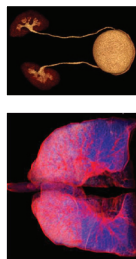




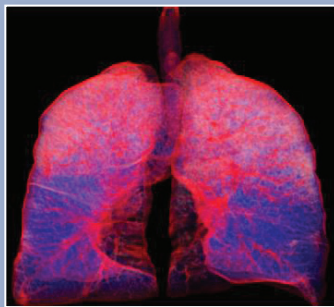
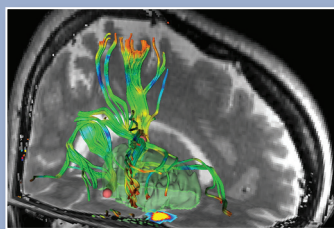
Harvard Medical School  
Department of Continuing Education  
PO Box 825  
Boston, MA 02117-0825  
[www.cme.hms.harvard.edu](http://www.cme.hms.harvard.edu)



MRI/CT Update  
October 22-26, 2012  
Monday - Friday

[www.radcme.harvard.edu](http://www.radcme.harvard.edu)

# MRI / CT UPDATE



**October 22-26, 2012**  
Monday-Friday

*The Fairmont Copley Plaza*  
*Boston, Massachusetts*

## COURSE DIRECTORS

*Hiroto Hatabu, MD, PhD*  
*Srini Mukundan, PhD, MD*



Harvard Medical School  
Department of Continuing Education



Brigham and Women's Hospital  
Department of Radiology

## COURSE DESCRIPTION

The burgeoning field of Radiology, in particular CT and MRI, include new techniques and new applications that make it difficult for the practicing radiologist to stay current and up to date on when and why these techniques should be used and how to interpret them. In response to this increasing need, this is the 35th offering of our annual, postgraduate course that emphasizes clinical MRI and CT of the entire body. It is designed for practitioners using MRI and multi-detector CT, and those who wish to learn the latest applications from experts. The basic format of the course is didactic lecture style supplemented by question and answer periods. The first two and a half days of the course (Monday, Tuesday, and Wednesday morning) cover body imaging, including, chest, abdomen, pelvis, cardiovascular, breast and musculoskeletal imaging; second two days (Wednesday afternoon, Thursday and Friday morning) cover Neuro Imaging. The Neuro Imaging curriculum spans the complete spectrum from spine, to brain, to head and neck/ ENT. The Neuro Imaging curriculum is directed toward the practicing radiologist, with emphasis on the translation of advanced techniques and technologies to the clinical domain. The educational format will largely be didactic lectures supplemented by question and answer periods.

## OBJECTIVES

Upon completion of this activity, participants will be able to:

- Demonstrate knowledge of the latest MRI and CT techniques for both body and neuroradiologic applications.
- Appropriately utilize the latest MRI and CT techniques for both body and neuroradiologic applications, many of which will be directly applicable in the clinic.
- Manage an MRI or CT facility.
- Demonstrate knowledge of how experienced radiologists perform and interpret these examinations.

## WHO SHOULD ATTEND

This course is geared primarily for physicians who are practicing radiology or have an interest in the radiological sciences as well as Medical Physicists interested in CT or MR.

## COURSE DIRECTORS

**Hiroto Hatabu, MD, PhD:** Associate Professor of Radiology, Harvard Medical School; Clinical Director, MRI Program, Medical Director, Center for Pulmonary Functional Imaging, Director, MRI Clinical Fellowship, Department of Radiology, Brigham and Women's Hospital

**Srinivasan Mukundan, Jr, PhD, MD:** Associate Professor of Radiology, Harvard Medical School; Section Head of Neuroradiology, Brigham and Women's Hospital

## GUEST FACULTY

**Warren B Gefter, MD:** Professor of Radiology, Chief, Thoracic Imaging Section, Associate Chair, Department of Radiology, Hospital of the University of Pennsylvania, Philadelphia, PA

**Jorge Soto, MD:** Professor of Radiology, Vice-Chairman of Radiology, Boston University Medical Center, Boston, MA

**Megan K Strother, MD:** Assistant professor of Radiology and Radiological Sciences and Neurological Surgery, Vanderbilt University Medical Center, Nashville, TN

**Sean Peter Symons, BAsc, MPH, MD, FRCPC, DABR:** Associate Professor, University of Toronto, Departments of Medical Imaging and Otolaryngology - Head and Neck Surgery, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

