

2:00 - 2:15 pm

Technological Challenges
Regis W. Haid Jr.

2:15 - 2:30 pm

Engineering Challenges: Biomaterials and Wear
Lali H. S. Sekhon

2:30 - 2:45 pm

Patient Selection Challenges: Arthroplasty
Vincent C. Traynelis

2:45 - 3:00 pm

Challenges Beyond the O.R.: Reimbursement, Regulatory and Legal
David Polly, Jr.

3:00 - 3:15 pm

Biomechanical Challenges: Motion Preservation vs. Arthrodesis
Kim Pyo

3:15 - 3:30 pm

Interactive Panel Discussion

3:30 - 4:00 pm

Refreshments with Exhibitors

4:00 - 5:30 pm

Section on Cerebrovascular Surgery I Difficult Intracranial Aneurysms: Complication Avoidance and Management

Moderator: Joshua B. Bederson

Learning Objective: At the conclusion of this session, participants will be able to describe preoperative planning, potential pitfalls, and pearls for the treatment of complex intracranial aneurysms. The participant will further be able to discern the unique advantages and indications for both endovascular and open techniques in the treatment of complex aneurysms. In addition they will be able to describe complication avoidance and complication management for each treatment modality.

4:00 - 4:05 pm

Introduction of the Charles Drake Lecturer
Joshua B. Bederson

4:05 - 4:25 pm

The Charles Drake Lecture
Robert H. Rosenwasser

4:25 - 4:27

Galbraith Award Presentation

4:27 - 4:41 pm

Endovascular Perspective
L. Nelson Hopkins, III

4:40 - 4:55 pm

Surgical Perspective
H. Hunt Batjer

4:55 - 5:10 pm

Guest Lecture: In Vitro Flow Modeling To Gain Insight into Optimal Treatment Modalities
Akira Takahashi

5:10 - 5:30 pm

Interactive Panel Discussion

5:30 - 6:30 pm
CNS Annual Business Meeting

Resident SANS Challenge Finals

5:00 - 6:00 PM

See Page 30 for Details.



TUESDAY, SEPTEMBER 18, 2007 SECTION SESSIONS

4:00 - 5:30 pm

Section on Stereotactic and Functional Neurosurgery I Brain Mapping: Current Concepts and Future Directions

Moderator: Michael Schulder, Kathryn L. Holloway

Learning Objective: At the conclusion of this symposium, participants should be able to summarize new concepts in functional

imaging, and outline the major theoretical advances in functional magnetic resonance imaging, diffusion tensor imaging, and magnetoencephalography.

4:00 - 4:18 pm

Functional Magnetic Resonance Imaging
Daniel Yoshor

4:18 - 4:36 pm

Diffusion Tensor Imaging
Christopher Nimsky

4:36 - 4:54 pm

Subcortical Stimulation
Hugues Duffau

4:54 - 5:12 pm

Magnetoencephalography
James T. Rutka

5:12 - 5:30 pm

Interactive Panel Discussion

4:00 - 5:30 pm

Section on Tumors I Navigating Eloquent Brain in the 21st Century

Moderator: Howard L. Weiner

Learning Objective: At the conclusion of this symposium, participants should be able to summarize the challenges associated with treating cortical tumors located in eloquent brain regions in children, discuss the different functional mapping techniques available, and outline the major risks and benefits associated with each of these approaches.

4:00 - 4:20 pm

Business Meeting
Introduction: Michael William McDermott

4:20 - 4:25 pm

Awards Summary
Gene H. Barnett

4:25 - 4:30 pm

Section on Tumors I
Introduction: Innovative Functional Mapping Techniques for Resecting Cortical Tumors in Children
Michael William McDermott

4:30 - 4:42 pm

Non-invasive Techniques: fMRI, MEG, DTI
James T. Rutka

4:42 - 4:54 pm

Awake Craniotomy
Mitchel S. Berger

4:54 - 5:06 pm

Staged Resection
Johannes Schramm

5:06 - 5:11 pm

Case Presentation: Pediatric Tumor in Eloquent Cortex
Howard L. Weiner

5:11 - 5:23 pm

Audience Poll and Interactive Discussion

5:23 - 5:30 pm

Senior Discussant
Jeffrey H. Wisoff

4:00 - 5:30 pm

Consensus Conference I Navigating Consensus Development: Learners Decide the Future of Neurosurgical Education

Moderator: Issam A. Awad

Learning Objective: Neurosurgeons and other clinical personnel will interact with Congress of Neurological Surgeons and other educational specialists to identify knowledge gaps, to choose the most effective learning methodologies, and to contribute to the educational strategy of future meetings. Learners will be able to list new educational paradigms and apply these choices in the design of their own continuing education.

4:00 - 4:15 pm

Newest Changes in ACCME Approach and Requirements for CME Accreditation and Their Implications for Organized Neurosurgery
Daniel K. Resnick

4:15 - 4:45 pm

Latest Ideas, Concepts, Theories and Models Relating to Adult Education and Continuing Medical Education
Robert M. Galbraith

4:45 - 4:50 pm

Option 1 for General Scientific Session Structure and Format for the 2008 CNS Annual Meeting
Anthony L. Asher

4:50 - 4:55 pm

Option 2 for General Scientific Session Structure and Format for the 2008 CNS Annual Meeting
Gerald E. Rodts, Jr.

4:55 - 5:00 pm

Option 3 for General Scientific Session Structure and Format for the 2008 CNS Annual Meeting
Nathan R. Selden

5:00 - 5:30 pm

Interactive Discussion and Consensus Development
Gerald E. Rodts, Jr., Anthony L. Asher, Nathan R. Selden

WEDNESDAY, SEPTEMBER 19, 2007

GENERAL SCIENTIFIC SESSION III



WEDNESDAY, SEPTEMBER 19: GENERAL SCIENTIFIC SESSION III

AT-A-GLANCE

7:00 - 11:45 am

General Scientific Session III

Navigating Change: Charting a New Course in Vascular Neurosurgery

7:40 - 8:50 am

Integrated Medical LearningSM Session III

8:50 - 9:10 am

L. Dade Lunsford:
Honored Guest Presentation

9:00 am - 4:00 pm

Exhibits Open

9:10 - 9:30 am

Paul R. Sanberg:
Special Lecture

9:30 - 10:30 am

Coffee with Exhibitors

10:30 - 10:52 am

Jack El-Hai: John Thompson History of Medicine Lecture

10:58 - 11:10 am

Teiji Tominaga:
Special Lecture

11:10 - 11:45 am

Salman Rushdie:
Walter E. Dandy Orator

12:30 - 2:00 pm

Luncheon Seminars

2:00 - 5:30 pm

Digital Masters Video Symposium, Special Courses, Sections and Consensus Conference

3:30 - 4:00 pm

Refreshments with Exhibitors

Navigating Change: Charting a New Course in Vascular Neurosurgery

7:00 - 11:45 am

Presiding Officer: Joel D. MacDonald

Moderators: E. Sander Connolly, Jr., Robert M. Friedlander

Learning Objective: This General Scientific Session investigates the biology, imaging and treatment of cerebral cavernous malformations, as well as current

indications for both open and endovascular treatment of cerebral aneurysms. The session incorporates interactive components and review of medical evidence designed to evolve current knowledge, attitudes and practice in this area of treatment. At the end of the session, participants will be able to list current treatment algorithms for cerebral vascular disease as well as participate in the evolution of knowledge in this practice area.

"Cavernous Malformations: Passage from Etiology to Therapy"

7:00 - 7:10 am

Genetics of Cavernous Malformations: Therapeutic Implications
Murat Gunel

7:10 - 7:20 am

Brainstem Cavernous Malformations: When and How
Robert A. Solomon

7:20 - 7:30 am

Radiosurgery for Cavernous Malformations: Theory and Practice
Bruce E. Pollock

7:30 - 7:40 am

Cavernous Malformations and Seizures: Lesionectomy versus "Epilepsy Surgery"
Guy M. McKhann, II

IML Integrated Medical LearningSM

Navigating Rational Treatment Strategies for Cerebral Aneurysms: Data and Practice

7:40 - 7:45 am

Introduction to Integrated Medical LearningSM (IML)
Nathan R. Selden

7:45 - 8:50 am

Integrated Medical LearningSM Session III

Moderators:
E. Sander Connolly, Jr., Gregory J. Zipfel, Brian L. Hoh, Robert M. Friedlander

Case Presentations

Audience Polls

- Current Opinion
- Evidence
- Practice

Digitally Submitted Questions

Expert Discussion:
Evidence Based Surgical Therapies for Patients with Cerebral Aneurysms: Clip or Coil?

