NEUROINTERVENTIONAL TUTORIAL
September 11, 2015 / UCSF China Basin Center

The primary purpose of this course is to enable subspecialty interventional neuroradiologists, neurosurgeons, and neurologists to improve imaging interpretation of the brain, spine and vascular systems. This will be achieved by providing an updated review of evidence-based practice, with particular emphasis on neurovascular diseases, such as aneurysms, arteriovenous fistulas, arteriovenous malformations, acute ischemic stroke, and atherosclerosis; as well as novel and emerging technologies, such as physiologic imaging, advanced angiography, and state-of-the-art interventional devices.

The tutorial is a method of transferring knowledge and may be used as a part of learning. More interactive and specific than a book or a lecture; a tutorial seeks to teach by example and supply the information to complete a certain task. Special emphasis will be placed on using case presentations to develop accurate differential diagnoses and suggest appropriate clinical management. There will also be a hands-on opportunity with current neurovascular devices and embolics on flow models.

Earn Self-Assessment Credit This course will offer 7.0 Self-Assessment credits as indicated on the schedule.

As of January 1, 2013, updated MOC Part 2 requirements: 75 CME credits every three years, at least 25 of which must be self-assessment activities (SA-CME, which includes SAMs). For more information: www.theabr.org/moc-dr-comp2.

At the completion of this course, the attendee should be able to:

1. Improve interpretation of neurovascular imaging studies;
2. Recognize the indications for and limitations of CT, MRI and digital subtraction angiography for stroke and intracranial hemorrhage imaging, and treatment guidance;
3. Differentiate between the various common and rare forms of adult and pediatric neurovascular disease;
4. Appropriately select and implement the use of coils, stents, flow diverters, liquid embolics, sclerosants and/or particulate embolics in the management of complex neurovascular disease;
5. Recommend appropriate management of complex neurovascular disease, with particular reference to the roles of endovascular evaluation and therapy.

Registration

Pre-registration is required as enrollment in this course is limited to 24 registrants.

Tuition: $750 (early registration savings of $50 by July 17, 2015).

Registration can be made online, by phone or fax (see page 9).

For general inquiries, send an email to: cme@radiology.ucsf.edu.
This course will provide a forum for existing best practices, guidelines, algorithms, and resources on the management of ischemic stroke, intracerebral hemorrhage, and subarachnoid hemorrhage to be appraised and discussed, as well as an opportunity to develop a plan for individual and team practice improvement. Specifically, it will address new imaging techniques for cerebral ischemia, new therapeutic approaches to AVMs, imaging and hemodynamics in aneurysm formation, evidence-based stroke care including management of ischemic stroke, intracerebral hemorrhage, and subarachnoid hemorrhage, updates on treatment of TIA and minor stroke, critical care for complex neuro-vascular patients, surgical and endovascular treatments, and the future of stroke rehabilitation.

This course is designed for health care team professionals who often are the first to come in contact with patients with unknown neurological disorders; such as care providers from Primary Care, Emergency Medicine, Neurology, Radiology, Neurointerventional Radiology, Neurosurgery, and Nursing and Rehabilitation. At the completion of this course, the attendee should be able to:

1. Apply current best practices for managing patients with complex cerebrovascular diseases such as ischemic stroke, intracerebral hemorrhage, subarachnoid hemorrhage, AVM and aneurysms;
2. Identify and evaluate key updates and advances in stroke, AVM, aneurysm treatment, prevention and recovery;
3. Define key challenges in optimizing care for complex cerebrovascular disease;
4. Develop and assess strategies to enhance individual and team collaboration for the clinical care of patients with ischemic stroke, subarachnoid hemorrhage, and intracerebral hemorrhage.

Registration

Pre-registration is encouraged to ensure a space in this course.
Tuition: $250 MD/DO; $175 AHP.
Registration can be made online, by phone or fax (see page 9).
For general inquiries, send an email to: cme@radiology.ucsf.edu.
Stroke UCSF Faculty

Steven W. Hetts, MD
Course Co-Chair
Associate Professor of Radiology
Chief, Interventional Neuroradiology
UCSF Mission Bay Hospitals
Director, HHT Center of Excellence

Anthony S. Kim, MD, MAS
Course Co-Chair
Assistant Professor of Neurology
Medical Director, Stroke Center

Michael T. Lawton, MD
Course Co-Chair
Professor of Neurological Surgery
Chief, Cerebrovascular Surgery

Gary M. Abrams, MD
Professor of Neurology
Director, Neurorehabilitation
Chief, Rehabilitation Services, VAMC

Karunesh Ganguly, MD, PhD
Assistant Professor of Neurology

J. Claude Hemphill III, MD, MAS
Professor of Clinical Neurology
and Neurological Surgery
Co-Director, Brain & Spine Injury Center
Director, Neurocritical Care, SFGH

Nerissa U. Ko, MD, MAS
Assistant Director, Neurovascular Service
Director, Neurocritical Care Fellowships

Bhavya Rehani, MD, MBBS
Assistant Professor of Radiology

David Saloner, PhD
Professor of Radiology
Director, Interventional MR Imaging Center
Director, Masters of Science Program
Director, Vascular Imaging Research Center

Wade S. Smith, MD, PhD
Professor of Neurology

Hua Su, MD
Associate Professor of Anesthesia
Associate Director, Center for
Cerebrovascular Research

NeuroIR UCSF Faculty

Christopher F. Dowd, MD
Course Co-Chair
Professor of Radiology, Neurology,
Neurosurgery and Anesthesia
Co-Director, Birthmarks and Vascular Anomalies Clinic

