NEURORADIOLOGY ESSENTIALS

PHILADELPHIA
October 13 – 15, 2008 at The Rittenhouse Hotel
CONFERENCE FACULTY

University of Pennsylvania School of Medicine Faculty

Program Director:
Elias R. Melhem, MD, PhD
Wallace T. Miller, Sr. Professor of Radiology and Neurosurgery
Vice Chair, Education
Associate Chair, Neuroradiology

Linda J. Bagley, MD
Associate Professor of Radiology

Michel Bilello, MD, PhD
Instructor, Division of Radiology

Edward H. Herkovits, MD, PhD
Associate Professor of Radiology

Robert W. Hurst, MD
Professor of Radiology, Neurosurgery & Neurology

Ann Kim, MD
Instructor, Division of Radiology

Frank A. Lexa, MD, MBA
Clinical Professor of Radiology

Laurie A. Loevner, MD
Professor of Radiology, Otorhinolaryngology, Head and Neck Surgery

Alexander C. Mamourian, MD
Associate Professor of Radiology

Neerav Mehta, MD
Assistant Professor of Radiology

Paulo Nucifora, MD, PhD
Assistant Professor of Radiology

Mary Scanlon, MD, FACP
Clinical Associate Professor, Residency Program Training Director

John B. Weigele, MD, PhD
Assistant Professor of Radiology

Ronald L. Wolf, MD, PhD
Assistant Professor of Radiology

John H. Woo, MD
Assistant Professor of Radiology
Children’s Hospital of Philadelphia Faculty

Larissa T. Bilaniuk, MD
Professor of Radiology

Avrum Pollock, MD
Assistant Professor of Radiology

Timothy Roberts, PhD
Professor of Radiology

Erin Simon Schwartz, MD
Associate Professor of Radiology

Arastoo Vossough, MD, PhD
Assistant Professor of Radiology

Guest Faculty

Nafi Aygun, MD
Assistant Professor of Radiology & Radiological Science
Johns Hopkins University
Baltimore, Maryland

Adam E. Flanders, MD
Professor of Radiology
Professor of Rehabilitation Medicine
Thomas Jefferson University Hospital
Philadelphia, Pennsylvania

Jay Pilliai, MD
Visiting Associate Professor of Radiology
Director of Functional MRI
Neuroradiology Division
Johns Hopkins University
Baltimore, Maryland

David P. Friedman, MD
Associate Professor of Radiology
Co-Director of Neuroradiology
Thomas Jefferson University Hospital
Philadelphia, Pennsylvania

David M. Yousem, MD, PhD
Professor of Radiology
Vice Chairman of Program Development
Director of Neuroradiology
Johns Hopkins University
Baltimore, Maryland

Dima Hammoud, MD
Staff Neuroradiologist
Diagnostic Radiology Department
National Institutes of Health
Bethesda, Maryland

S. James Zinreich, MD
Professor of Radiology and Otolaryngology, Head and Neck Surgery
Johns Hopkins University
Baltimore, Maryland
OVERVIEW

This course has been designed to address the needs of practicing radiologists in the community, as well as general radiologists who are preparing for special certification or re-certification in neuroradiology. Based on feedback received from past course attendees, the program will include lectures on new imaging methods: Multidetector CT, PET/CT and Magnetoencephalography, all of which are critical for the study of neck cancer, cerebrovascular disease and neurosurgical planning. In addition, we have added a new section that will cover pediatric neuroradiology. Other topics covered will include lectures on vascular disease, head and neck, brain and spine imaging with one afternoon dedicated to advanced imaging.
Unifying Greek architecture with massive Roman proportions, the **Philadelphia Museum of Art** is constructed of pure Minnesota dolomite with glazed blue roof tiles and houses over 225,000 works of art in over 200 galleries.
COURSE OBJECTIVES

Upon completion of the program, participants will be able to:

- Differentiate between neoplastic and non-neoplastic mimics in the brain and spine in order to guide management.
- Diagnose and distinguish between intramedullary, epidural and extramedullary intradural masses of the spine.
- Identify complex neurovascular malformations of the CNS and appropriately refer for management.
- Describe head and neck cancers in a manner that assists in their comprehensive treatment.
- Explain the role of advanced MRI and MEG imaging in the diagnosis and management of epilepsy.
- Diagnose complex CNS malformations in children.
- Diagnose true non-traumatic neurological emergency and guide management.
- Differentiate between neoplastic and non-neoplastic mimics in the brain and spine in order to guide management.
- Diagnose and distinguish between intramedullary, epidural and extramedullary intradural masses of the spine.
- Identify complex neurovascular malformations of the CNS and appropriately refer for management.
- Describe head and neck cancers in a manner that assists in their comprehensive treatment.
- Explain the role of advanced MRI and MEG imaging in the diagnosis and management of epilepsy.
- Diagnose complex CNS malformations in children.
- Diagnose true non-traumatic neurological emergency and guide management.
The Rodin Museum was founded in 1929 by Jules E. Mastbaum, Philadelphia’s great movie theatre magnate and philanthropist. It houses 124 sculptures including Auguste Rodin’s most popular piece, *The Thinker*. 
# Conference Schedule