Ralph G. Dacey, Jr., Fernando Vinuela



8:50 - 9:10 am
Honored Guest Lecture:
Role of Radiosurgery in the Management of AVMs
L. Dade Lunsford

9:10 - 9:12 am

Introduction of Special Lecturer Paul R. Sanberg
Douglas Kondziolka



9:12 - 9:30 am
Special Lecture:
Navigating Cellular Repair for the Nervous System
Paul R. Sanberg

9:30 - 10:30 am

Coffee with Exhibitors

10:30 - 10:32 am

Introduction of John Thompson History of Medicine Lecturer Jack El-Hai
Gerald E. Rodts, Jr.



10:32 - 10:52 am
John Thompson History of Medicine Lecture:
Walter Freeman and Lessons from the First Era of Psychosurgery
Jack El-Hai

10:52 - 10:58 am

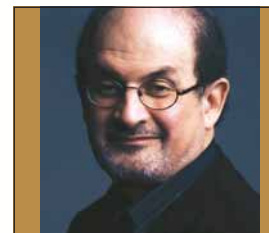
Presidential Acknowledgement
Douglas Kondziolka

10:58 - 11:10 am

Special Lecture: Moyamoya Disease: New Insights Into its Etiology and Management
Teiji Tominaga, Japanese Congress of Neurological Surgeons President

11:10 - 11:15 am

Introduction of Walter E. Dandy Orator Salman Rushdie
Douglas Kondziolka



11:15 - 11:45 am
Walter E. Dandy Orator:
Navigating Change Across Cultures of the World
Salman Rushdie



WEDNESDAY, SEPTEMBER 19, 2007
LUNCHEON SEMINARS
12:30 – 2:00 PM

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

W37

Spine Trauma and Spinal Cord Injury: Advances in Medical and Surgical Management

Moderator: Mark N. Hadley

Faculty: Barth A. Green, Michael G. Fehlings, R. John Hurlbert

Learning Objective: At the conclusion of this seminar, participants will be able to discuss advances in the medical treatment of traumatic spinal cord injury and be able to discuss state of the art surgical management of cervical spine trauma and spinal cord injury. Participants will also be familiar with procedures for ruling out cervical spine injury in the comatose patient.

W38

Enhancing Spinal Fusion: Biomechanical and Biochemical Approaches

Moderator: Praveen V. Mummaneni

Faculty: Daniel K. Resnick, Roger Hartl, Darryl J. Dirisio

Learning Objective: At the conclusion of this seminar, participants will be able to discuss biochemical means for enhancing spinal fusion and discuss the biomechanics relevant to spinal fusions in the cervical, thoracic, and lumbar spine.

W39

Metastatic Spinal Disease: The Role of Surgery and Radiation Therapy

Moderator: Ziya L. Gokaslan

Faculty: Richard G. Perrin, Mark H. Bilsky, Peter C. Gerszten

Learning Objective: At the conclusion of this seminar, participants will be aware of current diagnostic and treatment strategies for metastatic tumors of the spine. Participants will be provided with a conceptual frameworks to make decisions about surgery, conventional radiation, radiosurgery, and vertebral augmentation.

W40

Intraoperative Salvage Techniques: Getting Out of Trouble in Cranial Surgery

Moderator: Laligam N. Sekhar

Faculty: Edward R. Laws, Chandra N. Sen, Austin R. Colohan

Learning Objective: At the conclusion of this seminar, participants will be able to describe indications for intraoperative salvage techniques in cranial surgery and be able to discuss indications for specific techniques for rectifying difficulties in cranial surgery.

W41

Practical Management of Peripheral Nerve and Brachial Plexus Injury

Moderator: David G. Kline

Faculty: Eric L. Zager, Allan J. Belzberg, Lynda J. Yang

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

W42

Spinal Cord Tumors

Moderator: Paul C. McCormick

Faculty: Jacques Brotchi, Russell R. Lonser, George I. Jallo, Ehud Mendel

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

W43

Current Trends and Techniques: Treatment of Cerebral Vasospasm

Moderator: Elad I. Levy

Faculty: Aman B. Patel, Felipe Albuquerque, Michiyasu Suzuki, Arun P. Amar

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

W44

Management of Unruptured Intracranial Aneurysms: Understanding and Developing Treatment Options

Moderator: Joel D. MacDonald

Faculty: Issam A. Awad, Jay M. Findlay, Robert L. Macdonald, Kiyoo Hiro Houkin

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



W45

Controversies in the Management of Chiari I Malformations

Moderator: Karin M. Muraszko

Faculty: Ulrich Batzdorf, Douglas L. Brockmeyer, Thomas H. Milhorat

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

W46

Trigeminal Neuralgia: Current Management Options

Moderator: Kim J. Burchiel

Faculty: Alain C. de Lotbiniere, Shinji Nagahiro, Isao Date

Learning Objective: At the conclusion of this seminar, participants will be able to discuss various surgical and radiosurgical treatment options in the management of trigeminal neuralgia, as well as their associated complications and outcomes.

W47

Clinical Trials and Randomized Studies: What Every Neurosurgeon Should Know

Moderator: Michael A. Vogelbaum

Faculty: Stephen J. Haines, Frederick G. Barker, Anthony L. Asher

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the design and implementation of clinical research protocols, including how to collect and analyze data so that meaningful conclusions can be drawn. Participants will be able to compare and contrast clinical research with other types of practice data collection, and will be able to apply this knowledge to improve their own research.

W48

Current Concepts in the Neurosurgical Treatment of Epilepsy

Moderator: Johannes Schramm

Faculty: Nicholas M. Barbaro, Guy M. McKhann, II, Jean Regis

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

W49

Current Management of Meningiomas: Benign and Malignant

Moderator: Michael William McDermott

Faculty: Ivan S. Ciric, Jeffrey Bruce, Ali F. Krisht

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

W50

Changing Economics of Neurosurgical Health Care

Moderator: Fernando G. Diaz

Faculty: Robert E. Harbaugh, Edie E. Zusman, Katie O. Orrico

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the important issues facing neurosurgical health care including quality care, patient satisfaction, pay-for-performance, reimbursement issues, and the ever-changing governmental regulations.

W51

Anterior vs. Posterior Approaches for Cervical Radiculopathy

Moderator: Allan D. Levi

Faculty: Joseph C. Maroon, Larry T. Khoo, Phyoo Kim

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

W52

Graduating Resident's Course

Moderator: Michael P. Steinmetz

Faculty: Craig A. Van Der Veer, Alan M. Scarrow, Linda M. Liao

Learning Objective: At the conclusion of this seminar, participants will be able to discuss relevant issues related to securing a clinical position in either a private practice or academic setting and discuss important steps to initiate and develop a successful practice.

W53

Adult Spinal Deformity: An Introduction to the Basics

Moderator: Christopher I. Shaffrey

Faculty: Robert F. Heary, Peter D. Angevine, Frank La Marca

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



WEDNESDAY, SEPTEMBER 19, 2007 VIDEO SYMPOSIUM

2:00 - 5:30 pm

Digital Masters Video Symposium

Moderators: Hugh Garton, Brian Ragel

Faculty: Saleem I. Abdulrauf, Ronald I. Apfelbaum, John D. Barr, H. Hunt Batjer, Edward C. Benzel, Peter W. Carmel, William T. Couldwell, Evandro de Oliveira, Curtis A. Dickman, Richard G. Ellenbogen, Michael G. Fehlings, Richard G. Fessler, Ziya L. Gokaslan, Tomokatsu Hori, David F. Jimenez, Takeshi Kawase, Andrew H. Kaye, David G. Kline, Elad I. Levy, Joel D. MacDonald, Edward Mee,

Jacques J. Morcos, Edward H. Oldfield, Thomas C. Oritano, Luiz H.D.M. Pimenta, Michael P. Powell, Laurence D. Rhines, Jon H. Robertson, Madjid Samii, Laligam N. Sekhar, Robert F. Spetzler, Ryuichi Tanaka, John M. Tew, Jr., Harry R. Van Loveren, Michael Y. Wang
Learning Objective: After completing this educational activity, participants should be able to identify new methods of intervention for cerebral aneurysms, identify new methods for treatment of complex skull base lesions, and identify new methods for treatment of complex spine disorders.

