



2014 American Society of
Spine Radiology
Annual Symposium

23.0 AMA PRA Category 1 Credit(s)[™]

February 13 – 16, 2014 • Fontainebleau Miami Beach • Miami Beach, Florida



8th Annual Meeting of the
American Society of

Functional Neuroradiology

17.0 AMA PRA Category 1 Credit(s)[™]

February 17 – 19, 2014 • Fontainebleau Miami Beach • Miami Beach, Florida

Optional BOLD Functional MRI Hands-on Workshop • 6.5 AMA PRA Category 1 Credit(s)[™]

February 16, 2014 • Workshop attendance is limited to the first 20 registrants.





From the
PRESIDENT
and
PROGRAM
CHAIR

The 2014 American Society of Spine Radiology (ASSR) Annual Symposium and the 8th Annual Meeting of the American Society of Functional Neuroradiology (ASFNR) will be held February 13-16 and February 17-19, 2014 respectively at the Fontainebleau Miami Beach, Miami Beach, Florida. I am very excited to return to this hotel following a very successful ASSR meeting in 2012. The scientific program for both meetings combines the very best speakers in the field of spine imaging/therapeutics and functional neuroradiology, state-of-the-art topics such as spinal trauma/intervention, advanced imaging techniques as well as some important general didactic topics.

The ASSR program will appeal to a wide range of radiologists, spine surgeons, residents, fellows and other physicians who participate in the care of patients with spinal disorders. The ASFNR program will appeal to a wide range of neuroradiologists, neurologists, neurosurgeons, brain mapping scientists, cognitive neuroscientists, physicists, neuropsychologists, fellows, residents, doctoral and postdoctoral students, engineers and ancillary staff.

The planning committees have done a tremendous job assembling a roster of outstanding national, international and scientific keynote speakers who will fulfill the primary objectives of both symposia.

The ASSR program will offer SAM sessions to fulfill the MOC requirements. There will be daily SAM sessions which will be submitted to the American Board of Radiology and will cover a number of different topics.

The major objectives for the ASFNR program and topics include:

- Bold/Cortical Mapping and resting state fMRI
- Human Brain Mapping, Connectomics, Genomics, and the BRAIN Initiative
- Diffusion Tensor Imaging: Challenges and Medicolegal issues e.g. in TBI
- Perfusion and Permeability BBB Imaging: Neuro-oncology and other applications
- Stroke Imaging and Standardization: Clinical Practice and Clinical Trials
- Informatics in Neuroimaging, Novel Techniques and Ultra High-Field MRI

On Sunday, February 16, there will be an ASFNR half-day, pre-meeting "Hands-on Workshop" for BOLD fMRI image processing. Attendance for the workshop is limited to the first 20 registrants and this very popular workshop is typically sold out very early on.

Finally, I must again share my excitement for the meeting location and hotel. There will be ample opportunity to take advantage of the wonderful Fontainebleau Miami Beach, located near Miami and South Beach. We will be enjoying some Cuban-Latin American flair for the meeting receptions and will be poolside and oceanside whenever possible. I would encourage you to make your hotel reservations early as our room block for both meetings will likely be sold out early. There are superb restaurants on the property with 3 signature restaurants (Gotham Steak, Hakkasan and Scarpetta), spectacular nightlife (LIV and the central Bleau Bar), the zen spa as well as the numerous activities for the family to enjoy (golf, tennis, water sports – there are innumerable pools at the resort). This is all within a few miles of the dining and nightlife of South Beach Miami, not to mention world-class museums, music and shopping.

I sincerely hope you will join us for ONE, if not BOTH, of these exciting meetings. I am anticipating an exceptional week that will surpass all your scientific, educational, social and recreational expectations.

I look forward to seeing you in Miami Beach!

Meng Law, M.D., MBBS, FRACR
ASSR and ASFNR President/Program Chair

2014 American Society of

Spine Radiology

Annual Symposium

ABOUT THE SYMPOSIUM: The 2014 American Society of Spine Radiology Annual Symposium will provide a forum for presentation and discussion of new and important developments in spine radiology. Keynote addresses and topically organized focus sessions concentrate on various aspects of diagnostic and interventional spine techniques. Nationally and internationally recognized experts will share their experiences through didactic lectures, discussions and case-based reviews. Scientific sessions will address the newest applications and techniques in spine imaging and intervention, while electronic posters and abstract sessions will present new and exciting investigations in spine research. Young investigators can submit their original work for consideration in the Mentor Award Program, or compete for awards in either the best scientific paper or electronic poster presentation categories.

Diagnostic Spine Sessions will highlight the latest in MR and CT imaging advances, controversies in spine imaging, medicolegal hazards and recommendations, spine and sports-related spine trauma, pediatric and advanced imaging.

Interventional Spine Sessions will be interspersed so that participants will have the opportunity to hone their spine interventional skills, covering novel augmentation procedures to advanced nerve blocks.

TARGET AUDIENCE: This CME activity is primarily intended and designed to educate radiologists, neuroradiologists, musculoskeletal radiologists, interventional radiologists, spine surgeons, pain management and rehabilitation physicians, anesthesiologists, as well as fellows and residents-in-training in these specialties. Course material is also aimed at allied health professionals, including physician assistants and nurse practitioners, who specialize, or have particular interest, in conditions affecting imaging and treating the spine.

EDUCATIONAL OBJECTIVES:

Attendees should, at the completion of this Symposium, be able to:

- Demonstrate an increased understanding of recent advances in MR and CT imaging techniques.
- Expand their clinical imaging protocols to include recent advances in spine and peripheral nerve imaging to their daily practice.
- Develop greater understanding of the unique conditions that affect the spine and how imaging and image-guided intervention are used in their treatment.

No special educational preparation is required for this CME activity.

SCIENTIFIC SPONSOR: Educational Symposia

INFORMATION: For more information or questions regarding the symposium, please contact Dian Ginsberg at dginsberg@edusymp.com or 813-806-1064.

ACCREDITATION: Physicians: This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of Educational Symposia and the American Society of Spine Radiology. Educational Symposia is accredited by the ACCME to provide continuing medical education for physicians.

Educational Symposia designates this live educational activity for a maximum of 23.0 AMA PRA Category 1 Credit(s)[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Technologists: No Category A CE credit is available for this activity.

REGISTRATION INFORMATION: Registration includes all course materials, including a comprehensive course syllabus (electronic syllabus), continental breakfasts and refreshment breaks, workshops and all lectures.

Family members and friends, ages 12 years and older, who wish to attend social functions which include the Welcome Reception, Continental Breakfasts and the Closing Party may do so by registering for the Symposium. The fee for each guest is \$100.00. Company-sponsored, unaccredited workshops require separate registrations. See program for details. Early registration is strongly suggested.

There will be a \$50.00 late fee added to registrations received after January 17, 2014. Cancellations must be received in writing. A \$75.00 processing fee will be applied to all cancellations. Refunds requested in writing prior to January 17, 2014 will be issued for the amount of registration fee paid less the \$75.00 processing fee. No refunds will be made on or after that date.

2013 - 2014 ASSR PROGRAM COMMITTEE

Program Chair:

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Gregory J. Lawler, M.D.

