

# American Society of Functional Neuroradiology

4th Annual Meeting of the

February 24 - 26, 2010

*Encore*  
WYNN LAS VEGAS

Encore at Wynn Las Vegas • Las Vegas, Nevada

## FACULTY LIST

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Molecular Imaging & Neuroradiology Sections  
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McLaurin Scholar and Professor  
Radiology, Pediatrics, Otolaryngology, and Physics  
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Director, Pediatric Neuroimaging Research Consortium &  
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Director of MRI and Director of Neuroradiology  
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### Patrick W. Stroman, M.D.

Tier II Canada Research Chair in Imaging Physics  
Associate Professor  
Director, Queen's MRI Facility  
Department of Diagnostic Radiology  
Department of Physics  
Member of the Centre for Neuroscience Studies  
Queen's University  
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### Steven Stufflebeam, M.D.

Instructor in Radiology, Harvard Medical School  
Assistant Radiologist, Massachusetts General Hospital  
Director of Clinical MEG, Martinos Center  
Charlestown, MA

### J. Michael Tyszka, Ph.D.

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Caltech Brain Imaging Center  
California Institute of Technology  
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### Ragini Verma, Ph.D.

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Philadelphia, PA

### Arastoo Vossough, M.D., Ph.D.

Assistant Professor of Radiology, Hospital of the University of  
Pennsylvania and the Children's Hospital of Philadelphia  
Attending Radiologist, Hospital of the University  
of Pennsylvania  
Attending Radiologist, Penn Presbyterian Medical Center  
Philadelphia, PA

### James T. Voyvodic, Ph.D.

Associate Professor, Radiology and Neurobiology  
Brain Imaging and Analysis Center  
Duke University Medical Center  
Durham, NC

# PROGRAM

## TUESDAY, FEBRUARY 23, 2010

5:00 – 6:00 PM Registration

## WEDNESDAY, FEBRUARY 24, 2010

7:00 – 8:30 AM Continental Breakfast for Registrants

7:30 – 8:30 Breakfast “How-To Session”  
Topic and Faculty TBD  
(not accredited for  
AMA PRA Category 1 Credits™)

8:45 Welcome  
*Timothy P.L. Roberts, Ph.D., ASFNR President*

### DIFFUSION/PERFUSION

Moderator: Arastoo Vossough, M.D., Ph.D.

9:00 DTI  
*Aaron S. Field, M.D., Ph.D.*

9:30 Diffusion/Perfusion in MR  
*Alexander Lerner, M.D.*

10:00 ASL  
*Jeffrey M. Pollock, M.D.*

10:30 – 11:00 Coffee Break for Registrants

### DIFFUSION/PERFUSION continued

Moderator: Erin Simon Schwartz, M.D.

11:00 Perfusion MR  
*Mark S. Shiroishi, M.D.*

11:30 Permeability MR  
*Daniel Barboriak, M.D.*

12:00 PM CT Perfusion  
*Meng Law, M.D., MBBS, FRACR*

12:30 End of Session

12:30 Pick up Lunch for  
“How-To Session”

12:45 Lunch “How-To Session”  
Topic and Faculty TBD  
(not accredited for  
AMA PRA Category 1 Credits™)

1:55 Preferred Papers 1  
(not accredited for  
AMA PRA Category 1 Credits™)

2:30 – 4:30 PARALLEL SESSIONS

### CLINICAL CASE-BASED REVIEW – DIFFUSION/PERFUSION: Parallel Session #1

Moderator: Meng Law, M.D., MBBS, FRACR

2:30 Pratik Mukherjee, M.D., Ph.D.

3:00 Arastoo Vossough, M.D., Ph.D.

3:30 Meng Law, M.D., MBBS, FRACR

4:00 Joseph A. Maldjian, M.D.

## WEDNESDAY, FEBRUARY 24, 2010 (Continued)

### ADVANCED DIFFUSION: Parallel Session #2

Moderator: Aaron S. Field, M.D., Ph.D.