WEDNESDAY, SEPTEMBER 19: DIGITAL MASTERS VIDEO SYMPOSIUM

YOU'RE INVITED

IN HONOR OF OUR INTERNATIONAL COLLEAGUES, THE CONGRESS OF NEUROLOGICAL SURGEONS INVITES ALL INTERNATIONAL ATTENDEES TO THE CNS INTERNATIONAL RECEPTION, WEDNESDAY, SEPTEMBER 19, 2007 AT THE SAN DIEGO NATURAL HISTORY MUSEUM.

The San Diego Natural History Museum Presents the exhibition **DEAD SEA SCROLLS**

Enjoy an evening of networking with your international colleagues, as you explore the San Diego Natural History Museum's galleries, full of fossils, artifacts and exhibitions that illustrate the science and beauty of nature—from the giant Allosaurus skeleton, to exquisite nature photography, to a live rattlesnake. The facility, an historic building built in the 1930s, is part of Balboa Park's rich cultural history.

As a special treat for our International Members and Guests, the Congress of Neurological Surgeons has arranged a special viewing of the museum's Dead Sea Scrolls exhibit during the International Reception.

The Dead Sea Scrolls—objects of great mystery, intrigue and significance—are widely acknowledged to be

among the greatest archaeological treasures ever discovered. The San Diego Natural History Museum's exhibition Dead Sea Scrolls is the largest, longest, most comprehensive ever assembled in any country. Spanning two floors and 12,000 square feet, 27 Dead Sea Scrolls—10 exhibited for the first time ever—will be on display, fully interpreted with translation of text and background information.



WEDNESDAY, SEPTEMBER 19, 2007

SPECIAL COURSES



2:00 – 3:30 pm

Special Course V Nuances in Advanced Minimally Invasive Spine Surgery

Course Directors: Kevin T. Foley,
Richard G. Fessler

Learning Objective: This course is intended for all neurosurgeons interested in minimally invasive spine surgery, and will be of great interest to those surgeons with previous background and experience with these techniques. Participants will gain knowledge about the indications and technical aspects of extending existing minimally-invasive decompressive techniques to the removal of intradural spinal tumors and even to the treatment of spinal deformity. Hybrid techniques that combine conventional "open" methods with tools and strategies of minimally-invasive techniques will be introduced as well.

2:00 - 2:10 pm

Welcome and Introductions
Kevin T. Foley

2:10 - 2:25 pm

Minimally Invasive Spine Surgery:
Introduction and Overview
Mick Perez-Cruet

2:25 - 2:40 pm

Minimally Invasive Surgical Treatment of
Intradural Tumors
Richard G. Fessler

2:40 - 2:55 pm

Mini-Open Approaches to Less Invasive Spine
Surgery
Praveen V. Mummaneni

2:55 - 3:10 pm

Minimally Invasive Applications for Spinal
Trauma and Deformity Reduction
Kevin T. Foley

3:10 - 3:30 pm

Panel Discussion

3:30 - 4:00 pm

Refreshments with Exhibitors

4:00 – 5:30 pm

Special Course VI The Process of Innovation: From Ideas to Product Development and Commercialization

Course Director: Edward C. Benzel

Learning Objective: Experts in the field of surgical innovation and product development will present strategies and identify barriers to progress. At the end of the session,

participants will identify the complexities, nuances and barriers to the innovations process, begin to develop the skills required to be creative in a new era of innovation, list product development intellectual property protection terminology and methodologies, list steps in the long path to commercialization and identify conflicts of interest and strategies for their management.

The Novel Idea
Vincent C. Traynelis

The "Rules of the Game"
Deborah Birnie

The Commercialization Process
Richard E. Kuntz

Conflicts of Interest and Conflict
Management
Edward C. Benzel



WEDNESDAY, SEPTEMBER 19, 2007

SECTION SESSIONS

WEDNESDAY, SEPTEMBER 19: SECTION SESSIONS

2:00 - 3:30 pm

Section on Cerebrovascular Surgery II Treatment of Ischemic Stroke

Moderator: Joshua B. Bederson

Learning Objective: Experienced surgeons will be asked to recount their experiences regarding their approach to the management of patients with symptomatic cerebral ischemia. The participants will be able to describe preoperative planning, potential pitfalls, and pearls for the treatment of acute or subacute stroke patients due to intracranial lesions and cervical vascular lesions resulting from atherosclerotic disease, intracranial occlusions due to thrombus, embolism, dissections, and moyamoya disease. In addition they will be able to describe patient selection, complication avoidance, and complication management.

2:00 - 2:05 pm

Introduction
Joshua B. Bederson

2:05 - 2:30 pm

Endovascular Treatment of Acute Stroke
Peter Rasmussen

2:30 - 2:55 pm

Surgical Treatment of Acute Stroke
Fady T. Charbel

2:55 - 3:20 pm

Guest Symposium: Update of Treatment for Moya-Moya Disease
Susumu Miyamoto

3:20 - 3:30 pm

Closing Remarks, Interactive Discussion

2:00 - 3:30 pm

Council of State Neurosurgical Societies Clinical Guidelines: Do They Map the Way to Improved Quality?

Moderators: Satish Krishnamurthy, Michael P. Steinmetz

Learning Objective: At the end of this session, participants should be able to discuss clinical guideline development, measurement metrics for quality of care, and the nature of the relationship between care quality and clinical guidelines.

2:00 - 2:25 pm

Methods of Evaluating Evidence and Developing Clinical Guidelines
Paul Kurtin

2:25 - 2:50 pm

Do Guidelines Help Defend or Impugn the Neurosurgeon?
Alan M. Scarrow

2:50 - 3:15 pm

Do Guidelines Actually Improve Quality?
Abhaya V. Kulkarni

3:15 - 3:30 pm

Interactive Panel Discussion with Polling

WEDNESDAY, SEPTEMBER 19, 2007

SECTION SESSIONS



2:00 - 3:30 pm

Section on Stereotactic and Functional Neurosurgery II Advances in Epilepsy Surgery

Moderator: Emad N. Eskandar, Michael G. Kaplitt

Learning Objective: At the conclusion of this symposium, participants should be able to summarize new concepts in cerebral localization for epilepsy, as well as possible indications for the use of radiosurgery or responsive neurostimulation in the treatment of epilepsy.

2:00 - 2:18 pm

Optical Imaging
Theodore H. Schwartz

2:18 - 2:36 pm

Intraoperative Recording
Itzhak Fried

2:36 - 2:54 pm

Radiosurgery for Epilepsy
Nicholas M. Barbaro

2:54 - 3:12 pm

Responsive Neurostimulation
Ryder Gwinn

3:12 - 3:30 pm

Section on Stereotactic and Functional Neurosurgery II
Interactive Panel Discussion

2:00 - 3:30 pm

Section on Tumors II Biological Diagnostics and Therapies for the 21st Century

Moderator: Michael William McDermott

Learning Objective: At the conclusion of this symposium, participants should be able to summarize three major areas of neuro-oncologic scientific research being conducted by young neurosurgeons, discuss the extent to which scientific discoveries in neuro-oncology have been translated into clinical therapies, and outline the major areas of neuro-oncologic research that hold promise for future patients.

2:00 - 2:10 pm

Introduction: Young Neurosurgeons as Scientists
Edward R. Laws

2:10 - 2:25 pm

Biologic Therapy
Manish K. Aghi

2:25 - 2:32 pm

Senior Discussant: Biologic Therapy
Henry Brem

2:32 - 2:47 pm

Stem Cells
Peter B. Dirks

2:47 - 2:54 pm

Senior Discussant: Stem Cells
Eric Holland

2:54 - 3:09 pm

Bioinformatics
Michael D. Taylor

3:09 - 3:16 pm

Senior Discussant: Bioinformatics
Peter McLaren Black

3:16 - 3:30 pm

Interactive Audience Discussion



WEDNESDAY, SEPTEMBER 19, 2007

SECTION SESSIONS

4:00 - 5:30 pm

Section on Neurotrauma and Critical Care II

Neurocritical Care: Frontiers

Moderator: William M. Coplin

Learning Objective: At the conclusion of this symposium, participants should be able to describe the scope of the discipline of neurocritical care, list the controversies regarding blood transfusion in severe head injury and apply the technology of brain tissue oxygen monitoring to the treatment of neurosurgical conditions.