Program Committee:

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Bassem A. Georgy, M.D.

Jeffrey A. Stone, M.D., FACR

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ASSR PROGRAM SCHEDULE

WEDNESDAY, FEBRUARY 12, 2014

4:00 – 6:00 PM **REGISTRATION FOR ATTENDEES AND GUESTS**

THURSDAY, FEBRUARY 13, 2014

7:00 – 8:00 AM **CONTINENTAL BREAKFAST FOR REGISTRANTS AND REGISTERED GUESTS**

7:50 – 8:00 **WELCOME:** *Meng Law, MBBS, ASSR President*

8:00 – 8:40 **KEYNOTE ADDRESS** History and Evolution of Spine Imaging *Majda M. Thurnher, M.D.*

JOINT SESSION 1: CONTROVERSIES IN SPINE IMAGING AND THERAPEUTICS

Moderators: Johan W.M. Van Goethem, M.D., Ph.D. & Paul M. Parizel, M.D., Ph.D.

8:45 – 9:00	Vertebral Augmentation: To Be or Not To Be.....	<i>A. Orlando Ortiz, M.D., MBA, FACR</i>
9:00 – 9:15	Epidural Steroid Injections: Efficacy vs. Complications.....	<i>Todd Miller, M.D.</i>
9:15 – 9:30	Contrast vs. Non-Contrast for Spine Imaging.....	<i>Alessandro Cianfoni, M.D.</i>
9:30 – 9:45	Discography: An Art or a Science?.....	<i>Walter S. Bartynski, M.D.</i>
9:45 – 10:00	Should We Even Do Plain Radiography for Spine Trauma: Imaging Algorithm.....	<i>Johan W.M. Van Goethem, M.D., Ph.D.</i>
10:00 – 10:15	CT vs MRI for Spine Trauma.....	<i>Paul M. Parizel, M.D., Ph.D.</i>
10:15 – 10:30	Emergency Spine MRIs: STIR, T2, T1?.....	<i>David B. Hackney, M.D.</i>

10:30 – 10:45 **REFRESHMENT BREAK FOR REGISTRANTS AND VISIT EXHIBITORS**

DIAGNOSTIC SESSION 1: IMAGING OF THE DISC/SPINE: WHAT'S RELEVANT FOR OUR REPORTS

Moderators: Paul E. Kim, M.D. & Stephen L.G. Rothman, M.D.

10:45 – 11:00	Disc Nomenclature: Relevance to Reports, RadLex and Reporting Templates.....	<i>Alan L. Williams, M.D., FACR, MBA</i>
11:00 – 11:15	What Not to Say in Your Spine Reports (Medicolegal Issues).....	<i>Stephen L.G. Rothman, M.D.</i>
11:15 – 11:30	Medicolegal Hazards in Spine Imaging.....	<i>Paul E. Kim, M.D.</i>
11:30 – 11:45	Current Concepts in Spondylolisthesis.....	<i>Stephen L.G. Rothman, M.D.</i>
11:45 – 12:00 PM	Dynamic or Static Imaging? Flexion and Extension Imaging of the Cervical Spine.....	<i>John L. Go, M.D.</i>
12:00 – 12:15	How To Find The Painful Facet? Clinical Findings vs. SPECT-CT vs. MRI.....	<i>Johan W.M. Van Goethem, M.D., Ph.D.</i>
12:15 – 12:30	SPECIAL LECTURE: Sunshine Act: What it Means for Industry, Physicians and the Future of the Society.....	<i>Jeffrey A. Stone, M.D., FACR</i>
12:30 – 12:45	Discussion	
12:45	END OF SESSION	

12:45 – 1:55 **LUNCH & LEARN SESSION** (not accredited for AMA PRA Category 1 Credit(s)[™]) or **LUNCH ON YOUR OWN**

DIAGNOSTIC SESSION 2 (SAM SESSION): INFECTION, INFLAMMATION & NEOPLASTIC OF THE SPINE

Michele H. Johnson, M.D. & Sophia C. Symko, M.D.

2:00 – 2:15	Spine Infections: Early, Intermediate and Late Imaging Appearances.....	<i>Sophia C. Symko, M.D.</i>
2:15 – 2:30	Imaging in Spinal Cord Inflammatory Disease.....	<i>Evelyn M. Sklar, M.D.</i>
2:30 – 2:45	Imaging of Lymphoproliferative Disorders; Plasma Cell Tumors, Lymphoma and Leukemia.....	<i>Carl E. Johnson, M.D.</i>
2:45 – 3:00	DWI and DTI in Spine Tumors.....	<i>Puneet S. Pawha, M.D.</i>
3:00 – 3:15	CTA & MRA of the Spine.....	<i>Scott D. Agron, M.D.</i>
3:15 – 3:30	Discussion	
3:30	END OF SESSION	

3:30 – 4:00 **REFRESHMENT BREAK FOR REGISTRANTS AND VISIT EXHIBITORS**

4:00 – 6:00 **WORKSHOP** Topic & Faculty - TBD (not accredited for AMA PRA Category 1 Credit(s)[™])

6:15 – 7:45 **WELCOME RECEPTION** for Registrants and Registered Guests (DRESS CODE: BLACK ONLY)

FRIDAY, FEBRUARY 14, 2014

7:00 – 8:00 AM **CONTINENTAL BREAKFAST FOR REGISTRANTS AND REGISTERED GUESTS**

MODERATORS: *Meng Law, MBBS & Robert M. Quencer, M.D., FACR*

8:00 – 8:30 **KEYNOTE ADDRESS:** Miami Project to Cure Paralysis: New Discoveries in the Pathogenesis and Treatment of Spinal Cord Injury..... *W. Dalton Dietrich, Ph.D.*

8:30 – 9:00 **KEYNOTE ADDRESS:** FDA-Approved Stem Cell Injections in the Human SCI..... *Allan D. Levi, M.D., Ph.D., FACS*

9:00 – 9:15 Discussion

JOINT SESSION 2: PRACTICAL SPINE IMAGING, SPORTS & TRAUMA

Moderators: Adam E. Flanders, M.D. & Eric D. Schwartz, M.D.