2:30 HARDI  
*Jeffrey Berman, Ph.D.*

3:10 Registration  
*Ragini Verma, Ph.D.*

3:50 High Field/Translational  
*J. Michael Tyszka, Ph.D.*

4:00 Advanced Diffusion Imaging of  
Brain Tumors: HARDI Technique  
*Pratik Mukherjee, M.D., Ph.D.*

4:30 From The Vendors’ Perspective  
(not accredited for  
AMA PRA Category 1 Credits™)

5:30 End of Session

5:30 – 6:30 Study Group Meeting #1:  
Molecular Imaging  
  
Study Group Meeting #2:  
Diffusion

6:30 – 8:00 Welcome Reception

## THURSDAY, FEBRUARY 25, 2010

7:30 – 8:30 AM Continental Breakfast  
for Registrants

7:30 – 8:30 Breakfast “How-To Session”  
Topic and Faculty TBD  
(not accredited for  
AMA PRA Category 1 Credits™)

8:45 Welcome  
*Timothy P.L. Roberts, Ph.D., ASFNR President*

### FUNCTIONAL MAPPING

Moderator: Jay J. Pillai, M.D.

9:00 fMRI  
*James T. Voyvodic, Ph.D.*

9:30 fMRI in Pediatrics  
*Scott K. Holland, Ph.D.*

10:00 MEG  
*Steven Stufflebeam, M.D.*

10:30 – 11:00 Coffee Break for Registrants

### MOLECULAR/SPECTROSCOPY

Moderator: Michelle Bradbury, M.D., Ph.D.

11:00 Iron Oxide  
*Edward Neuwelt, M.D.*

11:30 MRS  
*Tracy Richmond McKnight, Ph.D.*

12:00 PM Future of MRS  
*Peter B. Barker, D.Phil.*

12:30 End of Session

## THURSDAY, FEBRUARY 25, 2010 (Continued)

12:30 Pick up Lunch for  
“How-To Session”

12:45 Lunch “How-To Session”  
Topic and Faculty TBD  
Sponsored by Nordic NeuroLab  
(not accredited for  
AMA PRA Category 1 Credits™)

1:45 **Victor M. Haughton, M.D.**  
**Honorary Lecture**  
Emerging Role of Hybrid Imaging for  
Optimal Assessment of Molecular  
Alterations in Neuropsychiatric  
Disorders and Its Implications for  
Individualized Treatments in the Future  
*Abass Alavi, M.D.*

2:45 – 3:00 Coffee Break for Registrants

3:00 – 5:00 Clinical Case-based fMRI/ME  
Moderator: TBD  
*Andrei I. Holodny, M.D.;*  
*Roland R. Lee, M.D., FACR;*  
*David J. Mikulis, M.D.; Jay J. Pillai, M.D.;*  
*Erin Simon Schwartz, M.D.*

5:00 End of Session

5:30 – 6:30 Study Group Meeting #3: BOLD  
Study Group Meeting #4: MEG

## FRIDAY, FEBRUARY 26, 2010

7:30 – 8:45 AM Continental Breakfast  
for Registrants

8:45 Welcome  
*Timothy P.L. Roberts, Ph.D., ASFNR President*

9:00 Preferred Papers 2  
(not accredited for  
AMA PRA Category 1 Credits™)

10:00 – 10:30 Coffee Break for Registrants

### EMERGING TECHNIQUES

Moderator: Pratik Mukherjee, M.D., Ph.D.

10:30 MRS - Neurotransmitters  
*Stefan Posse, Ph.D.*

11:00 Functional Magnetic Resonance  
Imaging of the Human Spinal  
Cord – Development of a Clinical  
Assessment Tool  
*Patrick W. Stroman, M.D.*

11:30 MEG in Neuropsychiatry  
*J. Christopher Edgar, Ph.D.*

12:00 PM Closing Remarks  
*Timothy P.L. Roberts, Ph.D.,  
ASFNR President*

12:15 **End of Meeting**

## ABOUT THE MEETING

The American Society of Functional Neuroradiology (ASFNR) is proud to present its 4th Annual Meeting. This 2 ½ day meeting will feature a series of focused sessions with didactic lectures, panel discussions and “How-to” Sessions by nationally recognized experts. A broad range of cutting-edge topics in functional neuroradiology, including functional brain mapping, diffusion tensor, perfusion, molecular/metabolic and electrophysiologic imaging will be featured. Details on physical principles, techniques, as well as clinical applications of these state-of-the-art and emerging technologies will be discussed along with practical suggestions for implementation in a clinical practice setting. This year, the scientific program will consist of tracks of basic and advanced imaging methodology (diffusion, perfusion, fMRI, MEG, and molecular imaging) as well as practical review sessions of clinical case-based presentations and panel discussion.