4:00 - 4:15 pm

Evolution of Neurocritical Care
Presiding Officer: William M. Coplin

Point/Counterpoint: To Transfuse or Not To Transfuse

4:15 - 4:30 pm

Restricted Transfusion Strategy in Severe TBI
Lori A. Shutter

4:30 - 4:45 pm

Liberal Transfusion Strategy in Severe TBI
Shelly D. Timmons

TBI Monitoring: Management Brain Tissue PO₂

4:45 - 5:00 pm

Indications and Management Protocols
Roland A. Torres

5:00 - 5:15 pm

Efficacy of Hyperoxygen Therapy
Peter LeRoux

5:15 - 5:30 pm

Interactive Panel Discussion

4:00 - 5:30 pm

Section on Pediatric Neurological Surgery II

Advances in Pediatric Epilepsy

Moderator: Glenn Morrison

Learning Objective: At the conclusion of this symposium, the participant should be able to summarize advances in diagnosing surgical pediatric epilepsy cases, explain surgical treatments and list possible salvage techniques.

4:00 - 4:20 pm

Diagnosing Pediatric Epilepsy and Surgical Decision Making
James T. Rutka

4:20 - 4:40 pm

First Line Surgical Treatments for Epilepsy: Temporal Lobectomy, Lesionectomy, Corticectomy
David M. Frim

4:40 - 4:50 pm

Second Line Treatments for Surgically Refractory Epilepsy
Glenn Morrison

5:00 - 5:30 pm

Interactive Panel Discussion

WEDNESDAY, SEPTEMBER 19, 2007

SECTION SESSIONS



4:00 - 5:30 pm

Section on Disorders of the Spine and Peripheral Nerves II

Learning Objective: Following the conclusion of the first part of this symposium, participants will have learned the indications and techniques for spinal reconstruction following resection of cervical nerve tumors. Participants will also understand the etiology of C5 nerve root palsies and potential treatment options for their patients that may suffer from this problem. Experts will also discuss the differentiation between a neurological problem arising from the cervical spine and a problem due to an upper extremity neuropathy. In the second portion of the program, experts in spinal surgery will discuss the indications for and techniques involved in correcting cervical deformity. Participants will be able to identify occipital cervical fixation techniques including bone grafting as well as cervicothoracic techniques.

4:00 - 4:30 pm

Cervical Spine and Upper Extremity Neuropathy

Moderator: Lynda J. Yang

4:00 - 4:15 pm

Cervical Peripheral Nerve Tumors: The Role of Spinal Column Reconstruction

Allan J. Belzberg

4:15 - 4:30 pm

Treatment Options for C5 Root Palsies and Cervical Spinal Surgery

Robert J. Spinner

4:30 - 5:30 pm

Cervical Spinal Deformity: Technical Mastery

Moderator: Christopher I. Shaffrey

4:30 - 4:40 pm

Occipital Cervical Junction Deformity

Yuri Shulev

4:40 - 4:50 pm

Occipitocervical Fixation

Masakazu Takayasu

4:50 - 5:00 pm

Cervical Deformity and Fixation

Hiroshi Nakagawa

5:00 - 5:10 pm

Cervicothoracic Junction Deformity

Christopher H. Comey

5:10 - 5:20 pm

Biomechanical Considerations for Cervical Deformity

Praveen V. Mummaneni

5:20 - 5:30 pm

Interactive Panel Discussion

4:00 - 5:30 pm

Consensus Conference II Navigating the Transition into Retirement: A Consensus Development Laboratory on When to Limit or Discontinue Neurosurgical Practice

Moderator: Mark E. Linskey

Learning Objective: Neurosurgeons will participate in a didactic and interactive session using consensus building methodology to identify and discuss factors affecting cognitive and physical abilities at the end stages of a neurosurgical career. Learners will be able to identify strategies for monitoring and reporting that may serve to coordinate career planning and retirement. They will have input to decision making on neurosurgical initiatives in this area.

4:00 - 4:12 pm

The Aging Surgeon: Changes in Technical Skills, Surgical Outcome in the Latter Years of Practice: Does Age Really Matter?

John Birkmeyer

4:12 - 4:24 pm

Age-Related Cognitive and Memory Changes in Surgeons

Scott A. Small

4:24 - 4:36 pm

Legal Considerations of the Aging Surgeon and Retirement

Alan M. Scarrow

4:36 - 4:48 pm

Economic and Work Force Factors and Their Effect on Neurosurgeon Retirement

Deborah Benzil

4:48 - 4:53 pm

Discussion of Potential Strategies: Allow Individual Hospital Administrations To Monitor and Decide an Aging Surgeon's Retirement

Russell L. Travis

4:53 - 4:58 pm

Discussion of Potential Strategies: Develop a Shortened-Interval MOC and Clinical Proctoring (or Virtual Testing) Approach

Ralph G. Dacey, Jr.

4:58 - 5:03 pm

Discussion of Potential Strategies: Airline or Government Approach - Mandatory Age of Retirement Regardless of Volume, Skill, Outcomes

Richard G. Ellenbogen

5:03 - 5:30 pm

Polling and Interactive Panel Discussion

Join the Congress of Neurological Surgeons Today!

The Congress of Neurological Surgeons, a leader in education and innovation, is dedicated to advancing neurosurgery by providing members with the educational and career development opportunities they need to become leaders and innovators in the field.

Enhance your leadership skills,

Develop and strengthen your professional relationships with some of the field's most respected professionals and recognized leaders.

- Valuable Networking Events.
- Volunteer Leadership Opportunities.
- Volunteer Opportunities in Subspecialty Section Groups.

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- CNS Annual Meeting – Member Discount Rate.
- NEW CNS University of Neurosurgery – Complimentary Access.
- SANS Lifelong Learning – Member Discount Rate.

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Develop the skills needed to improve your practice and connect with the right professionals to take your career to the next level.

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- CNS Sponsored Fellowship Awards.
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CNS Members are innovators and pioneers advancing neurosurgery and neurosurgical education. Join today and let the CNS help you enhance your leadership skills, advance your education and further your career.

Apply online at www.cns.org

THURSDAY, SEPTEMBER 20, 2007

INTERACTIVE CASE DISCUSSIONS



THURSDAY, SEPTEMBER 20: GENERAL SCIENTIFIC SESSION IV

AT-A-GLANCE

7:00 – 8:20 am

Interactive Case Discussions

8:30 – 11:30 am

General Scientific Session IV

Navigating Change: Managing Risk, Growth and Transformation

9:50 – 10:10 am

Coffee Break

10:10 – 10:40 am

Steve Squyres: Special Lecture

NEW! **Navigating Change in Practice: Managing the Present and Working towards the Future**

Interactive Case Discussions

7:00 - 8:20 am

Learning Objective: This General Scientific Session will investigate the avoidance, occurrence and mitigation of operative and peri-operative complications across a

broad spectrum of neurosurgical procedures and of subspecialty practice. Experts in this field will review and discuss specific cases submitted by course participants and will review potential strategies for complication avoidance and management. At the end of the course, participants will be able to list potential complications in their specialty areas, identify risk factors, and elaborate strategies for avoiding complications and improving patient outcomes.

Consult with Your Expert Colleagues

Spine

*Volker K. H. Sonntag,
Robert F. Heary,
Vincent C. Traynelis,
Christopher I. Shaffrey*

Peripheral Nerve

*David G. Kline,
Eric L. Zager,
Lynda J. Yang*

Tumor

*William T. Couldwell,
Frederick F. Lang,
Mark E. Shaffrey*

Pediatric Neurological Surgery

*R. Michael Scott,
Karin M. Muraszko,
Michael L. Levy*

Stereotactic and Functional Neurosurgery

*Kathryn L. Holloway,
Andres M. Lozano,
Michael G. Kaplitt*

Cerebrovascular

*Elad I. Levy,
Michael T. Lawton,
Robert H. Rosenwasser*

Neurotrauma and Critical Care

*Lawrence F. Marshall,
Shelly D. Timmons*

Pain

*Joshua M. Rosenow,
Richard K. Osenbach,
Jaimie M. Henderson*

GENERAL SCIENTIFIC SESSION IV

Navigating Change: Managing Risk, Growth and Transformation

8:30 - 11:30 am

Presiding Officer: P. David Adelson

Moderators: Holly Gilmer-Hill, Ganesh Rao

Learning Objective: This General Scientific Session will investigate appropriate responses to and management of neurosurgical complications, when they occur. Experts in

this field will present information relevant to complication disclosure and risk management. Information regarding technology development, intellectual property and adoption of new surgical technology will also be presented. At the end of the session, participants will be able to identify improved strategies for responding to complications in their practice and managing risk, and will also be able to list the key challenges for the development and introduction of new surgical technology to the marketplace.