9:15 – 9:30	Value of Diffusion Tensor and Other Imaging Biomarkers in Spinal Cord Injury.....	<i>Eric D. Schwartz, M.D.</i>
9:30 – 9:45	How Useful is MRI for Spine Trauma?.....	<i>Adam E. Flanders, M.D.</i>
9:45 – 10:00	Athletic Spine Injuries: Pro Jock and Weekend Warriors.....	<i>Jeffrey A. Stone, M.D., FACR</i>
10:00 – 10:15	Imaging of the Chronically Injured Spinal Cord.....	<i>Robert M. Quencer, M.D., FACR</i>
10:15 – 10:30	Diagnostic, Surgical and Procedural Mishaps Involving the Spine.....	<i>Ludhha M. Shah, M.D.</i>
10:30	END OF SESSION	

10:30 – 10:45 **REFRESHMENT BREAK FOR REGISTRANTS AND VISIT EXHIBITORS**

DIAGNOSTIC SESSION 3 (SAM SESSION): TUMORS OF THE SPINE: DIAGNOSIS AND THERAPEUTICS

Moderators: Afshin Gangi, M.D., Ph.D. & Allan L. Brook M.D., FSIR

10:45 – 11:00	Sympathetic Nerve Blocks.....	<i>Bassem A. Georgy, M.D.</i>
11:00 – 11:15	How to do Catheter Angiography in Spine Vascular Disease.....	<i>Michele H. Johnson, M.D.</i>
11:15 – 11:30	Biopsies of Spine Tumors: Do's and Don'ts.....	<i>Amish H. Doshi, M.D.</i>
11:30 – 11:45	Novel Spine Interventions and Spinal Cord Stimulation: Overview and Insights.....	<i>Allan L. Brook, M.D., FSIR</i>
11:45 – 12:00 PM	Novel Ablation and Therapies for Spine Tumors.....	<i>Afshin Gangi, M.D., Ph.D.</i>
12:00 – 12:15	Spinal Cysts, Fluid Collections and Interventions.....	<i>Alyssa T. Watanabe, M.D.</i>
12:15 – 12:30	Discussion	
12:30	END OF SESSION	

INTERVENTIONAL SESSION 1: ADVANCED VERTEBRAL AUGMENTATION

Moderators: John D. Barr, M.D. & Alessandro Cianfoni, M.D.

10:45 – 11:00	Vertical Augmentation: Update on Current Evidence of Efficacy.....	<i>John D. Barr, M.D.</i>
11:00 – 11:15	Advanced Vertebroplasty Augmentation Treatments.....	<i>Mario Muto, M.D.</i>
11:15 – 11:35	RF Ablation and New Devices in Augmentation.....	<i>Bassem A. Georgy, M.D.</i>
11:35 – 12:00 PM	Interventional Ablation: Current Indications.....	<i>Afshin Gangi, M.D., Ph.D.</i>
12:00 – 12:15	Cervical Spine Augmentation and Interventions.....	<i>Alessandro Cianfoni, M.D.</i>
12:15 – 12:30	Sacroplasty and Sacral Interventions.....	<i>Luigi Manfre, M.D.</i>
12:30 – 12:45	Discussion	
12:45	END OF SESSION	

INTERVENTIONAL SESSION 2: ADVANCED INTERVENTIONAL SPINE TECHNIQUES

Moderators: Richard Silbergleit, M.D., MBA & Christopher R. Hancock, M.D.

2:00 – 2:20	Interventional Spine Pain Management: The Core Procedures.....	<i>Richard Silbergleit, M.D., MBA</i>
2:20 – 2:40	Percutaneous Biologic Disc Therapy.....	<i>Wayne J. Olan, M.D.</i>
2:40 – 3:00	Stem Cell Injections of Facet Joints.....	<i>Christopher R. Hancock, M.D.</i>
3:00 – 3:20	Spine Tumor Augmentation and New Therapeutic Options.....	<i>Allan L. Brook, M.D., FSIR</i>
3:20 – 3:30	Discussion	
3:30	END OF SESSION	

FRIDAY, FEBRUARY 14, 2014 (Continued)

12:40 – 1:40 **LUNCH & LEARN SESSION** (not accredited for *AMA PRA Category 1 Credit(s)[™]*) or **LUNCH ON YOUR OWN**

1:45 – 3:45 • SCIENTIFIC PAPERS: DIAGNOSTIC and EXCERPTAS
Moderators: Christopher R. Hancock, M.D. & Lubdha M. Shah, M.D.

1:45 – 3:45 • SCIENTIFIC PAPERS: INTERVENTIONAL
Moderators: Louis A. Gilula, M.D., DABR, FACR & Todd Miller, M.D.

3:45 – 5:15 • DIAGNOSTIC CASES:
Challenging Diagnostic Case Discussions: or US vs Europe
Majda M. Thurnher, M.D.; Paul M. Parizel, M.D.; Johan W.M. Van Goethem, M.D.; Adam E. Flanders, M.D.; Paul E. Kim, M.D.; John L. Go, M.D.

3:45 – 5:15 • INTERVENTIONAL SPINE TUMOR BOARD:
Challenging Diagnostic and Interventional Case Discussions: Novel Therapeutic Options
Afshin Gangi M.D., Ph.D.; Bassem A. Georgy, M.D.; Allan L. Brook, M.D., FSIR; Ivan Chaitowitz, M.D.; Jack W. Jennings M.D., Ph.D.; Patrick C. Hsieh, M.D.

5:15 END OF SESSIONS

SATURDAY, FEBRUARY 15, 2014

7:00 – 8:00 AM **CONTINENTAL BREAKFAST FOR REGISTRANTS AND REGISTERED GUESTS**

Moderator: Meng Law, MBBS

8:00 – 8:40 **KEYNOTE ADDRESS:** MRI of the Spine Over the Next 10 years: Quo Vadis?..... William G. Bradley Jr., M.D., Ph.D., FACR

JOINT SESSION 3: GOLD MEDAL CEREMONY AND 2nd ANNUAL PAST PRESIDENTS' PERSPECTIVES /FORUM

Moderators: Meng Law, MBBS & A. Orlando Ortiz, M.D., MBA, FACR

- 8:45 – 9:00 GOLD MEDAL CEREMONY** (not accredited for *AMA PRA Category 1 Credit(s)[™]*)
- 9:00 – 9:15 A Historical Review of the ASSR and Spine Radiology M. Judith Donovan Post, M.D., FACR
- 9:15 – 9:30 Economics and the Changing Tide - How Will the Imaging Spine Hold Up? A. Orlando Ortiz, M.D., MBA, FACR
- 9:30 – 9:45 Past, Present and Future of Diagnostic Blocks and Procedures Occipital Pain, Head and Neck Injections (Trigeminal, Maxillary Injections) Wade W.M. Wong, D.O., FACR, FAOCR
- 9:45 – 10:00 Past, Present and Future of Vertebral Augmentation..... John M. Mathis, M.D., M.Sc.
- 10:00 – 10:15 Guidelines for the Ethical Use of Neuro Images in Medical Testimony: Report of a Consensus Conference..... Gordon K. Sze, M.D., FACR
- 10:15 – 10:30 Discussion

10:30 – 10:45 REFRESHMENT BREAK FOR REGISTRANTS AND VISIT EXHIBITORS

DIAGNOSTIC SESSION 4 (SAM SESSION): PEDIATRICS

Moderators: Erin Simon Schwartz, M.D. & Andrea Rossi, M.D.