## TARGET AUDIENCE

This CME activity is intended to educate neuroradiologists, neurosurgeons, neurologists, neuropsychologists, cognitive neuroscientists and MR technologists as well as fellows, residents, doctoral and post-doctoral students in these fields.

## 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 educational activity for a maximum of 12.5 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should only claim credit commensurate with the extent of their participation in the activity.

**Technologists:** This program has been submitted to the ASRT. The number of Category A CE credits will be available prior to the meeting. Please visit [www.ASFNR.org](http://www.ASFNR.org) or call 1-800-338-5901 regarding the availability of Category A CE credit.

## 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 fMRI, DTI, Perfusion, MEG and molecular/metabolic imaging.
- Become familiar with the clinical applications and limitations of advanced functional and physiological imaging techniques.
- Discuss how to effectively integrate such techniques into clinical practice, with awareness of pertinent economic and logistical issues.

*No special educational preparation is required for this CME activity.*

## REGISTRATION INFORMATION

Payment of the registration includes all course materials, including a comprehensive course syllabus, welcome reception, daily continental breakfasts, Lunch “How-To” Sessions, and coffee breaks. Early registration is strongly suggested. There will be a \$50 surcharge for anyone registering after February 8, 2010. Minimum and maximum attendance levels have been established for this meeting. If your registration cannot be accepted, you will be issued a full registration refund.

Cancellations must be received in writing. A \$75 processing fee will be applied to all cancellations. Refunds requested in writing prior to February 8, 2010 will be issued for the amount of registration paid, less the \$75 processing fee. No refunds will be made on or after that date.

## 4 Easy Ways To Register

We Accept:



### Internet

Register online using your credit card number at:

<http://www.asfnr.org>



**REGISTER ON OUR SECURE WEBSITE!!**

**MAIL** your meeting registration form, along with your credit card number and signature or check payable to ASFNR, to:

ASFNR  
c/o Educational Symposia  
5620 West Sligh Avenue  
Tampa, Florida 33634-4490

**FAX** your meeting registration form to: (800) 344-0668 (toll-free, U.S. & Canada) or (813) 806-1001 (direct). Please include your MasterCard, VISA, NOVUS/Discover Card or American Express information, including a signature.

**PHONE** (800) 338-5901 (toll-free, U.S. & Canada) or (813) 806-1000 (direct). Please have your MasterCard, VISA, NOVUS/Discover Card or American Express information available.

### Disclaimer

Educational Symposia (ESI) and the American Society of Functional Neuroradiology as planner and presenter of this meeting, and Professional Travel as the official travel agency for this meeting, claim no liability for the acts of any suppliers or the safety of any attendees while in transit to, from, or during this event or any optional activities. The total amount of liability, if any, for the meeting organizer is limited to a refund of the registration fee, and Professional Travel's responsibility is limited to that of an agent.

### Special Note for the Disabled

Educational Symposia and the American Society of Functional Neuroradiology wishes to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently from other individuals because of the absence of auxiliary aids and services. If you need any auxiliary aids or services identified in the Americans with Disabilities Act, please contact our office at (800) 338-5901 or (813) 806-1000.





# REGISTER NOW!

4th Annual Meeting of the  
**American Society of Functional Neuroradiology**  
February 24 - 26, 2010 • Encore at Wynn Las Vegas • Las Vegas, Nevada

## PLEASE PRINT

Name \_\_\_\_\_  
First MI Last

Degree  M.D.  D.O.  Ph.D.  R.T.  Other \_\_\_\_\_

Facility \_\_\_\_\_

Street Address  HOME  OFFICE \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Daytime Phone \_\_\_\_\_ Fax \_\_\_\_\_

## FILL OUT & SEND - PAYMENT INFORMATION

I am: (please check one)

ASFNR Member  Technologist  Fellow\* \*Military and Fellows must enclose letter from Director verifying status.