**Monday October 13, 2008**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00a</td>
<td>Continental Breakfast</td>
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</table>
| 7:40a | Opening Remarks<br>
*Elias R. Melhem, MD, PhD* |
| 7:45a | Cerebrovascular Anatomy (Arterial and Venous)<br>
*Robert W. Hurst, MD* |
| 8:30a | Current Practice in Interventional Neuroradiology<br>
*Robert W. Hurst, MD* |
| 9:00a | Vascular Malformations of the Brain: A Review of Imaging Features and Risks<br>
*Alexander C. Mamourian, MD* |
| 9:30a | Cerebral Aneurysms: All You Need to Know<br>
*Linda J. Bagley, MD* |
| 10:15a| Break/Refreshments                                                  |
| 10:30a| State-of-the-Art Imaging of Stroke<br>
*Ronald L. Wolf, MD, PhD* |
| 11:00a| MR Angiography of the Head and Neck<br>
*Neerav Mehta, MD* |
| 11:30a| Imaging of non-ischemic neurological emergencies<br>
*Ronald L. Wolf, MD, PhD* |
| 12:15p| Lunch (provided)<br>
*Unknown Cases<br>
*Elias R. Melhem, MD, PhD*  |

### VASCULAR DISEASE

### HEAD & NECK

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
</table>
| 1:30p | Cervical Adenopathy with Emphasis on Cancer<br>
*Laurie A. Loevner, MD* |
| 2:00p | Cancer of the Nasopharynx<br>
*Laurie A. Loevner, MD* |
| 2:30p | Imaging of the Oral Cavity<br>
*David M. Yousem, MD, MBA* |
| 3:00p | Imaging the Larynx<br>
*Laurie A. Loevner, MD* |
| 3:30p | Break/Refreshments                                                  |
| 4:00p | Cross Sectional Anatomy of the Temporal Bone<br>
*Elias R. Melhem, MD, PhD* |
| 4:30p | Diseases of the Temporal Bone: External and Middle Ear<br>
*David M. Yousem, MD, MBA* |
| 5:00p | Adjourn                                                              |
**Tuesday, October 14, 2008**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>7:00a</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:45a</td>
<td>Imaging of Head Trauma</td>
<td>Linda J. Bagley, MD</td>
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<tr>
<td>8:15a</td>
<td>Infectious Diseases of the Brain and Its Linings</td>
<td>David P. Friedman</td>
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<tr>
<td>8:45a</td>
<td>Adult Brain Neoplasms</td>
<td>Ronald L. Wolf, MD, PhD</td>
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<tr>
<td>9:30a</td>
<td>Mimics of Adult Brain Neoplasms</td>
<td>John H. Woo, MD</td>
</tr>
<tr>
<td>10:15a</td>
<td>Break/refreshments</td>
<td></td>
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<tr>
<td>10:30a</td>
<td>Demyelinating Diseases of the Brain</td>
<td>Michel Bilello, MD, PhD</td>
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<tr>
<td>11:00a</td>
<td>Degenerative Brain Diseases/ Cerebral Manifestations of Systemic Disease</td>
<td>Edward H. Herskovits, MD, PhD</td>
</tr>
<tr>
<td>11:30a</td>
<td>Multimodality Imaging in Epilepsy</td>
<td>Dima Hammoud, MD</td>
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<tr>
<td>12:00p</td>
<td>Impact of the Federal Election on Radiology</td>
<td>Frank A. Lexa, MD, MBA</td>
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<tr>
<td>12:30p</td>
<td>Lunch (provided)</td>
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<tr>
<td>1:15p</td>
<td>Functional Neuro Imaging in Presurgical Planning</td>
<td>Jay Pilliai, MD</td>
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<tr>
<td>1:45p</td>
<td>Perfusion MR Imaging: Basics and Applications</td>
<td>Ronald L. Wolf, MD, PhD</td>
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<tr>
<td>2:15p</td>
<td>Diffusion Tensor Imaging: Basics and Applications</td>
<td>Paolo Nucifora, MD, PhD</td>
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<tr>
<td>2:45p</td>
<td>Multidetector CT: Advanced Neuroradiology Applications</td>
<td>Alexander C. Mamourian, MD</td>
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<tr>
<td>3:15p</td>
<td>Break/Refreshments</td>
<td></td>
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<tr>
<td>3:30p</td>
<td>PET-CT Applications in Oncology: State-of-the-Art</td>
<td>Laurie A. Loevner, MD</td>
</tr>
<tr>
<td>4:00p</td>
<td>Magnetoencephalography for Presurgical Evaluation</td>
<td>Erin Simon Schwartz, MD</td>
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<tr>
<td>4:30p</td>
<td>CT and MR for the Evaluation of the Paranasal Sinuses</td>
<td>S. James Zinreich, MD</td>
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<tr>
<td>5:00p</td>
<td>Imaging of the Orbits</td>
<td>Ann Kim, MD</td>
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<tr>
<td>5:30p</td>
<td>Imaging of Salivary Glands</td>
<td>Mary Scanlon, MD</td>
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<tr>
<td>6:00p</td>
<td>Adjourn</td>
<td></td>
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</tbody>
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# Conference Schedule