INTERVENTIONAL SESSION 4: NOVEL INTERVENTIONAL TECHNIQUES AND ISSUES

Moderators: Gregg H. Zoarski, M.D. & Wade H.M. Wong, D.O., FACR, FAOCR

- 10:45 – 11:00 Ultrasonography of Neonatal Brain and Spinal Cord Thierry A.G.M. Huisman, M.D., EQNR, FICIS
- 11:00 – 11:15 Infections and Inflammatory Conditions of the Pediatric Spine and Cord..... Pia Maly Sundgren, M.D., Ph.D.
- 11:15 – 11:30 Spinal Dysraphism: Basic Nomenclature..... Erin Simon Schwartz, M.D.
- 11:30 – 11:45 Spinal Dysraphism: Advanced Concepts and Cases..... Andrea Rossi, M.D.
- 11:45 – 12:00 PM Pediatric Spine Trauma: Relevant and Non-Relevant Imaging Findings Including Its Mimickers Thierry A.G.M. Huisman, M.D., EQNR, FICIS
- 12:00 – 12:15 Advanced Imaging of the Pediatric Spine..... Aylin Tekes, M.D.
- 12:15 – 12:30 Discussion
- 12:30 END OF SESSION**
- 10:45 – 11:00 Interventional Billing, Coding and Collecting: CMS, ACO, PPO, What We Need to Know and What We Could Be Losing John D. Barr, M.D.
- 11:00 – 11:15 MILD: Small Cut, Big Impact..... John D. Barr, M.D.
- 11:15 – 11:30 Diagnosis and Treatment of Sacral Insufficiency Fractures: Personal Experience with 150 Patients..... Keith E. Kortman, M.D.
- 11:30 – 12:00 PM Pudendal Neuropathy, Coccygeal Nerve Blocks, Hypogastric Blocks (Pelvis and Perineal Pain) Wade H.M. Wong, D.O., FACR, FAOCR
- 12:00 – 12:20 Dangers of Minimally Invasive Spine Surgery Patrick C. Hsieh, M.D.
- 12:20 – 12:30 Discussion
- 12:30 END OF SESSION**

12:30 – 1:40 LUNCH & LEARN SESSION (not accredited for *AMA PRA Category 1 Credit(s)[™]*) or **LUNCH ON YOUR OWN**

1:45 – 2:30 ASSR ANNUAL BUSINESS MEETING (ASSR Members only) (not accredited for *AMA PRA Category 1 Credit(s)[™]*)

2:30 – 3:30 MENTOR PAPERS Moderators: Dan T.D. Nguyen, M.D. & Alessandro Cianfoni, M.D

3:30 END OF SESSION

4:00 - 6:00 PM WORKSHOP Topic & Faculty - TBD (not accredited for *AMA PRA Category 1 Credit(s)[™]*)

6:30 – 9:30 CLOSING PARTY FOR REGISTRANTS AND REGISTERED GUESTS (DRESS CODE: WHITE ONLY)

SUNDAY, FEBRUARY 16, 2014

7:00 – 8:00 AM **CONTINENTAL BREAKFAST FOR REGISTRANTS AND REGISTERED GUESTS**

MODERATOR: Steven Falcone, M.D., MBA

8:00 – 8:40 **KEYNOTE ADDRESS:** Where Not to Send Your Articles: Predatory Open Access Journals Mauricio Castillo, M.D., FACR

JOINT SESSION 4: HIGH IMPACT, ADMINISTRATIVE, REIMBURSEMENT ISSUES IN SPINE IMAGING

Moderators: Charles H. Cho, M.D., MBA & Joseph C. Sullivan, III, M.D.

- 8:45 – 9:15 **KEYNOTE ADDRESS:** Radiation: The Real Risk to Our Patients and the Interventionalists - My Inside Scoops on Imaging and the TSA..... Edward A. Dauer, M.D., FACR
- 9:15 – 9:30 Survey of Neuroradiologists and Spine Surgeons on Disc Nomenclature Steven Falcone, M.D., MBA
- 9:30 – 9:45 Evidence-based Medicine in NASS: How Does it Affect Radiology?..... Charles H. Cho, M.D., MBA
- 9:45 – 10:00 ABR Update: MOCs, PQIs, CAQs Joseph C. Sullivan, III, M.D.
- 10:00 – 10:15 Radiological Productivity: Carrots or Sticks! William D. Keyes, M.D.
- 10:15 – 10:30 Discussion

10:30 – 10:45 REFRESHMENT BREAK FOR REGISTRANTS AND VISIT EXHIBITORS

JOINT SESSION 5: PRACTICAL ISSUES IMPACTING SPINE IMAGING

Moderators: Marco Essig, M.D., Ph.D., FRCP(C) & Falgun Chokshi, M.D.

- 10:45 – 11:05 ABC's of Low Back Spine Conservative Care..... Dan T.D. Nguyen, M.D.
- 11:05 – 11:25 SWI in the Spine Emerson L. Gasparetto, M.D., Ph.D.
- 11:25 – 11:45 Facet Fusion Plugs..... Gregory W. Petermann, M.D.
- 11:45 – 12:05 PM Practical Brachial Plexus Imaging Falgun H. Chokshi, M.D., M.S., D.A.B.R.
- 12:05 – 12:25 Imaging CSF Flow in the Spine..... Jeffrey A. Bennett, M.D.
- 12:25 – 12:30 Discussion

12:30 – 12:35 CLOSING REMARKS: Adam E. Flanders, M.D., ASSR President

12:35 END OF SYMPOSIUM

*SAM Sessions will be submitted to the ABR for approval and are subject to change.
Faculty & topics subject to change.

If you receive more than one brochure, please pass the extra along to a colleague.

Functional Neuroradiology

ABOUT THE MEETING: The American Society of Functional Neuroradiology (ASFNR) is proud to present its 8th Annual Meeting. This 2-½ day meeting will feature a series of focused sessions with didactic lectures and panel discussions by nationally and internationally recognized experts as well as original research in the form of oral and poster presentations. On Sunday, February 16, 2014, there will be a half-day pre-meeting “Hands-on Workshop” for BOLD fMRI image processing. Attendance is limited to the first 20 registrants. Furthermore, the American Society of Spine Radiology (ASSR) will be holding its 2014 Annual Symposium February 13-16, 2014, also at the Fontainebleau Miami Beach.

A broad range of cutting-edge topics in functional neuroradiology, including BOLD functional brain mapping, diffusion, diffusion tensor, perfusion, permeability, susceptibility weighted imaging, PET, MRS and MEG Imaging will be featured. The scientific program will consist of lectures and panel discussions aimed at updating attendees on the current status of functional and physiologic imaging techniques, current controversies in the field, and promising new techniques. A review of cutting-edge special topics including resting state fMRI, Connectomics and genomics imaging, and emerging functional techniques will also be presented.

TARGET AUDIENCE: This CME activity is intended to educate neuroradiologists, neurologists, neurosurgeons, brain mapping scientists, cognitive neuroscientists, physicists, fellows, residents, doctoral and postdoctoral students, engineers and ancillary staff.

EDUCATIONAL OBJECTIVES:

Attendees should, at the completion of this meeting, be able to:

- Describe the underlying physical basis of advanced functional and physiological imaging techniques such as BOLD and resting state fMRI, Diffusion-weighted Imaging, Diffusion Tensor Imaging, Dynamic Susceptibility and Dynamic Contrast-enhanced MRI, Arterial Spin Labeling, Susceptibility-weighted Imaging, MR Spectroscopy, PET and MEG Imaging.
- Explain the clinical applications and limitations of advanced functional and physiological imaging techniques.
- Discuss how to effectively integrate functional imaging techniques into clinical practice with awareness of pertinent economic and logistical issues.