Special Session "Managing Complications of Therapy, Navigating Dangerous Waters"

8:30 - 8:50 am

Breaking Bad News
Alan Cohen

8:50 - 9:10 am

Risk Management after Complications
William Roberts, JD

9:10 - 9:30 am

Tort Reform: Alternative Models
Alan M. Scarrow



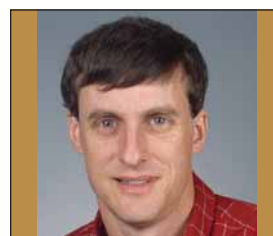
9:30 - 9:50 am
Honored Guest Lecture:
Future of Innovation
L. Dade Lunsford

9:50 - 10:10 am
Coffee Break

Special Session "Emerging Technologies: Development and Reimbursement"

10:10 - 10:15 am

Introduction of Special Lecturer Steve Squyres, PhD
Nathan R. Selden



10:15 - 10:40 am
Special Lecture:
The Mars Rover Mission and Navigating the Universe
Steve Squyres, PhD

10:40 - 10:55 am

Device Development: Artificial Disk Development
Vincent C. Traynelis

10:55 - 11:10 am

Reimbursement of New and Emerging Technologies
Winifred Hayes, PhD, President, Hayes, Inc.

11:10 - 11:25 am

Government Valuation of Payment
Gregory J. Przybylski

11:25 - 11:30 am

CNS President's Summary
Douglas Kondziolka

AUXILIARY MESSAGE

Dear Auxiliary Member:

We welcome you to San Diego, California's second largest city. San Diego boasts blue skies, 70 miles of beaches and a gentle Mediterranean climate. Bordered by Mexico, the Pacific Ocean, the Anza-Borrego Desert and the Laguna Mountains, San Diego County offers both beautiful vistas and numerous attractions for both adults and children.

As you plan your time in San Diego, there are many CNS events you will want to keep in mind and include in your schedule. The tours are exciting and are designed specifically for CNS attendees. They fill up fast, so plan ahead and sign up for your favorites when you register.

Be sure to join us aboard the historic USS Midway, San Diego's Aircraft Carrier Museum, on Sunday, September 16, 6:30 - 8:30 pm, for the 2007 CNS Opening Reception. The event should be truly spectacular as you take in an unparalleled 360-degree view of San Diego's sparkling skyline and the Coronado Bay Bridge. Due to the small tie-downs on the flight deck, we suggest that women wear a flat or wedged heel.

On Monday, September 17, you will not want to miss this year's fascinating CNS Auxiliary Luncheon and Program in historic La Jolla. We will begin with a warm and intimate lunch at the fabulous La Valencia Hotel with panoramic views of the Pacific Ocean. Then we'll enjoy an informative and inspiring presentation by neurosurgeon and CNN correspondent Sanjay Gupta, MD. Dr. Gupta will offer insights from his latest book, *Chasing Life*. Join us for a delightful afternoon with friends and learn what you can do right now to maximize your lifespan!

We have also planned an unforgettable lineup of Special Lectures throughout the week at the San Diego Convention Center. On Monday we will hear the inaugural Julian T. Hoff Lecture from author and Professor Robert Sapolsky on the concept of the "Open Mind." On Tuesday, the CNS Michael L.J. Apuzzo Lecture on Creativity and Innovation will be given by famed San Francisco Symphony Conductor Michael Tilson Thomas. Also on Tuesday, we will hear from Dr. Robert D. Ballard, the world's foremost Oceanographer. And on Wednesday, September 19, Author Salman Rushdie will present the Walter E. Dandy Oration "Navigating Change Across Cultures of the World." These are just some of the fascinating lectures that are planned for our week in San Diego.

We encourage you to visit us at the CNS Spouse Hospitality Center at the San Diego Marriott Hotel and Marina, Monday through Wednesday from 7:00 to 10:30 am. You can come to relax or simply enjoy a continental breakfast before you head out to explore the excitement that the CNS has prepared for you in San Diego. A representative from the San Diego area will be available to answer any questions you might have about the city or the CNS' abundant offerings. We hope that you will bring your family and join us this fall at the 2007 CNS Annual Meeting, September 15 - 20. It promises to be a fascinating San Diego experience.



Susan Kondziolka
CNS Auxiliary President



Jill Asher
CNS Auxiliary Chairperson

AUXILIARY PROGRAM AT-A-GLANCE

Saturday, September 15

AT01	12:30 – 5:30 pm	La Jolla Coast Walk/Birch Aquarium	\$58
AT02	1:00 – 5:00 pm	Dead Sea Scrolls at Balboa Park	\$59
OE01	6:00 – 11:00 pm	Old Globe Theatre & Dinner	\$195
OE02	6:00 – 11:00 pm	San Diego Padres Game in Private Luxury Suite	\$225

Sunday, September 16

AT03	7:00 – 8:15 am	Yoga	\$20
AT04	9:00 am – 1:00 pm	“Crown City” Walking Tour – Coronado	\$45
AT05	9:00 am – 2:00 pm	San Diego City Tour & Harbor Cruise	\$41
AT06	12:30 – 5:30 pm	San Diego Zoo – Behind the Scenes	\$88
AT07	1:00 – 2:00 pm	San Diego Orientation Session	Complimentary
AT08	1:00 – 5:00 pm	Dead Sea Scrolls at Balboa Park	\$59
Open	6:30 – 8:30 pm	CNS Opening Reception	Hosted by the CNS

Monday, September 17

AT09	7:00 – 8:15 am	Pilates	\$20
Open	7:00 – 10:30 am	CNS Spouse Hospitality Center	Hosted by the CNS
AT10	9:30 am – 3:30 pm	Wild Animal Park	\$72
AT11	12:15 – 3:00 pm	CNS Auxiliary Luncheon and Program	\$45; Hosted in part by the CNS
AT12	1:00 – 5:00 pm	Dead Sea Scrolls at Balboa Park	\$59
OE03	6:00 – 11:00 pm	San Diego Padres Game on Private VIP Picnic Terrace	\$135
OE04	6:30 – 10:30 pm	Dinner Cruise on San Diego Bay	\$95

Tuesday, September 18

AT13	7:00 – 8:15 am	Yoga	\$20
Open	7:00 – 10:30 am	CNS Spouse Hospitality Center	Hosted by the CNS
AT14	9:00 am – 12:00 pm	“Walk Thru Time” – Gaslamp Quarter	\$35
AT15	9:30 am – 3:30 pm	Sea World – Lunch with Shamu	\$159
AT16	9:30 am – 4:30 pm	Temecula Wine Tasting and Lunch	\$95
AT17	1:30 – 5:30 pm	Hike, Bike, or Kayak – San Diego	\$75
OE05	6:00 – 11:00 pm	Old Globe Theatre & Dinner	\$195

Wednesday, September 19

AT18	7:00 – 8:15 am	Pilates	\$20
Open	7:00 – 10:30 am	CNS Spouse Hospitality Center	Hosted by the CNS
AT19	9:30 am – 1:30 pm	La Jolla Shopping and Lunch	\$92
AT20	10:00 am – 2:00 pm	“Crown City” Walking Tour – Coronado	\$45

AUXILIARY TOURS, OPTIONAL EVENTS & SOCIAL PROGRAMS

Saturday

September 15, 2007

AT01 La Jolla Coast Walk/Birch Aquarium

12:30 – 5:30 pm
\$58 per person

Follow pathways and enter sandy coves as you wind along the famed La Jolla coastline learning about La Jolla's history, marine life, and kelp beds. You'll enjoy some of the loveliest ocean views in Southern California, and experience close encounters with pelicans, cormorants, rocky inter-tidal life, and harbor seals – usually sunning on the beach or Seal Rocks. Then take some time to enjoy the Stephen Birch Aquarium-Museum, part of the



famous Scripps Institute of Oceanography. Visitors will experience a dazzling variety of marine life, from the cold waters of the Pacific Northwest to the tropical seas of Mexico and the South Pacific. Explore the largest oceanographic museum in the country, and learn about water, air, land, and life through interactive displays. Outdoors, you'll discover a demonstration tide pool inhabited by local sea creatures. Comfortable walking shoes are recommended.