## HARVARD MEDICAL SCHOOL FACULTY

**Brian M Alexander, MD:** Instructor in Radiation Oncology; Radiation Oncology Section, Brigham and Women's Hospital

**Michael A Blake, MD:** Assistant Professor of Radiology; Division of Abdominal Imaging, Massachusetts General Hospital

**Charles H Cho, MD, MBA:** Instructor in Radiology; Neuroradiology Section, Brigham and Women's Hospital

**Mary E Cunnane, MD:** Instructor in Radiology; Massachusetts Eye and Ear Infirmary, Division of Neuroradiology, Massachusetts General Hospital

**Hugh D Curtin, MD:** Professor of Radiology; Chief of Radiology, Massachusetts Eye and Ear Infirmary

**Ian F Dunn, MD:** Instructor in Surgery; Department of Neurosurgery, Brigham and Women's Hospital

**Alejandra Duran-Mendicuti, MD:** Instructor in Radiology, Division of Emergency Radiology, Brigham and Women's Hospital

**Glenn C Gaviola, MD:** Instructor in Radiology; Division of Musculoskeletal Imaging and Intervention, Brigham and Women's Hospital

**Victor H Gerbaudo, PhD:** Lecturer on Radiology; Director, Nuclear Medicine and Molecular Imaging Program; Senior Administrative Director, Noninvasive Cardiovascular Imaging and Cardiac Stress Programs, Brigham and Women's Hospital

**Roger Han, MD:** Instructor in Radiology; Division of Musculoskeletal Imaging, Brigham and Women's Hospital

**Raymond Y Huang, MD, PhD:** Instructor in Radiology, Brigham and Women's Hospital

**Andetta R Hunsaker, MD:** Assistant Professor of Radiology; Director, Division of Thoracic Radiology, Brigham and Women's Hospital

**Francine L Jacobson, MD:** Assistant Professor of Radiology; Division of Thoracic Radiology, Brigham and Women's Hospital

**Bharti Khurana, MD:** Instructor in Radiology; Division of Emergency Radiology, Brigham and Women's Hospital

## MONDAY, OCTOBER 22

**Thomas C Lee, MD:** Instructor in Radiology; Neuroradiology Section, Brigham and Women's Hospital

**Theresa C McLoud, MD:** Professor of Radiology; Vice Chair for Education, Department of Radiology; Division of Thoracic Imaging and Intervention, Massachusetts General Hospital

**Koenraad J Morteale, MD:** Associate Professor of Radiology; Director, Division of Clinical MRI, Department of Radiology, Beth Israel Deaconess Medical Center

**Mizuki Nishino, MD:** Assistant Professor of Radiology; Brigham and Women's Hospital and Dana-Farber Cancer Institute

**John J Pan, MD:** Instructor in Radiology; Division of Musculoskeletal Radiology, Brigham and Women's Hospital

**Larry P Panych, PhD:** Associate Professor of Radiology; Brigham and Women's Hospital

**Sughra Raza, MD:** Assistant Professor of Radiology; Associate Director Breast Imaging, Director, Women's Imaging Program, Director, Clinical Breast MRI, Brigham and Women's Hospital

**Dushyant Sahani, MD:** Associate Professor of Radiology; Director of CT, Massachusetts General Hospital

**Nehal Shah, MD:** Instructor in Radiology; Division of Musculoskeletal Radiology, Brigham and Women's Hospital

**Stuart G Silverman, MD, FACR:** Professor of Radiology; Director, Division of Abdominal Imaging and Intervention, Brigham and Women's Hospital

**Kirstin M Small, MD:** Instructor in Radiology; Division of Musculoskeletal Imaging, Brigham and Women's Hospital

**Stacy E Smith, MD:** Assistant Professor of Radiology; Section Head and Barbara Weissman Chair, Musculoskeletal Imaging, Brigham and Women's Hospital

**Aaron Sodickson, MD, PhD:** Assistant Professor of Radiology; Director of Emergency Radiology, Brigham and Women's Hospital

**Michael H Stella, MD:** Instructor in Radiology; Director, Emergency Radiology Quality Assurance, Brigham and Women's Hospital

**Clare M C Tempany, MD:** Professor of Radiology; Ferenc Jolesz, Chair of Radiology Research, Vice Chair, Radiology Research, Director, Clinical Focused Ultrasound, Department of Radiology, Brigham and Women's Hospital

**Beatrice Trotman-Dickenson, MD:** Assistant Professor of Radiology; Division of Thoracic Radiology, Brigham and Women's Hospital

**Barbara N Weissman, MD:** Professor of Radiology; Vice Chair of Radiology, Radiology Residency Program Director, Brigham and Women's Hospital