No special educational preparation is required for this CME activity.

SCIENTIFIC SPONSOR: Educational Symposia

ACCREDITATION: Physicians: This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of Educational Symposia and the American Society of Functional Neuroradiology. Educational Symposia is accredited by the ACCME to provide continuing medical education for physicians.

Educational Symposia designates this live activity for a maximum of 17.0 *AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Technologists: This program has been submitted to the ASRT. The number of A CE credits will be available approximately 30 days prior to the meeting. Please visit <http://asfnr.edusymp.com> or call 1-800-338-5901 regarding the availability of Category A CE credit.

REGISTRATION INFORMATION: Payment of the registration fee includes all course materials, including a comprehensive course syllabus (electronic syllabus), welcome reception, daily continental breakfasts, and refreshment breaks. Early registration is strongly suggested. There will be a \$50 surcharge for registrations received after January 20, 2014.

Cancellations must be received in writing. A \$75 processing fee will be applied to all cancellations. Refunds requested in writing prior to January 20, 2014 will be issued for the amount of registration paid, less the \$75 processing fee. No refunds will be made on or after that date. Please email notice of cancellation to Lsessa@edusymp.com or fax to (800) 344-0668.

Optional BOLD Functional MRI Hands-on Workshop

February 16, 2014

ATTENDANCE IS LIMITED TO THE FIRST 20 REGISTRANTS

ABOUT THIS WORKSHOP:

This workshop will provide a practical step-by-step post-processing of BOLD fMRI studies with SPM8 software and data presentation.

TARGET AUDIENCE:

This CME activity is intended to educate neuroradiologists, neuroradiology fellows, physicists, clinical psychologists and MR technologists. The workshop is intended for those with beginner to intermediate level fMRI experience.

EDUCATIONAL OBJECTIVES:

Attendees should, at the completion of this workshop, be able to perform the following:

- Preprocessing of BOLD fMRI Data
 - Realignment/Coregistration
 - Spatial Normalization
 - Smoothing
- Single Subject Analysis
 - Model Specification
 - Model Estimation
 - Visualization of the BOLD data

No special educational preparation is required for this CME activity.

ACCREDITATION:

Physicians: This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of Educational Symposia and the American Society of Functional Neuroradiology. Educational Symposia is accredited by the ACCME to provide continuing medical education for physicians.

Educational Symposia designates this live activity for a maximum of 6.5 *AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Technologists: This program has been submitted to the ASRT. The number of A CE credits will be available approximately 30 days prior to the meeting. Please visit <http://asfnr.edusymp.com> or call 1-800-338-5901 regarding the availability of Category A CE credit.

HARDWARE/SOFTWARE REQUIREMENTS:

Registrants are required to bring to the workshop their own laptop with a minimum 2G of RAM and 10G of hard disk space. The machines should have preloaded SPM8 and MATLAB software prior to the workshop. DICOM BOLD fMRI practice data sets will be available at the workshop. All registrants will be given instructions on downloading SPM8 and the 15-day free MATLAB license prior to the workshop.

BOLD Functional MRI Hands-On Workshop

Workshop Faculty

Scott H. Faro, M.D.
*Temple University School of Medicine
Philadelphia, PA*

Chris Conklin, M.S.E.
*Temple University
Philadelphia, PA*

Feroze B. Mohamed, Ph.D.
*Temple University School of Medicine
Philadelphia, PA*

Temple Functional Brain Imaging Center - BOLD Lab Personnel

Abin Bandyopadhyay, M.D.
*Temple University
Philadelphia, PA*

Devon Middleton, MS
*Temple University
Philadelphia, PA*

Nilanjan Kayal, M.S.
*Temple University Hospital
Philadelphia, PA*

Deepika Nandiraju, M.D.
*Temple University
Philadelphia, PA*

INVITED FACULTY

Jeffrey S. Anderson, M.D., Ph.D.
*University of Utah School of Medicine
Salt Lake City, UT*

Daniel P. Barboriak, M.D.
*Duke University Medical Center
Durham, NC*

Jeffrey Berman, Ph.D.
*Affiliated with the Perelman School of Medicine at the
University of Pennsylvania
The Children's Hospital of Philadelphia - Philadelphia, PA*

Jerrold L. Boxerman, M.D., Ph.D.
*Alpert Medical School of Brown University and
Rhode Island Hospital
Providence, RI*

Zang-Hee Cho, Ph.D.
*Gachon University
Incheon, Korea*

Rivka R. Colen, M.D.
*MD Anderson Cancer Center
Houston, TX*

T. Jason Druzgal, M.D., Ph.D.
*University of Virginia Health System
Charlottesville, VA*

Marco Essig, M.D., Ph.D., FRCP(C)
*The University of Manitoba
Winnipeg, Canada*

Scott H. Faro, M.D.
*Temple University School of Medicine
Philadelphia, PA*

Aaron S. Field, M.D., Ph.D.
*University of Wisconsin School of Medicine and Public Health
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Christopher G. Filippi, M.D.
*Columbia University College of Physicians and Surgeons
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Emerson L. Gasparetto, M.D., Ph.D.
*Federal University of Rio de Janeiro
Rio de Janeiro, Brazil*

E. Mark Haacke, Ph.D.
*Wayne State University
Detroit, MI*

Joseph A. Helpert, Ph.D.
*Medical University of South Carolina
Charleston, SC*

Christopher P. Hess, M.D., Ph.D.
*University of California, San Francisco
San Francisco, CA*

Chad A. Holder, M.D.
*Emory University School of Medicine and
Children's Healthcare of Atlanta
Atlanta, GA*

Andrei I. Holodny, M.D.
*Memorial Sloan-Kettering Cancer Center
New York, NY*

Rajan Jain, M.D.
*NYU Langone Medical Center
New York, NY*

Andrew J. Kalnin, M.D.
*The Ohio State University College of Medicine
Columbus, OH*

Meng Law, M.D., MBBS, FRACR
*Keck Medical Center and School of Medicine of USC
Los Angeles, CA*

Alexander Lerner, M.D.
*Keck School of Medicine
University of Southern California - Los Angeles, CA*

Michael L. Lipton, M.D., Ph.D., F.A.C.R.
*Albert Einstein College of Medicine and Montefiore
Medical Center
Bronx, New York*

Hanzhang Lu, Ph.D.
*The University of Texas Southwestern Medical Center
at Dallas
Dallas, TX*

Joseph A. Maldjian, M.D.
*Wake Forest University School of Medicine
Winston-Salem, NC*

David J. Mikulis, M.D.
*The University of Toronto
Toronto, Canada*

Feroze B. Mohamed, Ph.D.
*Temple University School of Medicine
Philadelphia, PA*

Pratik Mukherjee, M.D., Ph.D.
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Jeffrey R. Petrella, M.D.
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*Johns Hopkins University School of Medicine &
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*Oregon Health and Science University
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Whitney B. Pope, M.D., Ph.D.
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Timothy P.L. Roberts, Ph.D.
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Gordon K. Sze, M.D., FACR
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Arthur W. Toga, Ph.D.
*UCLA School of Medicine
Los Angeles, CA*