AT02 Dead Sea Scrolls at Balboa Park

1:00 – 5:00 pm
\$59 per person

In San Diego for a short time, a select sampling of the Scrolls is on display at the Natural History Museum in Balboa Park. The exhibition is the result of collaboration between the Israel Antiquities Authority and the Natural History Museum. A tour that takes you back 2000 years! In 1947 a Bedouin goat herder wandering with his flock near the Dead Sea accidentally discovered a cache of ancient scrolls that are now thought to be among the greatest archaeological finds of the 20th century. The scrolls are a direct link to the ancient Middle East. They are written on papyrus and parchment in two languages – Hebrew and

Aramaic. The scrolls include parts of almost every book of the Hebrew bible, as well as



the Apocrypha (early Christian writings) and other treatises describing daily life in the Judean community of Qumran on the northwest shore of the Dead Sea. Your guests will have a reserved entrance time and each receive their own headsets. The audio tour will last approximately forty-five minutes. Following their visit to the Natural History Museum, guests will be given maps, and able to amble through the heart of Balboa Park, a special place where you can experience San Diego's natural beauty, over 13 museums, wonderful art and culture and stunning Spanish Revival architecture. Note: Price includes tour guide, deluxe motorcoach, admission to the Dead Sea Scrolls Exhibit, audio headsets, and free time at Balboa Park.

OE01 Old Globe Theatre and Dinner

6:00 – 11:00 pm
\$195 per person

Your evening will begin with dinner at The Prado Restaurant, one of the most beautiful restaurants in Balboa Park in The House of



Hospitality. The unique décor blends the historical aspects of the House of Hospitality and whimsical accessories inspired by the Park museum collections. After dinner, your group will then stroll over to The Old Globe Theatre, for

their performance of either Hamlet, Measure for Measure, or Two Gentlemen from Verona that are being performed on a rotating schedule as part of the 2007 Summer Shakespeare Festival. Rated one of the nation's top regional theaters, the Old Globe continues to draw more than 300,000 people annually. The theatre's featured play is sure to bring enjoyment for everyone who enjoys Shakespeare.

OE02 Padres Game at Petco Park in Private Luxury Suite

6:00 – 11:00 pm
\$225 per person

"Take me out to the ballgame..." That's all we need to hear to ensure that you and your guests enjoy a great day or evening with the San Diego Padres of the National League. Our professional staff will lead you to the stadium and direct you to your private Luxury Suite. This suite will give you your own private area with both outside and



inside seating to catch the best view of the game. Included in your suite will be an onsite attendant, a hot buffet full of delicious food, cold beer and soft drinks exclusively for your group, along with a private restroom. Each member of your group will also receive a Padres cap as a souvenir. It's all part of the game, so be a part of it all! "PLAY Ball!"

Sunday

September 16, 2007

AT03 Yoga

7:00 - 8:15 am
\$20 per person

Enjoy nature and exercise at their best. Morning Yoga class will be held on the grass behind Seaport Village.



This class provides an in-depth understanding of basic Yoga. Emphasis is on student's relationship of postures and coordination of breath and movement. The goal is to achieve deep inner relaxation and unity of body,

mind, and spirit while building a strong, more flexible body. Comfortable workout clothes recommended.

AUXILIARY TOURS, OPTIONAL EVENTS & SOCIAL PROGRAMS

AT04 "Crown City" Walking Tour - Coronado

9:00 am – 1:00 pm

\$45 per person

Rich in history, natural beauty and a charming ocean village atmosphere, Coronado is most deserving of its royal nickname, "The Crown



City." Bordered by the Pacific Ocean, Glorietta Bay and San Diego Bay, this picturesque seaside city is linked to the Southern California coastline and the city of San Diego by the graceful and stately San Diego - Coronado Bridge, and to the south by a narrow strip of land known as the Silver Strand. Your knowledgeable guide will take you on a leisurely, narrated walking tour where you'll learn that the Inn was once the home of John Spreckels, sugar king and San Diego benefactor. Then stroll down the boardwalk while you marvel at the waterfront mansions and see the house where *The Wizard of Oz* was written. Lastly, before the conclusion of your tour, you'll hear how the North Island Naval Base was once a separate island before joining the existing peninsula. Comfortable walking shoes are recommended.

AT05 San Diego City Tour and Harbor Cruise

9:00 am – 2:00 pm

\$41 per person

This informative journey through America's finest city will introduce you to San Diego past, present and future. Your tour begins in



the historic Gaslamp Quarter, originally developed by Alonzo Horton in 1854. The contemporary architecture of recent developments in this heart of Downtown San Diego complements the original buildings from the 1800's that have been lovingly

restored. Continue on through Balboa Park with its many museums and galleries housed in buildings of Spanish-Moorish architecture. Then sit back and enjoy a one-hour fully narrated tour on San Diego Bay aboard a Harbor Excursions boat with scenic views of Coronado, North Island, the Embarcadero and Cabrillo National Park. Finally, off to picturesque "Old Town," the first European settlement in California, where you will have some free time to admire the unique shops, sample some local fare or travel back to early San Diego through the historic displays throughout Old Town. "America's Finest City," is waiting to be discovered!

AT06 San Diego Zoo - Behind the Scenes

12:30 – 5:30 pm

\$88 per person

See the San Diego Zoo the way everyone wishes they could – from "Behind the Scenes." The Inside Story gives guests an



exclusive, ninety minute tour that's filled with experiences and information you couldn't get anywhere else. You'll find out, for instance, what flamingos have in common with hot dogs and just how much it costs to feed 4,000 animals every day! The adventure begins with a guide to greet your group, followed by a private three-mile guided bus tour, a visit to one off-exhibit area and free time on Zoo grounds for the remainder of the tour. "Behind the Scenes" areas may include: The Galapagos Tortoise Yard, or The Elephant Barn to name a few. Comfortable walking shoes are recommended.

AT07 San Diego Orientation Session

1:00 – 2:00 pm

Complimentary

Come to this informative session to learn about the exciting tours offered during your time in San Diego. This will include a local expert to give an overview of San Diego, along with detailed descriptions of the highlights offered during your week.

CNS OPENING RECEPTION

6:30 – 8:30 pm

Hosted by the CNS

San Diego Aircraft Carrier Museum



Live the adventure. Honor the legend. Join us aboard the historical USS Midway – San Diego's Aircraft Carrier Museum—for the 2007 CNS Opening Reception. You'll build a lifetime of memories and camaraderie with your colleagues, as you take in an unparalleled 360-degree view of San Diego's sparkling skyline and Coronado Bay Bridge.

The USS Midway - San Diego's Aircraft Carrier Museum is the longest-serving aircraft carrier in U.S. Navy history and today it is the most visited floating naval ship museum in the world. We invite you to join us for what is sure to be a memorable evening where you can climb onto a flight simulator and feel what it was really like or stop by the gift shop for souvenirs only available aboard, or just sit back and enjoy the unforgettable view. Each Annual Meeting registrant will receive one complimentary ticket to the CNS Opening Reception to join their colleagues for an assortment of sumptuous hors d'oeuvres and beverages aboard the breathtaking, historical USS Midway.



*Photos: Courtesy San Diego Aircraft Carrier Museum.

AUXILIARY TOURS, OPTIONAL EVENTS & SOCIAL PROGRAMS

Monday

September 17, 2007

AT09 Pilates
 7:00 - 8:15 am
 \$20 per person

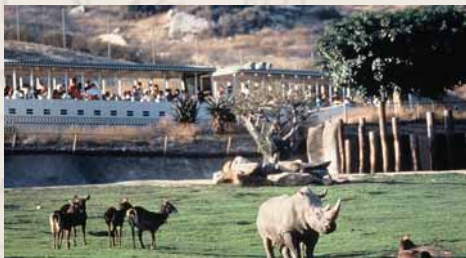
Enjoy nature and exercise at their best. Morning Pilates class will be held on the grass behind Seaport Village. Pilates called his method Contrology, which refers to the way the mind is used to control the muscles. The program focuses on the core postural muscles that help keep the body balanced and are essential to providing support for the spine. In particular, Pilates exercises teach awareness of breath and alignment of the spine, and strengthen the deep torso muscles, which are important to help alleviate and prevent back pain. Comfortable workout clothes recommended.

CNS SPOUSE HOSPITALITY CENTER

7:00 – 10:30 am; Hosted by the CNS
 Continental breakfast and beverages will be served each morning in the CNS Spouse Hospitality Center at the San Diego Marriott Hotel & Marina.