**Wednesday, October 15, 2008**

<table>
<thead>
<tr>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>7:00a</td>
<td>Continental Breakfast</td>
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</tbody>
</table>
| 7:45a | Anatomy and DJD Spine  
*Nafi Aygun, MD*  

| 8:15a | MRI Update in Spinal Trauma and Spinal Cord Injury  
*Adam E. Flanders, MD*  

| 8:45a | Spine Infection and Inflammation  
*Nafi Aygun, MD*  

| 9:15a | Imaging of Adhesive Arachnoiditis  
*David P. Friedman*  

| 9:45a | Break/Refreshments                                                      |
| 10:00a| MR Imaging of the Brachial Plexus  
*David M. Yousem, MD, MBA*  

| 10:30a| Spinal Interventions  
*John B. Weigele, MD, PhD*  

| 11:00a| Intradural Tumors of the Spine  
*Elias R. Melhem, MD, PhD*  

| 11:30a| Vascular Diseases of the Spinal Cord  
*Adam E. Flanders, MD*  

| 12:00p| Lunch (provided)  
Presentation of Unknown Cases: Winner & Review  
*Elias R. Melhem, MD, PhD*  

**SPINE IMAGING**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>PEDIATRIC IMAGING</td>
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</tr>
</tbody>
</table>

| 1:15p | Prenatal Diagnosis of CNS Anomalies  
*Erin Simon Schwartz, MD*  

| 1:45p | Imaging of Spinal Trauma in Children  
*Avrum Pollock, MD*  

| 2:15p | Pediatric Brain Tumors  
*Robert A. Zimmerman, MD*  

| 2:45p | Role of Permeability MRI in Staging of Brain Tumors  
*Timothy Roberts, PhD*  

| 3:15p | Break/Refreshments                                                      |
| 3:45p | Imaging of ENT Disease in Children  
*Larissa T. Bilaniuk, MD*  

| 4:15p | White Matter Disorders in Children  
*Arastoo Vossough, MD, PhD*  

| 4:45p | Closing Remarks                                                         |
| 5:00p | Evaluations/Adjourn                                                      |
Elfreth’s Alley is the oldest continuously inhabited residential street in the United States, dating back to the early 1700s when shipwrights, silver and pewter smiths, glassblowers, and furniture builders were among the alley’s residents.
**Enrollment**

The registration fee for this course is $795 for practicing radiologists and $625 for Penn Radiology Alumni, current residents/fellows, technologists, full-time active military, VA personnel and physicians outside the continental United States. Fees for registrations received after September 12, 2008 increase to $825/$675 respectively. A daily registration fee of $300 is also available.

**Disclosure**

University of Pennsylvania School of Medicine, Office of Continuing Medical Education, adheres to the ACCME Standards for Commercial Support. Faculty disclosure information will be made available during the activity. Faculty members are also expected to disclose to participants any discussion of off-label and/or investigational use of pharmaceutical products or devices during the presentation.

**Accreditation**

The University of Pennsylvania School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The University of Pennsylvania School of Medicine designates this educational activity for a maximum of 26 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

**Non-Discrimination Statement**

The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, sex, sexual orientation, gender identity, religion, color, national or ethnic origin, age, disability or status as a Vietnam Era Veteran or disabled veteran in the administration of educational policies, programs or activities; admission policies, scholarship and loan awards; athletic or other University-administered programs or employment. Questions or complaints regarding this policy should be directed to: Executive Director, Office of Affirmative Action and Equal Opportunity Programs, 3600 Chestnut Street, Sansom Place East, Suite 228, Philadelphia, PA 19104-6106 or 215-898-6993 (Voice) or 215-898-7803 (TDD).
Still standing as part of Independence National Historical park, The Second Bank of the United States was a bank founded in 1816 under the administration of U.S. President James Monroe out of desperation to stabilize the currency in the aftermath of the War of 1812.
Rittenhouse Square, one of William Penn’s original five open-space parks, was known as the Southwest Square until 1825 when it was named after David Rittenhouse, Professor of Astronomy at the University of Pennsylvania, inventor of the collimating telescope, and the first director of the United States Mint.
Philadelphia

Famous for its cheesesteaks, liberty and “Rocky” steps, America’s original capital is more than just a city with revolutionary history. Philadelphia is one of the East Coast’s “must-visit” cities and welcomes visitors who may want to experience American history first-hand as well as sample culinary delights which have evolved from the rich mix of races and immigrant cultures. Fall is a delightful time to walk around the city and Rittenhouse Square is a prestigious location surrounded by galleries, outdoor cafes and world-class shopping.