Paul Thompson, Ph.D.
*University of Southern California, Los Angeles
Los Angeles, CA*

Keith R. Thulborn, M.D., Ph.D.
*University of Illinois
Chicago, IL*

Kamil Ugurbil, Ph.D.
*University of Minnesota
Minneapolis, MN*

John L. Ulmer, M.D.
*Medical College of Wisconsin
Milwaukee, WI*

Adam Waldman, Ph.D., FRCP, FRCR
*Imperial College, London
London, United Kingdom*

Kirk M. Welker, M.D.
*Mayo Clinic
Rochester, MN*

Christopher T. Whitlow, M.D., Ph.D.
*Wake Forest School of Medicine
Winston-Salem, NC*

Max Wintermark, M.D.
*University of Virginia, Department of Radiology
Charlottesville, VA*

Robert J. Young, M.D.
*Memorial Sloan-Kettering Cancer Center
New York, NY*

Greg Zaharchuk, M.D., Ph.D.
*Stanford University
Stanford, CA*

ASFNR PROGRAM SCHEDULE

Optional BOLD Functional MRI Hands-on Workshop

Attendance is limited to the first 20 registrants.

SUNDAY, FEBRUARY 16, 2014

9:00 – 10:00 AM Workshop Registration

10:00 – 11:00 Introduction to BOLD, Paradigm Design, and SPM
Feroze B. Mohamed, Ph.D.

11:00 – 12:00 PM Clinical Overview of Motor and Language Activation
Scott H. Faro, M.D.

12:00 – 12:15 Boxed Lunch

12:15 – 2:15 Practical Exercises on Sensory-Motor Data Processing
Abin Bandyopadhyay, M.D., Chris Conklin, M.S.E., Nilanjan Kayal, M.S., Devon Middleton, MS, Feroze B. Mohamed, Ph.D., and Deepika Nandiraju, M.D.

2:15 – 2:30 Refreshment Break

2:30 – 4:30 Practical Exercises on Language Data Processing and Review
Abin Bandyopadhyay, M.D., Chris Conklin, M.S.E., Nilanjan Kayal, M.S., Devon Middleton, MS, Feroze B. Mohamed, Ph.D., and Deepika Nandiraju, M.D.

4:30 – 5:00 Review SPM Processing with Question and Answer Session

5:00 End of Workshop

12:00 – 5:00 PM Annual Meeting Registration

MONDAY, FEBRUARY 17, 2014

6:45 – 7:15 AM Continental Breakfast for Registrants, Visit Exhibits and Scientific Posters

PHYSICS BASICS I

Moderator: Jerrold L. Boxerman, M.D., Ph.D.

Physics and Cortical Mapping

7:15 – 7:30 BOLD fMRI Physics
Feroze B. Mohamed, Ph.D.

7:30 – 7:45 DWI and DTI Physics
Jeffrey Berman, Ph.D.

7:45 – 8:00 DSC Perfusion Physics
Jerrold L. Boxerman, M.D., Ph.D.

8:00 – 8:15 ASL Perfusion Physics
Jeffrey S. Anderson, M.D., Ph.D.

8:15 – 8:20 Question and Answer Session
Faculty

8:20 – 8:25 Welcome
Meng Law, MBBS, ASFNR President

BOLD/CORTICAL MAPPING

Moderator: Alexander Lerner, M.D.

Physics and Cortical Mapping (continued)

8:25 – 8:40 Clinical Language fMRI: Dorsal and Ventral Language Pathways and Paradigms
Andrew J. Kalnin, M.D.

8:40 – 8:55 Resting State fMRI: Tips and Pitfalls
Joshua S. Shimony, M.D., Ph.D.

8:55 – 9:10 fMRI Cerebrovascular Reactivity Mapping: Breath Hold fMRI to Assess Neurovascular Uncoupling
Jay J. Pillai, M.D.

9:10 – 9:25 Bold fMRI for Functional Neurosurgery, Motor Cortex Stimulator and DBS Lead Placement
Kirk M. Welker, M.D.

9:25 – 9:30 Question and Answer Session
Faculty

SPECIAL SESSION: PAST PRESIDENTS' FORUM

Co-Moderators: Meng Law, MBBS and Timothy P.L. Roberts, Ph.D.

9:30 – 9:45 The Inception and Past 10 Years of the ASFNR
Andrei I. Holodny, M.D.

9:45 – 10:00 The Rise of the Functional Neuroradiologist in Clinical Care: Cases and Concepts
John L. Ulmer, M.D.

10:00 – 10:15 Past, Present and Future of MEG
Timothy P.L. Roberts, Ph.D.

MONDAY, FEBRUARY 17, 2014 (continued)

SPECIAL SESSION: PAST PRESIDENTS' FORUM (continued)

Co-Moderators: Meng Law, MBBS and Timothy P.L. Roberts, Ph.D.

10:15 – 10:30 History of Getting the fMRI CPT, Current and Future Reimbursement Issues
Scott H. Faro, M.D.

10:30 – 10:35 Question and Answer Session
Faculty

10:35 – 10:50 Refreshment Break for Registrants, Visit Exhibits and Scientific Posters

HUMAN BRAIN MAPPING, GENOMICS AND THE BRAIN INITIATIVE

Co-Moderators: Meng Law, MBBS and Paul Thompson, Ph.D.

10:50 – 11:30 **Keynote Lecture:** The Connectome Project and the BRAIN Initiative
Kamil Ugurbil, Ph.D.

11:30 – 11:40 Question and Answer Session
Kamil Ugurbil, Ph.D.

11:40 – 12:10 PM **Keynote Lecture:** Brain Imaging and Genetics in 26,000 People: The ENIGMA Project (Connectomics and Genomics)
Paul Thompson, Ph.D.

12:10 – 12:15 Question and Answer Session
Paul Thompson, Ph.D.

12:15 End of Session

12:15 – 1:30 Lunch On Your Own and Visit Exhibits and Scientific Posters

FOCUS SESSION: CAN DTI BE USED IN CLINICAL PRACTICE?

Moderator: Scott H. Faro, M.D.

Diffusion Tensor Applications

1:30 – 1:45 Can We Use DTI for Pre Surgical Mapping and in the Clinic?
Aaron S. Field, M.D., Ph.D.

1:45 – 2:00 DTI in TBI/Sports: Where Are We At?
Pratik Mukherjee, M.D., Ph.D.

2:00 – 2:15 Functional Neuroradiology and the ASNR Including Bioethics in Neuroimaging
Gordon K. Sze, M.D., FACR

2:15 – 2:45 Medicolegal Issues in DTI
Michael L. Lipton, M.D., Ph.D., F.A.C.R.

2:45 – 3:15 Panel Discussion – What Can We Use DTI For?
Scott H. Faro, M.D., Aaron S. Field, M.D., Ph.D., Michael L. Lipton, M.D., Ph.D., F.A.C.R., Pratik Mukherjee, M.D., Ph.D., Gordon K. Sze, M.D., FACR

3:15 – 3:30 Refreshment Break for Registrants, Visit Exhibits and Scientific Posters

GUIDELINES FOR PERFUSION-PERMEABILITY IMAGING IN GLIOMAS

Moderator: Joseph A. Maldjian, M.D.