AT10 Wild Animal Park
 9:30 am – 3:30 pm
 \$72 per person

The San Diego Wild Animal Park is a 1,800-acre wild life preserve where 2,200 animals roam free over vast expanses, as they would



at home in Africa, Asia, and South America. Located approximately 40 minutes north of the city, this ecological wonder is noted for its breeding programs dedicated to the re-introduction of endangered species to their native habitats. During your 30-minute guided "Journey into Africa" vehicle tour, you'll be eye to eye with wildlife and get a new appreciation for just how huge a rhinoceros or Cape buffalo is. In this open space, you'll see goliath herons, ostriches,

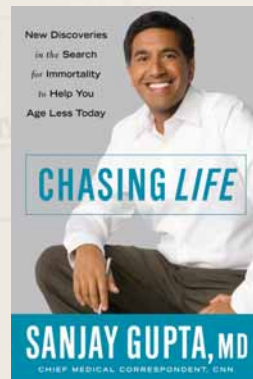
and other members of our extensive bird collection mixing and mingling with gemsbok, sable antelope, Patterson's eland, and reticulated giraffe, just as they would in the same habitat in Africa. Including feathered friends helps reflect the kind of diversity you would see on an African safari. All animal shows and exhibits are also included. Your Wild Animal Park adventure awaits – come walk on the "Wild Side". Comfortable walking shoes are recommended.

AT11 CNS Auxiliary Luncheon and Program
 12:15 – 3:00 pm
 \$45
 Hosted in part by the CNS

A delightful afternoon awaits you at the historic La Valencia Hotel—one filled with panoramic ocean views, delicious food and a



fascinating presentation by CNN medical correspondent and TIME columnist, neurosurgeon Sanjay Gupta, MD! Situated atop La Jolla Cove, overlooking the beautiful Pacific Ocean, La Valencia Hotel has been the place to stay in La Jolla since its opening in 1926. Join Auxiliary members and friends for a relaxing, mouth watering lunch in the Veranda Room while enjoying wide-angle ocean views and lush foliage throughout the majestic backdrop.



technologies coming down the pike that could completely change our perception of a normal human lifespan. Dr. Gupta's presentation will be both informative and

inspiring as he shares a number of lifestyle changes you can implement right now to maximize your years. Following this memorable presentation, Dr. Gupta will be available to sign copies of his book.

AT12 Dead Sea Scrolls at Balboa Park
 1:00 – 5:00 pm
 \$59 per person

In San Diego for a short time, a select sampling of the Scrolls is on display at the Natural History Museum in Balboa Park. The



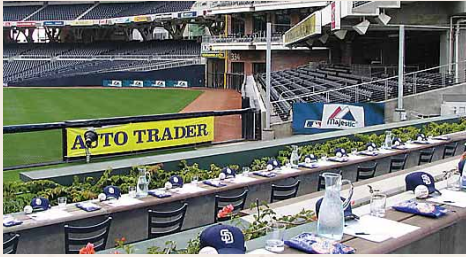
exhibition is the result of collaboration between the Israel Antiquities Authority and the Natural History Museum. A tour that takes you back 2000 years! In 1947 a Bedouin goat herder wandering with his flock near the Dead Sea accidentally discovered a cache of ancient scrolls that are now thought to be among the greatest archaeological finds of the 20th century. The scrolls are a direct link to the ancient Middle East. They are written on papyrus and parchment in two languages – Hebrew and Aramaic. The scrolls include parts of almost every book of the Hebrew bible, as well as the Apocrypha (early Christian writings) and other treatises describing daily life in the Judean community of Qumran on the northwest shore of the Dead Sea. Your guests will have a reserved entrance time and each receive their own headsets. The audio tour will last approximately forty-five minutes. Following their visit to the Natural History Museum, guests will be given maps, and able to amble through the heart of Balboa Park, a special place where you can experience San Diego's natural beauty, over 13 museums, wonderful art and culture and stunning Spanish Revival architecture. Note: Price includes tour guide, deluxe motorcoach, admission to the Dead Sea Scrolls Exhibit, audio headsets, and free time at Balboa Park.

AUXILIARY TOURS, OPTIONAL EVENTS & SOCIAL PROGRAMS

OE03 Padres Game at Petco Park on Private VIP Picnic Terrace

6:00 – 11:00 pm
\$135 per person

“Take me out to the ballgame...” That’s all we need to hear to ensure that you and your guests enjoy a great day or evening with the San Diego Padres of the National League. Our



professional staff will lead you to the stadium and direct you to your private picnic terrace. Watch your favorite Padres pitcher warm up in the bull pen located directly below your seats. Picnic Terrace includes a picnic-style menu and beverages (soda, bottled water and domestic beer), a service exclusive to the Picnic Terrace. Beverages will be available from the time gates open through the bottom of the 7th inning. Food will be served from one hour prior to the game until approximately one hour into the game. Each member of your group will receive a Padres visor to commemorate your event. It’s all part of the game, so be a part of it all! “PLAY BALL!”

OE04 Dinner Cruise on San Diego Bay

6:30 – 10:30 pm
\$95 per person

Kick up your heels and join us for an evening of dining and dancing on board the M.V. Spirit of San Diego. The Spirit is a modern, sleek, cruise ship-style yacht with 360



degree picture window viewing. While enjoying a two-and-one-half hour cruise, you will be served a luxurious three course plated dinner, prepared freshly on board. While you are dining, the ship will be passing by such San Diego favorites as the graceful Coronado Bridge, the Star of India clipper ship, and the classic Hotel del Coronado. Each deck of the Spirit has its own high quality sound system and live entertainment or DJ for your dancing pleasure. Gaze at the beautiful sights of San Diego as the bustling city takes on the luster of city lights at night.

Tuesday

September 18, 2007

AT13 Yoga

7:00 - 8:15 am
\$20 per person

Enjoy nature and exercise at their best. Morning Yoga class will be held on the grass behind Seaport Village. This class provides an in-depth understanding of basic Yoga. Emphasis is on student’s relationship of postures and coordination of breath and movement. The goal is to achieve deep inner relaxation and unity of body, mind, and spirit while building a strong, more flexible body. Comfortable workout clothes recommended.



CNS SPOUSE HOSPITALITY CENTER

7:00 – 10:30 am; Hosted by the CNS
Continental breakfast and beverages will be served each morning in the CNS Spouse Hospitality Center at the San Diego Marriott Hotel & Marina.

AT14 “Walk Thru Time” – Gaslamp Quarter

9:00 am – 12:00 pm
\$35 per person

The Gaslamp Quarter of San Diego has been known by many names. It has been called Rabbitville, Flea Town, New Town San Diego, Davis' Folly, Stingaree, Chinatown, S.O.B. (South of Broadway), and finally, The Gaslamp Quarter. This beautiful locale is made up of one of the most extensive collections of architecturally significant historic buildings in the country with 90 buildings listed on the National Register of Historic Buildings. Besides the fascinating architecture, the collection of interesting and colorful characters who built, lived and worked in the buildings is almost as extensive and certainly as interesting! Among them are William Heath Davis, Alonzo E. Horton, Wyatt Earp, Ah Quin, Police Chief Keno Wilson, and the notorious madam Ida Bailey.



The tour also highlights many of the best Victorian style commercial buildings constructed in San Diego during the years between the Civil War and World War I. Topping off your Walk Through History will be a stop at Ghirardelli Chocolate factory (which has been in business since 1852) for an old-fashioned, out-of-this-world ice cream sundae with you choice of toppings. Comfortable walking shoes and cameras are recommended.

AUXILIARY TOURS, OPTIONAL EVENTS & SOCIAL PROGRAMS

AT15 Sea World – Lunch with Shamu

9:30 am - 3:30 pm
\$159 per person

Sea World of California is 150 acres of fun, fish and other aquatic mysteries. The first and original of all Sea Worlds, this marine



life and entertainment park is located on San Diego's beautiful Mission Bay, featuring five major shows and dozens of fascinating exhibits containing marine life from around the globe, including the world's largest live shark exhibit and the Penguin Encounter. Sea World's star attraction is Shamu, the performing three-ton killer whale; however, other trained performers include sea lions, seals, bottlenose dolphins, and otters. Experience the slippery sensation of touching a dolphin, or the fun of feeding a sea lion or walrus!