ASFNR Non Member  Retired Physician  Military\*

Check Enclosed (payable to ASFNR)

Credit Card:  Discover/Novus  MasterCard  VISA  American Express CSC#\*: \_\_\_\_\_

Credit Card Number: \_\_\_\_\_

Expiration Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Name on Card:  Same

Signature: \_\_\_\_\_  
(Your signature is your authorization to charge this credit card)

Card Billing Address:  Same \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

\*\*MasterCard, Visa and Discover: The last 3 Digits printed in signature space on card back. American Express: 4 Digits above account number on card front.

How would you like to receive future meeting and video/DVD announcements?  
 Mail Only  E-mail Only  Both Mail and E-mail E-mail \_\_\_\_\_

**FAX: (800) 344-0668 (Toll Free, U.S. & Canada) or (813) 806-1001 (direct)**  
**CALL: (800) 338-5901 (Toll Free, U.S. & Canada) or (813) 806-1000 (direct)**  
**MAIL: Educational Symposia • 5620 West Sligh Avenue • Tampa, FL 33634-4490**

# Accommodations

## 4th Annual Meeting of the **American Society of Functional Neuroradiology**



February 24 - 26, 2010

*Encore*

WYNN LAS VEGAS  
Encore at Wynn Las Vegas  
Las Vegas, Nevada

### Registration Fees

Before 2/8/10 | After 2/8/10

<input type="checkbox"/> ASFNR Member	<b>\$395</b>	<b>\$445</b>
<input type="checkbox"/> ASFNR Non Member	<b>\$495</b>	<b>\$545</b>
<input type="checkbox"/> Technologist, Retired Physician, Fellows, and Full-Time Military	<b>\$195</b>	<b>\$245</b>



Encore, the new signature resort in the Wynn collection, offers all of the amenities and indulgences of Wynn Las Vegas plus a new array of accommodations, restaurants, shopping and leisure activities including five signature restaurants, 11 designer boutiques, a European-inspired salon and spa, expansive pool areas, exciting leisure activities and the ultra chic nightclub, XS. Located steps from Wynn Las Vegas yet under the same roof, Encore's fanciful and intimate atmosphere features sunlit corridors with flowering atria, sprawling pools visible from throughout the property, gardens, mosaics and vibrant butterflies that reveal themselves among layers of detail and timeless décor. Unlike anything anywhere, the environment is both uniquely Wynn and distinctly Encore.

Identify yourself as a registrant of "ASFNR 4th Annual Meeting" to qualify for special discounted group room rates. Rates cannot be changed at check-in or check-out for guests who fail to identify their affiliation at the time the reservation is made.

Call for Reservations: 866-770-7555

**SPECIAL DISCOUNTED GROUP ROOM RATES: \$179.00**

(Single/Double Occupancy)

**Reservations must be made before February 8, 2010.** Please note the rates do not reflect the current Clark County room tax of 12% per room per night. Each additional person in room over double occupancy will be charged \$50.00 per night. Deposit: All reservations must be accompanied by a first night room deposit (plus applicable taxes). Balance is payable at checkout. Cancellation: Refunds will be issued for rooms cancelled at least 48 hours prior to confirmed arrival date.

After February 8, 2010, requests for room reservations will be on a space/rate available basis. Rates are based on single/double occupancy. To reserve your room using a credit card, you may call the hotel directly at (800) 843-6664 or visit <http://www.asfnr.org> to book your reservations online. Or, you may mail with your credit card information to: Omni La Mansión, Group Reservations, 112 College Street San Antonio, Texas 78205 "Attention Reservations". **IF YOU MAIL YOUR RESERVATION, MAKE SURE TO CALL THE HOTEL FOR YOUR CONFIRMATION NUMBER.** Your credit card will be charged the first night's room and tax charges per room at the time of the reservation. Remember to identify yourself as a registrant of the 3rd Annual Meeting of the American Society of Functional Neuroradiology in order to qualify for the special discounted group room rates. Guests will need to cancel reservations 5 days prior to arrival. The deposit is refundable if cancelled prior to this time. Any guest who fails to cancel a reservation 5 days in advance or is a "no show" will be charged. 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. Please photocopy this form for additional registrants.