Perfusion and Permeability Imaging in Gliomas

3:30 – 3:45 Current Clinical Protocols for DSC MRI and DCE MRI in Gliomas
Mark S. Shiroishi, M.D.

3:45 – 4:00 ASL vs DSC MRI in Gliomas: Why I Prefer ASL
Joseph A. Maldjian, M.D.

4:00 – 4:15 Pitfalls in DSC MRI: Leakage Correction or Not?
Jerrold L. Boxerman, M.D., Ph.D.

4:15 – 4:30 Perfusion Imaging as a Surveillance Tool and Predictive Biomarker: Are We Ready For Primetime?
Rajan Jain, M.D.

4:30 – 5:15 Panel Discussion – Can We Use DSC MRI, DCE MRI or ASL Quantitatively or Even Qualitatively in Gliomas?
Jerrold L. Boxerman, M.D., Ph.D., Rajan Jain M.D., Meng Law, M.D., Joseph A. Maldjian, M.D., Mark S. Shiroishi, M.D.

5:15 – 5:20 Closing Remarks
Meng Law, MBBS, ASFNR President

5:20 End of Session

5:20 – 6:20 Study Group Meeting #1: Diffusion/Perfusion (not accredited for AMA PRA Category 1 Credit(s)TM)

6:20 – 7:20 Welcome Reception

TUESDAY, FEBRUARY 18, 2014**7:20 – 8:40 AM Continental Breakfast for Registrants, Visit Exhibits and Scientific Posters**

- 8:10 – 8:40 ASFNR Annual Business Meeting (Members Only)
(not accredited for *AMA PRA Category 1 Credit(s)*[™])
- 8:40 – 8:45 Welcome
Meng Law, MBBS, ASFNR Immediate Past President

IMAGING INFORMATICS AND ULTRA HIGH FIELD IMAGING
Moderator: Meng Law, MBBS

- 8:45 – 9:25 **Victor M. Haughton, M.D. Honorary Lecture**
The Informatics of Brain Imaging
Arthur W. Toga, Ph.D.
- 9:25 – 9:30 Question and Answer Session
Arthur W. Toga, Ph.D.
- 9:30 – 10:10 **Keynote Lecture**
Ultra High Field MRI, High Resolution Track Density Imaging and High Resolution PET
Zang-Hee Cho, Ph.D.
- 10:10 – 10:15 Question and Answer Session
Zang-Hee Cho, Ph.D.
- 10:15 – 10:30 Maturation of Brain Connectivity in the Neonate
Christopher P. Hess, M.D., Ph.D.
- 10:30 – 10:45 Refreshment Break for Registrants, Visit Exhibits and Scientific Posters**

FOCUS SESSION: IMAGING THE PENUMBRA
Moderator: Chad A. Holder, M.D.**Penumbra and Stroke**

- 10:45 – 11:00 Current Clinical Stroke Protocol Recommendations: ASL in Stroke
Jeffrey M. Pollock, M.D.
- 11:00 – 11:15 The Penumbra: Clinical Trials Perspective
Howard A. Rowley, M.D.
- 11:15 – 11:30 Standardization and Automation of Post-Processing: Critical Step for Current/Future Clinical Stroke Trials and Clinical Practice
Greg Zaharchuk, M.D., Ph.D.
- 11:30 – 11:45 Advanced Imaging for Acute Stroke: STIR, VISTA and STAIR VIII
Max Wintermark, M.D.
- 11:45 – 12:15 PM Panel Discussion and Case Presentations
Chad A. Holder, M.D., Jeffrey M. Pollock, M.D., Howard A. Rowley, M.D., Max Wintermark, M.D., Greg Zaharchuk, M.D., Ph.D.

12:15 End of Session**12:15 – 1:30 Lunch On Your Own and Visit Exhibits and Scientific Posters****SWI AND OXYGEN EXTRACTION**
Moderator: Robert J. Young, M.D.

- 1:30 – 1:45 MRI Measurement of Oxygen Extraction Fraction (OEF) and Cerebral Metabolic Rate of Oxygen (CMRO₂) Without Contrast Agent
Hanzhang Lu, Ph.D.
- 1:45 – 2:15 Problem Solving Using Cerebrovascular Reserve Mapping: Case Review
David J. Mikulis, M.D.
- 2:15 – 2:30 Sodium and Multi Nuclear Imaging
Keith R. Thulborn, M.D., Ph.D.

2:30 – 2:45 Refreshment Break for Registrants, Visit Exhibits and Scientific Posters**EMERGING TECHNIQUES I: ASL, SWI, MEG**
Moderator: Keith R. Thulborn, M.D., Ph.D.**Susceptibility Weighted Imaging and SWIM**

- 2:45 – 3:15 Quantitative SWI
E. Mark Haacke, Ph.D.
- 3:15 – 3:30 SWI of the Spine and Outside the Brain
Emerson L. Gasparetto, M.D., Ph.D.

3:30 End of Session

- 3:30 – 4:45 Oral Research Presentations
(not accredited for *AMA PRA Category 1 Credit(s)*[™])
Co-Moderators: *Timothy P.L. Roberts, Ph.D. and Mark S. Shiroishi, M.D.*
- 4:45 – 5:45 From the Vendors' Perspective
(not accredited for *AMA PRA Category 1 Credit(s)*[™])
- 6:00 – 7:00 Study Group Meeting #2: BOLD fMRI
(not accredited for *AMA PRA Category 1 Credit(s)*[™])

WEDNESDAY, FEBRUARY 19, 2014**7:00 – 8:20 AM Continental Breakfast for Registrants, Visit Exhibits and Scientific Posters**

- 8:20 – 8:30 Welcome
Meng Law, MBBS, ASFNR Immediate Past President

FOCUS SESSION: ADVANCED/RESTING STATE FUNCTIONAL MRI
Moderator: Jeffrey R. Petrella, M.D.**Resting State Analysis**

- 8:30 – 8:45 Resting State Functional Connectivity Mapping: Principles, Confounds, Processing Methods
Haris Sair, M.D.
- 8:45 – 9:00 Advanced Resting State Analysis and Research Applications: PCA, ICA, Graph Theory
Christopher T. Whitlow, M.D., Ph.D.
- 9:00 – 9:15 Application of Resting State fMRI for Pre-surgical Mapping in Gliomas
Andrei I. Holodny, M.D.
- 9:15 – 9:30 Application of Resting State fMRI in Neurodegenerative Diseases
Jeffrey R. Petrella, M.D.
- 9:30 – 10:00 Panel Discussion: Resting State fMRI
Andrei I. Holodny, M.D., Jeffrey R. Petrella, M.D., Haris Sair, M.D., Christopher T. Whitlow, M.D., Ph.D.