Your group will have lunch in Sea World's newest attraction! Intimate dining at the "Shamu Close Up Pool," with none other than Shamu as the star attraction! Having lunch within arms-reach of free-swimming 10,000 pound killer whales is certainly one to write home about! Your Sea World hosts for the afternoon are Shamu's trainers. During your time with Shamu, the trainers offer fascinating information about some of our world's most interesting mammals. Be sure to bring a camera, for photo opportunities abound! Lunch will be served buffet style, and throughout it all Shamu and friends are center stage, demonstrating a sampling of their spellbinding signature behaviors. And the jumps, dives and slides are mere feet from your tables!

AT16 Temecula Wine Tasting and Lunch

9:30 am – 4:30 pm
\$95 per person

While most of the world thinks that the only California wines are produced in the Northern California's Sonoma and Napa regions, Southern California has some great wineries of it's own. One hour north of San Diego County, nestled in the Rainbow Gap, is the beautiful wine-producing region of Temecula Valley. Temecula Valley is only twenty-two miles inland where one can see and feel the ocean's influence. This area may include morning fog, gusty afternoon breezes, and cool clear nights that provide an ideal grape growing climate.



Our first stop in Temecula Valley will be at one of the fifteen local wineries which include a tasting and an introduction to the centuries-old tradition of wine making. The last stop will be at the Callaway Coastal's modern estate, where guests will enjoy a tour and a tasting at the beautiful winery. After the tasting, the tour will conclude with lunch on the vineyard grounds.

AT17 Hike, Bike, or Kayak – San Diego

1:30 – 5:30 pm
\$75 per person

While visiting Southern California, be sure and take advantage of some San Diego's more scenic and diverse outdoor communities. An afternoon of outdoor fun and excitement awaits you!

HIKE: As the sea rose and fell over the past million years, shelves or marine terraces were cut into the sandstone at various levels and other sediments were deposited on these shelves. The views combine wind bent trees, abstract sandstone formations, wildflowers, and the sea or lagoon below, all of which are constantly changing. Dramatic views are plentiful from areas of the hiking trails which parallel the bluff edge high above the sea and several viewing platforms have been

built right at the bluff edge. They are excellent sites for observing the yearly migration of the Gray Whales as well as the year-round spectacle of dolphins. This hike is typically 2.5 hours long on beautiful beach trails.



BIKE: La Jolla Plunge! Start from the top of Mount Soledad; ride down through the beautiful neighborhoods of La Jolla, Pacific Beach, and Mission Beach. Our guides will keep you at a pace suitable for an exciting downhill bike ride, while allowing the opportunity to take in the beautiful sights and sounds of San Diego. All bikes and equipment are included.



KAYAK: A kayak tour of the La Jolla Sea Caves is a must while visiting San Diego. Witness the abundant wildlife and amazing views of La Jolla Cove with your guide who is an amateur naturalist. Not only can you kayak up to the caves at La Jolla Shores, but you may also witness dolphins swimming along side you as well as Sea Lions, Seals, Leopard Sharks, Garibaldi, Sting Rays, Bat Rays, Brown Pelicans, and Cormorants to name a few.

AUXILIARY TOURS, OPTIONAL EVENTS & SOCIAL PROGRAMS

OE05 Old Globe Theatre & Dinner 6:00 – 11:00 pm \$195 per person

Your evening will begin with dinner at The Prado Restaurant, one of the most beautiful restaurants in Balboa Park in The House of Hospitality. The unique décor blends the historical aspects of the House of Hospitality and whimsical accessories inspired by the Park museum collections. After dinner, your group will then stroll over to The Old Globe Theatre, for their performance of either Hamlet, Measure for Measure, or Two Gentlemen from Verona that are being performed on a rotating schedule as part of the 2007 Summer Shakespeare Festival. Rated one of the nation's top regional theaters, the Old Globe continues to draw more than 300,000 people annually. The theatre's featured play is sure to bring enjoyment for everyone who enjoys Shakespeare.



CNS SPOUSE HOSPITALITY CENTER

7:00 – 10:30 am; Hosted by the CNS
Continental breakfast and beverages will be served each morning in the CNS Spouse Hospitality Center at the San Diego Marriott Hotel & Marina.

AT19 La Jolla Shopping and Lunch 9:30 am – 1:30 pm \$92 per person

La Jolla isn't just another tourist town. "The Jewel," is an apt description of this charming village with its many upscale



boutiques, fine restaurants, art galleries, and charm of a Mediterranean isle. And the shopping in La Jolla is incomparable! Prospect Street & Girard Avenue are La Jolla's answer to Beverly Hills' Rodeo Drive. "Must See & Shop" places include stores such as: Mila, Corrines, Alcalá Gallery and Bell Maision. Mixed in with the upscale boutiques are shops created for the shoppers who love to find a great bargain as well!

Your tour begins with a narrated tour of La Jolla on board your deluxe motorcoach. After getting the lay of the land the group is dropped at a central location to wander the shops and explore the sights of the area. Finally, you will enjoy a delicious lunch at a local cliffside La Jolla Restaurant where you will get take in the view of the coastline while enjoying the local fare.

AT20 "Crown City" Walking Tour - Coronado 10:00 am – 2:00 pm \$45 per person

Rich in history, natural beauty and a charming ocean village atmosphere, Coronado is most deserving of it's royal



nickname, "The Crown City." Bordered by the Pacific Ocean, Glorietta Bay and San Diego Bay, this picturesque seaside city is linked to the Southern California coastline and the city of San Diego by the graceful and stately San Diego - Coronado Bridge, and to the south by a narrow strip of land known as the Silver Strand. Your knowledgeable guide will take you on a leisurely, narrated walking tour where you'll learn that the Inn was once the home of John Spreckels, sugar king and San Diego benefactor. Then stroll down the boardwalk while you marvel at the waterfront mansions and see the house where The Wizard of Oz was written. Lastly, before the conclusion of your tour, you'll hear how the North Island Naval Base was once a separate island before joining the existing peninsula. Comfortable walking shoes are recommended.

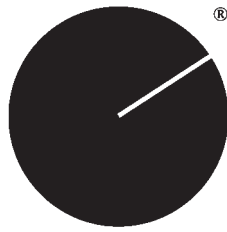
Wednesday

September 19, 2007

AT18 Pilates 7:00 - 8:15 am \$20 per person

Enjoy nature and exercise at their best. Morning Pilates class will be held on the grass behind Seaport Village. Pilates called his method Contrology, which refers to the way the mind is used to control the muscles. The program focuses on the core postural muscles that help keep the body balanced and are essential to providing support for the spine. In particular, Pilates exercises teach awareness of breath and alignment of the spine, and strengthen the deep torso muscles, which are important to help alleviate and prevent back pain. Comfortable workout clothes recommended.

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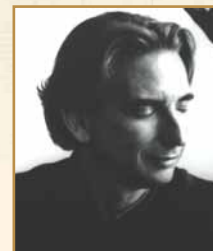
- Navigating Change: The Acoustic Neuroma Story: Methods, Outcomes and Myths.
- Intraoperative Imaging: Evolution and Options.
- Role of Radiosurgery in the Management of AVMs.
- Future of Innovation.



Douglas Kondziolka, MD
CNS President



Salman Rushdie *Seventh Annual Walter E. Dandy Orator*
Navigating Change Across Cultures.



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



Jack El-Hai
Second Annual John Thompson History of Medicine Lecturer
Walter Freeman and Lessons from the First Era of Psychosurgery.



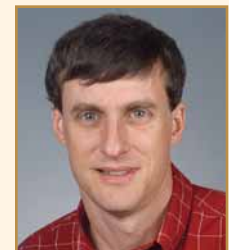
Robert D. Ballard, PhD
Special Lecturer
Solving the Complex Problems of Discovery.



Robert Sapolsky, PhD
Special Lecturer
Navigating Change and the Open Mind.



Paul R. Sanberg, PhD, DSc
Special Lecturer
Cellular Repair for the Nervous System.



Steve Squyres, PhD
Special Lecturer
The Mars Rover Mission and Navigating the Universe.

Meeting Highlights

- Introducing Integrated Medical LearningSM (IML) – Sessions during Monday, Tuesday and Wednesday GSS.
- Interactive Neurosurgical Forum and Select Abstracts Session – Monday, September 17.
- 3-D Live Cadaveric Demonstration of Surgical Approaches – Tuesday, September 18.
- **NEW!** Interactive Case Presentations – Thursday, September 20.
- Enhanced Digital Poster Format – with opportunities for electronic discussion.



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