**FOR YOUR CONVENIENCE, REGISTER ONLINE AT [HTTP://WWW.ASFNR.ORG](http://www.asfnr.org)**

**REGISTER NOW: CALL (800) 338-5901 BEFORE FEBRUARY 8, 2010**

**Educational Symposia • 5620 West Sligh Avenue • Tampa, Florida 33634-4490**

# Join ASFNR

## American Society of Functional Neuroradiology Membership Information/Membership Application

### Membership Categories:

**Member:** radiologist, neuroradiologist, physicist, or scientist who practices or has a special interest in functional neuroradiology

**Associate:** physician, scientist, or radiologic technologist (M.D., D.O., Ph.D., R.T.) with a special interest in functional neuroradiology but who does not fulfill the criteria for *Member* status

**Student:** medical, undergraduate, or graduate student, resident or fellow. Postdoctoral fellows will be considered, if they are within four years of their doctoral degree

### Membership Benefits:

- Reduced Registration Fee to attend the *ASFNR Annual Meeting\**
- Reduced Registration Fee to attend the *American Society of Neuroradiology (ASNR) Annual Meeting\**
- Membership Certificate (*Member and Associate* only)
- Subscription to the *American Journal of Neuroradiology* at the ASNR member rate (*Member and Associate* only)
- Opportunity to join one or more Study Groups
- Opportunity to participate in the Scientific and Business Meetings, and activities of the Society
- Serve on standing committees, propose candidates for nomination, vote and hold elected office (*Members* only)

### Applying For Membership:

If you are a current member of ASNR or:

American Society of Head and Neck Radiology (ASHNR)

American Society of Pediatric Neuroradiology (ASPNR)

American Society of Spine Radiology (ASSR)

Eastern Neuroradiological Society (ENRS)

Western Neuroradiological Society (WNRS)

1. Complete #1, 2, 3, and 8 of the membership application
2. Include prorated dues

If you are not a current member of the above societies, and are applying for *Member* or *Associate* status, you must include the following:

1. Completed membership application
2. One sponsor letter. Sponsor must currently hold ASFNR *Member* status, or the equivalent from the ASNR, ASHNR, ASPNR, ASSR, ENRS, or WNRS, and be familiar with the reputation and qualifications of the applicant and applicant's involvement and/or interest in functional neuroradiology.
3. Current curriculum vitae
4. Copy of Radiology Board or Subspecialty Certification (formerly CAQ) certificate
5. Prorated dues

If you are not a current member of the above societies, and are applying for *Student* status, you must include the following:

1. Completed membership application
2. One sponsor letter. Sponsor must currently hold ASFNR *Member* status, or the equivalent from the ASNR, ASHNR, ASPNR, ASSR, ENRS, or WNRS, and be familiar with the applicant's reputation, qualifications and involvement and/or interest in functional neuroradiology.
3. Letter from your Department Chairman verifying current status and expected date of graduation
4. Current curriculum vitae
5. Prorated dues

### Prorated Membership Dues

A S F N R (prorated dues include application fee)		1 <sup>st</sup> Qtr.	2 <sup>nd</sup> Qtr.	3 <sup>rd</sup> Qtr.	4 <sup>th</sup> Qtr. **
Membership Category	Annual Membership Dues	Jan-March	Apr-June	July-Sept	Oct-Dec
<i>Member</i>	\$100 + \$25 application fee	\$125	\$100	\$75	\$125
<i>Associate</i>	\$50 + \$25 application fee	\$75	\$63	\$50	\$75
<i>Student</i>	\$25	\$25	\$19	\$13	\$25

Each Study Group's dues are \$10 (not prorated) – add \$10 for each group membership and indicate your selected group(s) with an "X". Your Study Group membership(s) will begin upon your acceptance into Society membership.

BOLD fMRI       Diffusion/Perfusion Imaging       Magnetoencephalography (MEG)       Molecular Neuroimaging

\*\*When dues are paid in the 4<sup>th</sup> Quarter, membership is valid through the end of the following calendar year.

**\*Deadline to Submit Membership Application:** If you wish to register for the ASFNR 4<sup>th</sup> Annual Meeting at the discounted member rate, your completed application (and any required documentation and dues) must be received **no later than February 17, 2010**. You will receive an email confirming receipt of your application, after which you may register as an ASFNR member, or, if you wish to register for the ASNR 48<sup>th</sup> Annual Meeting at the discounted ASFNR member rate, your completed ASFNR membership application must be received 30 days prior to the start of the ASNR 48<sup>th</sup> Annual Meeting. For more information log onto [www.asnr.org](http://www.asnr.org).