10:00 – 10:15 Refreshment for Registrants, Visit Exhibits and Scientific Posters**EMERGING TECHNIQUES II: ASL, SWI, MEG**
Co-Moderators: Marco Essig, M.D., Ph.D., FRCP(C) and Adam Waldman, Ph.D., FRCP, FRCR**Emerging Techniques**

- 10:15 – 10:45 Special Lecture: Diffusion Kurtosis Imaging
Joseph A. Helpert, Ph.D.
- 10:45 – 11:00 Brain Tumor Genomics: Update from ASNR Genomics Study Group
Whitney B. Pope, M.D., Ph.D.
- 11:00 – 11:15 Imaging Genomics in Brain Tumors & MR Image-Guided Therapy
Rivka R. Colen, M.D.
- 11:15 – 11:30 MR Image-Guided Focused US Therapy
T. Jason Druzgal, M.D., Ph.D.
- 11:30 – 12:00 PM QIBA, Standardization and Comparing Software for Processing and Pitfalls in DCE MRI
Daniel P. Barboriak, M.D.
- 12:00 – 12:15 T1 Rho: Neuro Applications
Christopher G. Filippi, M.D.
- 12:15 – 12:30 Question and Answer Session
Closing Remarks
David J. Mikulis, M.D., ASFNR President

12:30 End of Meeting

Meeting Registration Form:



2014 American Society of Spine Radiology *Annual Symposium*

February 13 – 16, 2014 • Fontainebleau Miami Beach • Miami Beach, Florida



8th Annual Meeting of the American Society of Functional Neurology

February 17 – 19, 2014 • Fontainebleau Miami Beach • Miami Beach, Florida

	ASSR 2014 Annual Symposium		ASFNR 8 th Annual Meeting		ATTEND BOTH - 10% DISCOUNT		
	Meeting Registration On / Before 1/17/14	Meeting Registration After 1/17/14	Meeting Registration On / Before 1/20/14	Meeting Registration After 1/20/14	Meeting Registration On / Before 1/17/14	Meeting Registration After 1/17/14	
ASSR Member	<input type="checkbox"/> \$525	<input type="checkbox"/> \$575	<input type="checkbox"/> \$445	<input type="checkbox"/> \$495	<input type="checkbox"/> \$875	<input type="checkbox"/> \$965	
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ASNR Member	<input type="checkbox"/> \$625	<input type="checkbox"/> \$675	<input type="checkbox"/> \$445	<input type="checkbox"/> \$495	<input type="checkbox"/> \$965	<input type="checkbox"/> \$1,055	
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<input type="checkbox"/> Resident† <input type="checkbox"/> Fellow† <input type="checkbox"/> Military†	<input type="checkbox"/> Physician's Assistant <input type="checkbox"/> Technologist <input type="checkbox"/> Retired Physician	<input type="checkbox"/> \$250	<input type="checkbox"/> \$300	<input type="checkbox"/> \$195	<input type="checkbox"/> \$245	<input type="checkbox"/> \$400	<input type="checkbox"/> \$490
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ASSR Invited Faculty/Moderator	<input type="checkbox"/> \$265	<input type="checkbox"/> \$315	<input type="checkbox"/> \$445	<input type="checkbox"/> \$495	<input type="checkbox"/> \$640	<input type="checkbox"/> \$730	
ASFNR BOLD fMRI Workshop <small>Attendance is limited to the first 20 registrants.</small>	N/A	N/A	<input type="checkbox"/> \$225	<input type="checkbox"/> \$250	N/A	N/A	

SYLLABUS - Registration includes electronic syllabus.

Add Printed Syllabus \$25 \$25 \$50

ASSR ONLY - Guest Fee: Family members and friends, ages 12 years and older, who wish to attend social functions which include the Welcome Reception, Continental Breakfasts and the Closing Party must register.

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_____	<input type="checkbox"/> \$100	N/A	<input type="checkbox"/> \$100
_____	<input type="checkbox"/> \$100	N/A	<input type="checkbox"/> \$100

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Fontainebleau Miami Beach

Accommodations

A spectacular blend of Golden Era glamour and modern luxury, Fontainebleau today reinvents the original vision of legendary architect Morris Lapidus – a stage where everyone plays their part. At Fontainebleau, striking design, contemporary art, music, fashion and technology merge into a vibrant new kind of guest experience. Guests are invited to enter a world where they are free to play, shop, dine, spa, meet or simply relax – however they define a perfect day.

Situated on oceanfront Collins Avenue in the heart of Millionaire's Row, Fontainebleau Miami Beach is one of the most historically and architecturally significant hotels on Miami Beach. Opened in 1954 and designed by Morris Lapidus, it was the most luxurious hotel on Miami Beach, and is thought to be the most significant building of Lapidus' career.

A landmark since its debut in 1954, Fontainebleau has been restored and transformed by a team of renowned architects and designers to create one of the world's most dynamic destination resorts. In 2008, following a \$1 billion renovation, Fontainebleau Miami Beach reopened with an A-list celebrity-attended grand opening bash featuring the Victoria Secret Fashion Show and performances by Usher, Mariah Carey and Robin Thicke.

A total of 1,504 guestrooms offer luxurious comfort and amenities, from deluxe guestrooms and three-bedroom suites, to breathtaking penthouses. The 20-acres oceanfront hotel features an expansive poolscape, a pristine Atlantic Ocean beach, state-of-the-art conference and event facilities, including LIV, the ultra-exclusive and high-energy nightclub, home to celebrities and VIPS, and the 40,000-square-foot Lapis spa.

At the direction of culinary celebrities from around the globe, Fontainebleau signature dining experiences include Gotham Steak by Michelin-star chef Alfred Portale, Chef-owner at New York's Gotham Bar and Grill; Scarpetta by Scott Conant, the James Beard award recipient who has created a regional Italian menu combining the simplicity of Italy's cucina rustica with the refined flavors of fine cuisine; and Hakkasan, globally recognized as the pioneering concept that single-handedly changed the face of Chinese cuisine.



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Make your reservation as soon as possible as our room block may sell out prior to the cut-off date of **January 9, 2014**. After this date, reservations will be accepted at the discretion of the hotel, on a space and rate available basis.

Reservations must be made before January 9, 2014. Room rates are subject to applicable state and local taxes (presently 13%). Subject to availability, group rates may be available (3) days before and (3) days after both meetings. A hotel fee of \$19.95 per room per day inclusive of tax will apply to all guest rooms in addition to the room rates aforementioned. This fee includes guest room wired or wireless high-speed internet access through the in-room iMac® computer, unlimited toll-free and local calls (prefixes 305, 786 and 954), beach chairs and use of the gym for registered guests and daily newspaper. The hotel fee will be posted to individual room accounts. Check-in is 4:00 pm; Check-out is 11:00 am. Hotel requires a credit card at time of reserving your room. **CANCELLATION:** A deposit equal to one night's stay is required to hold each guest's reservation. Such deposit shall serve to confirm the reservation for the dates indicated, and upon check-in, shall be applied to the first of the reserved stay. All deposits will be charged at the time the reservation is made. Deposits paid by individuals are refundable if notice is received at least seventy-two (72) hours prior to the scheduled arrival date. *Call Professional Travel (official travel agency) at (800) 237-7230 (toll free U.S. and Canada) or (813) 806-1050 (direct) if you have any questions or problems making your hotel reservations or prefer alternate accommodations.*

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