**Geoffrey S Young, MD:** Assistant Professor of Radiology; Neuroradiology Section, Brigham and Women's Hospital

**Amir A Zamani, MD:** Associate Professor of Radiology; Neuroradiology Section, Brigham and Women's Hospital

### BODY IMAGING

7:55 Welcome and Introduction *Hiroto Hatabu, MD, PhD*  
Moderator: *Aaron Sodickson, MD, PhD*

### EMERGENCY RADIOLOGY

8:00 Radiation Dose Reduction  
in ER *Aaron Sodickson, MD, PhD*  
8:30 Abdominal Trauma *Michael Stella, MD*  
9:00 Chest Trauma *Sandra Duran-Mendicutti, MD*  
9:30 MRI of Acute Hip Pain *Bharti Khurana, MD*  
10:00 Questions and Answers  
10:10 Coffee Break

### ABDOMEN I

10:30 Use of MRI in Abdominal Emergencies *Jorge Soto, MD*  
11:00 CT/MRI of Cystic  
Pancreatic Masses *Koenraad J Morteale, MD*  
11:30 Current Concepts in Imaging  
of Acute Pancreatitis *Jorge Soto, MD*  
12:00 Questions and Answers  
12:15 Lunch - On Your Own

### ABDOMEN/PELVIS

1:30 CT/MRI of Focal Liver Lesions: Detection  
Characterization and  
Surgical Planning *Dushyant Sahani, MD*  
2:00 Use of CT angiography in Acute  
Lower Intestinal Bleeding *Jorge Soto, MD*  
2:30 MRI of the Prostate Gland *Clare M C Tempany, MD*  
3:00 Questions and Answers  
3:10 Coffee Break

### ABDOMEN II

3:30 Management of the Incidental  
Renal Mass *Stuart G Silverman, MD, FACR*  
4:00 CT/MRI of the Adrenal Gland *Michael A Blake, MD*  
4:30 CT Urography *Stuart G Silverman, MD, FACR*  
5:10 Questions and Answers  
5:15 Adjourn

## TUESDAY, OCTOBER 23

### THORACIC IMAGING (INCLUDING BREAST AND HEART)

7:00 Continental Breakfast  
7:10 Morning Announcements *Hiroto Hatabu, MD, PhD*  
7:15 Morning Cases - Thoracic *Hiroto Hatabu, MD, PhD*  
8:00 MR Physics Review *Larry Panych, PhD*  
8:30 Breast MRI *Sughra Raza, MD*  
9:00 Thoracic MRI: Promises, Problems,  
and Prospects *Warren B Gefter, MD*  
9:30 COPD Screening and Staging *Francine L Jacobson, MD*  
10:00 Questions and Answers  
10:10 Coffee Break  
10:30 Pulmonary Embolism *Andetta Hunsaker, MD*  
11:00 From Lesion Dimensions to Molecular Pathways:  
Monitoring Tumor Response  
to Therapy *Victor H Gerbaudo, PhD*

- 12:00 Questions and Answers  
 12:15 Lunch - On Your Own  
 1:30 HRCT in Diffuse Lung Disease:  
 From the Brain to the Computer *Warren B Geftter, MD*  
 2:00 Smoking Related Lung Disease *Hiroto Hatabu, MD, PhD*  
 2:30 Early Life Threatening Complications  
 following Pulmonary  
 Resection *Beatrice Trotman-Dickenson, MBBS*  
 3:00 Questions and Answers  
 3:10 Coffee Break  
 3:30 Troublesome GGO: Bringing Clarity  
 to these Hazy Lesions *Warren B Geftter, MD*  
 4:00 Response Evaluation of Lung Cancer with Molecular  
 Targeted Therapy *Mizuki Nishino, MD*  
 4:30 Lung Cancer Screening:  
 An Update *Theresa C McLoud, MD*  
 5:00 Questions and Answers  
 5:10 Adjourn