Meeting Location – Rittenhouse Hotel (www.rittenhousehotel.com)

Located on distinguished Rittenhouse Square, this boutique, luxury hotel has been AAA Five-Diamond hotel for over 16 consecutive years. The Rittenhouse has received numerous honors and is also ranked among the world’s finest places to stay. The hotel’s optimal location makes it an easy walk to outstanding restaurants, museums and theatre. Numerous amenities are included such as: plush beds with pillow-top mattresses, 27” flat screen televisions, complimentary wireless and wired high-speed Internet Access and marble baths with oversized tubs and separate showers.

Make Your Reservations Early
Global Reservations: 800–635–1042

Penn Radiology has reserved a limited number of rooms at the Rittenhouse during the dates of the conference. Our group guest room rate for single or double occupancy is $255 per night. Room rates are subject to occupancy tax (currently 14%). Reservations made after 9/12/08 will be offered at the group rate based on availability. Early departures fees will be the responsibility of the individual. Please identify yourself with Penn Radiology when booking.

Travel Options

Philadelphia is served by Philadelphia International Airport (PHL) or conveniently reached via Amtrak, stopping at 30th Street Station. For information: www.phl.org; www.30thstreetstation.com. If you are driving to the conference, the hotel offers valet parking currently $17 per day and overnight parking for $26 per night. (Prices subject to increase.)
Conference Notices

Special Needs
If special accommodations are required for an individual with a disability to attend this meeting, contact Tiffany Epps at least two weeks prior at 215–662–6982.

Cancellation/Refunds Policy
The University of Pennsylvania reserves the right to cancel or postpone any activity due to unforeseen circumstances. In the event of cancellation or postponement, the University will refund registration fees but will not be responsible for related costs or expenses to participants, including cancellation fees assessed by airlines, travel agencies and hotels. Full refunds, less a $75.00 administrative fee, will be made to those providing written notification of withdraw by September 12, 2008. After that date, no refunds will be given.
Aglow at night, **Independence Hall** is where the Declaration of Independence was adopted on July 4, 1776, and the U.S. Constitution was drafted in 1787. A diverse nightlife thrives amidst this historic setting, as National Geographic Magazine recently named Old City “the liveliest urban neighborhood between Soho in New York and South Beach in Miami.”
Four Ways to Register

Online at: www.uphs.upenn.edu/radiology/educ/CE

Fax this form to: 215–349–5925

Mail to: HUP Radiology/CME
3400 Spruce St, 1 Silverstein
Philadelphia, PA 19104-4283

Phone: using Amex, Visa or Mastercard. Call 215–662–6982

Upcoming Penn Radiology CME Schedule

30th Anniversary Diagnostic Imaging
July 7 – 11, 2008
Harbor View Hotel,
Martha’s Vineyard Island, MA

MR Imaging Update: Breast & Body
September 22 – 25, 2008
The Westin Grand, Washington, D.C.

Keying in: A Case-based Imaging Course
October 21 – 24, 2008
The Ritz-Carlton, Key Biscayne, FL

24th Annual Cross-Sectional Imaging
February 16 – 19, 2009
InterContinental Playa Bonita Resort & Spa
February 20 – 21, 2009
Gamboa Rainforest Resort, Panama
Conference Registration

Registrant Information

Name ____________________________
First M.I. Last Degree

Affiliation __________________________

Address ____________________________

City, State, Zip Code ____________________________

Phone ____________________________ Fax ____________________________

Email ____________________________

Conference Fees*

Physicians $825
Discount** $675
Early Bird (by 9/12/08) $795/$625

CME Alumni (course and year attended)

* Conference fee includes daily continental breakfast, lunch, morning and afternoon breaks, course syllabus and CME certificate.

** Discounted fee applies to Penn Radiology Alumni, current fellows, technologists, VA personnel, retirees and Penn CME Alumni who have registered in the last two years.

Payment Method

Amount Due: $ ____________

☐ Check enclosed payable to UPHS-Department of Radiology (US dollars only drawn on a US bank)

☐ Charge my Credit Card
  ☐ Visa ☐ Mastercard ☐ American Express

Account Number ____________________________

Expiration Date ____________________________ CSC ____________________________

Signature ____________________________
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