## WEDNESDAY, OCTOBER 24

- 7:00 Continental Breakfast  
**MUSCULOSKELETAL IMAGING**  
 7:10 Morning Announcements  
*Srinivasan Mukundan, Jr, PhD, MD*  
*Moderator: Barbara N Weissman, MD*  
 7:15 Morning Cases - Bone *John Pan, MD*  
 8:00 Foot and Ankle *Stacy E Smith, MD*  
 8:45 Shoulder *Kirstin M Small, MD*  
 9:30 Coffee Break  
 9:45 MRI Technical Pearls in MSK *Nehal Shah, MD*  
 10:15 Elbow *Stacy E Smith, MD*  
 10:45 CT/MRI of Arthritis *Barbara N Weissman, MD*  
 11:15 Knee *Glenn C Gaviola, MD*  
 12:00 Questions and Answers  
 12:15 Lunch - On Your Own  
 1:00 *Registration for Neuro Imaging Portion Only*  
**SPINE IMAGING**  
*Moderator: Srinivasan Mukundan, Jr, PhD, MD*  
 1:30 Spine Overview *Thomas C Lee, MD*  
 2:00 Spine Intervention - Novel Approaches  
*Roger Han, MD and Thomas C Lee, MD*  
 2:45 Non-Tumoral Spine *Charles Cho, MD*  
 3:15 Coffee Break  
 3:30 Surgical Correlation: Radiation Therapy of the  
 Spine, How Imaging Helps Me *Brian Alexander, MD*  
 4:15 Tumoral Spine *Glenn C Gaviola, MD*  
 5:00 Questions and Answers  
 5:10 Adjourn

## THURSDAY, OCTOBER 25

- 7:00 Continental Breakfast  
**NEURORADIOLOGY GAMUTS**  
 7:10 Morning Announcements  
*Srinivasan Mukundan, Jr, PhD, MD*  
*Moderator: Srinivasan Mukundan, Jr, PhD, MD*  
 7:15 Morning Cases - Neuroradiology *Raymond Huang, MD*  
 8:00 White Matter Diseases *Amir A Zamani, MD*  
 8:45 Imaging of Head Trauma *Sean Symons, MD*  
 9:30 Coffee Break  
 9:45 Brain Tumor Overview *Geoffrey Young, MD*  
 10:30 Sella Anatomy and Pathology  
*Srinivasan Mukundan, Jr, PhD, MD*  
 11:15 Clinical Correlation: Intracranial Tumor Resection:  
 How Imaging Helps *Ian Dunn, MD*  
 12:00 Questions and Answers  
 12:15 Lunch - On Your Own  
**NEUROVASCULAR IMAGING**  
*Moderator: Geoffrey Young, MD*  
 1:30 Carotid Imaging by CT and MRI *Sean Symons, MD*  
 2:00 Acute Stroke Imaging by CT *Megan Strother, MD*  
 2:45 Pitfalls with CT Perfusion Imaging  
 in Neuroradiology *Megan Strother, MD*  
 3:15 Coffee Break  
 3:30 MDCT, ASL, and Hypercapnic BOLD fMRI for Evaluating  
 Perfusion in patients with  
 Intracranial Stenosis *Megan Strother, MD*  
 4:15 Neurons and Nephrons: Gadolinium Based Contrast  
 Agents 2012 *Srinivasan Mukundan, Jr, PhD, MD*  
 5:00 Adjourn

## FRIDAY, OCTOBER 26

- 7:00 Continental Breakfast  
**ENT IMAGING**  
 7:10 Morning Announcements  
*Srinivasan Mukundan, Jr, PhD, MD*  
*Moderator: Thomas Lee, MD*  
 7:15 Morning Cases - Neuro *Mary Beth Cunnane, MD*  
 8:00 Landmarks in Head and Neck Cancer *Hugh D Curtin, MD*  
 8:45 Temporal Bone Anatomy *Sean Symons, MD*  
 9:30 Coffee Break  
 9:45 Parapharyngeal and Masticator  
 Spaces *Hugh D Curtin, MD*  
 10:30 Temporal Bone Pathology *Sean Symons, MD*  
 11:15 Larynx *Hugh D Curtin, MD*  
 11:45 Questions and Answers  
 12:00 Adjourn

Please note: Program changes/substitutions may be made without notice.

## ACCREDITATION

The Harvard Medical School is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Harvard Medical School designates this live activity for a maximum of 36 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

**Body Imaging:** A maximum of 20 AMA PRA Category 1 Credits™

**Neuro Imaging:** A maximum of 16 AMA PRA Category 1 Credits™

## ACGME COMPETENCIES

This course is designed to meet one or more of the following Accreditation Council of Graduate Medical Education competencies:

- \* Patient care
- \* Medical knowledge
- \* Practice-based learning and improvement

## REGISTRATION INFORMATION

Tuition Fee:

<b>Full Course</b>	
Physicians	\$895 (USD)
Residents/Fellows in Training	
Allied Health Professionals:	\$550 (USD)
<b>Body Imaging</b>	
Physicians	\$695 (USD)
Residents/Fellows in Training	
Allied Health Professionals:	\$450 (USD)
<b>Neuro Imaging</b>	
Physicians	\$675 (USD)
Residents/Fellows in Training	
Allied Health Professionals:	\$425 (USD)

Registration by credit card (VISA or MasterCard) can be made at: [www.cme.hms.harvard.edu/courses/mrict](http://www.cme.hms.harvard.edu/courses/mrict). Registration by check (draft on a United States bank), please make payable to Harvard Medical School and mail with registration form to Harvard Medical School-Department of Continuing Education, PO Box 417476, Boston, MA 02241-7476. Telephone or fax registration is not accepted. Registration with cash payment is not permitted. Upon receipt of your paid registration an email confirmation from the HMS-DCE office will be sent to you. Be sure to include an email address that you check frequently. Your email address is used for critical information including: registration confirmation, evaluation and certificate.

## INQUIRIES

By phone 617-384-8600, Monday-Friday, 10 AM to 4 PM (EST) or by email at: [hms-cme@hms.harvard.edu](mailto:hms-cme@hms.harvard.edu).

## ONLINE INFORMATION

To register or view activity information online, visit: [www.cme.hms.harvard.edu/courses/mrict](http://www.cme.hms.harvard.edu/courses/mrict). To ensure proper registration, please add the first three characters of the source code.

## DISCLOSURE POLICY

Harvard Medical School (HMS) adheres to all ACCME Essential Areas, Standards, and Policies. It is HMS's policy that those who have influenced the content of a CME activity (e.g. planners, faculty, authors, reviewers and others) disclose all relevant financial relationships with commercial entities so that HMS may identify and resolve any conflicts of interest prior to the activity. These disclosures will be provided in the activity materials along with disclosure of any commercial support received for the activity. Additionally, faculty members have been instructed to disclose any limitations of data and unlabeled or investigational uses of products during their presentations.

## REFUND POLICY

A handling fee of \$60 is deducted for cancellation. Refund requests must be received by postal mail, email or fax one week prior this activity. No refunds will be made thereafter.

## COURSE LOCATION

All sessions will be held at the Fairmont Copley Plaza, 138 St. James Avenue, Boston, MA 02116 (617-267-5300).

## ACCOMMODATIONS/TRAVEL

A limited number of rooms have been reserved at the Fairmont Copley Plaza, (800) 441-1414 or (617) 267-5300 until September 30, 2012. Please specify that you are enrolled in this activity to receive a reduced room rate of \$319 and \$349 Deluxe room per night Single/Double. You may also reserve your hotel reservations online via the dedicated booking website:

<https://resweb.passkey.com/go/hmsmrict>. Please do not purchase non-refundable airline ticket(s) until you have received an email from our office confirming your paid registration. For airline reservations contact the HMS Travel Desk toll free 1-877-4-HARVMD (1-877-442-7863) Monday - Friday 9 AM - 8 PM (EST). From outside the US, Canada and Virgin Islands, please call 617-559-3764.

## MRI/CT UPDATE

## COURSE # 321050

October 22-26, 2012

Tuition Fee

<input type="checkbox"/> <b>Full Course</b>	
Physicians	\$895 (USD)
Residents/Fellows in Training	
Allied Health Professionals:	\$550 (USD)
<input type="checkbox"/> <b>Body Imaging</b>	
Physicians	\$695 (USD)
Residents/Fellows in Training	
Allied Health Professionals:	\$450 (USD)
<input type="checkbox"/> <b>Neuro Imaging</b>	
Physicians	\$675 (USD)
Residents/Fellows in Training	
Allied Health Professionals:	\$425 (USD)

Print Name Clearly – All Fields Required

Full Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Daytime Phone (\_\_\_\_) \_\_\_\_\_ Fax Number (\_\_\_\_) \_\_\_\_\_

*PLEASE NOTE: Your email address is used for critical information about the course including; registration confirmation, course evaluation and certificate. Please be sure to include an email address you check daily or frequently.*

Email Address \_\_\_\_\_

Please check if you wish to be excluded from receiving email notices of future Harvard Medical School - Department of Continuing Education programs

Profession \_\_\_\_\_ Degree \_\_\_\_\_

Primary Specialty (Physicians Only) \_\_\_\_\_

Board Certified: Yes  No

Professional School Attended (Physicians Only)

Harvard Medical School  U.S. Medical School  International

Year of Graduation \_\_\_\_\_

Online Registrants - add the first three characters of the source code found here:

Source Code: XZZZ