Steven W. Hetts, MD
Course Co-Chair
Associate Professor of Radiology
Chief, Interventional Neuroradiology
UCSF Mission Bay Hospitals
Director, HHT Center of Excellence

Daniel L. Cooke, MD
Course Co-Chair
Assistant Professor of Radiology
Chief, Interventional Neuroradiology
SFGH and VAMC

Matthew R. Amans, MD
Assistant Professor of Radiology

Van V. Halbach, MD
Professor of Radiology, Neurology,
Neurosurgery and Anesthesia
Chief, Interventional Neuroradiology
Fellowship Program

Randall T. Higashida, MD
Professor of Radiology, Neurology,
Neurosurgery and Anesthesia
Chief, Interventional Neuroradiology

Michael T. Lawton, MD
Professor of Neurosurgery
Chief, Cerebrovascular Surgery
# NEURO IR PROGRAM

**FRIDAY, SEPTEMBER 11, 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am</td>
<td>Registration and Continental Breakfast</td>
<td></td>
</tr>
<tr>
<td>7:25</td>
<td>Welcome and Introductions</td>
<td>Steven W. Hetts, MD</td>
</tr>
<tr>
<td>7:30</td>
<td>Current Imaging of Acute Ischemic Stroke</td>
<td>Steven W. Hetts, MD</td>
</tr>
<tr>
<td>8:15</td>
<td>Current Endovascular Treatment of Acute Ischemic Stroke</td>
<td>Steven W. Hetts, MD</td>
</tr>
<tr>
<td>9:00</td>
<td>Hands-On Lab: Embolectomy Devices and Stroke Imaging</td>
<td>Course Faculty</td>
</tr>
<tr>
<td>9:30</td>
<td>Recess</td>
<td></td>
</tr>
<tr>
<td>9:45</td>
<td>Dural Arteriovenous Fistulas: Diagnosis and Endovascular Management</td>
<td>Drs. V. Halbach &amp; M. Amans</td>
</tr>
<tr>
<td>10:30</td>
<td>Pediatric Cerebrovascular Disease</td>
<td>Drs. V. Halbach &amp; S. Hetts</td>
</tr>
<tr>
<td>11:15</td>
<td>Endovascular Treatment of Aneurysms: State-of-the-Art and the Future</td>
<td>Drs. V. Halbach &amp; D. Cooke</td>
</tr>
<tr>
<td>11:45</td>
<td>Hands-On Lab: Coils, Embolic Agents, Stents, and Flow Diverters</td>
<td>Course Faculty</td>
</tr>
<tr>
<td>12:30 pm</td>
<td>Lunch (provided)</td>
<td></td>
</tr>
<tr>
<td>1:45</td>
<td>Birthmarks and Vascular Anomalies</td>
<td>Christopher F. Dowd, MD</td>
</tr>
<tr>
<td>2:30</td>
<td>Dural Arteriovenous Fistulas: Current Surgical Management</td>
<td>Michael T. Lawton, MD</td>
</tr>
<tr>
<td>3:15</td>
<td>Surgery for Complex Cerebral Aneurysms</td>
<td>Michael T. Lawton, MD</td>
</tr>
<tr>
<td>3:45</td>
<td>Recess</td>
<td></td>
</tr>
<tr>
<td>4:00</td>
<td>Endovascular Treatment of Aneurysms: Flow Diverters and Parent Artery Sacrifice</td>
<td>Daniel L. Cooke, MD</td>
</tr>
<tr>
<td>4:30</td>
<td>Angioplasty and Stenting for Cervicocerebral Atherosclerosis</td>
<td>Randall T. Higashida, MD</td>
</tr>
<tr>
<td>5:15</td>
<td>Questions &amp; Discussion</td>
<td>Course Faculty</td>
</tr>
<tr>
<td>5:30</td>
<td>Adjourn</td>
<td></td>
</tr>
</tbody>
</table>

## Accreditation

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

UCSF designates this live activity for a maximum of 8.25 *AMA PRA Category 1 Credits.* Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This educational activity meets the requirement under California State Assembly Bill 1195, continuing education and cultural and linguistic competency.
SATURDAY, SEPTEMBER 12, 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:45 am</td>
<td>Registration and continental breakfast</td>
<td></td>
</tr>
<tr>
<td>8:10</td>
<td>Opening Remarks and Introductions</td>
<td>Anthony S. Kim, MD. MAS</td>
</tr>
<tr>
<td>8:15</td>
<td>Course Pre-Test</td>
<td>Anthony S. Kim, MD, MAS</td>
</tr>
<tr>
<td>8:25</td>
<td>Intracerebral Hemorrhage</td>
<td>J. Claude Hemphill, MD, MAS</td>
</tr>
<tr>
<td>8:50</td>
<td>Endovascular Stroke Therapy for Large Vessel Stroke</td>
<td>Wade S. Smith, MD, PhD</td>
</tr>
<tr>
<td>9:15</td>
<td>Endovascular Treatment of Aneurysms and Vascular Malformations</td>
<td>Steven W. Hetts, MD</td>
</tr>
<tr>
<td>9:40</td>
<td>Questions and Discussion</td>
<td>Course Faculty</td>
</tr>
<tr>
<td>10:00</td>
<td>Recess</td>
<td></td>
</tr>
<tr>
<td>10:20</td>
<td>New Developments in Hi-Res Imaging of the Arterial Wall</td>
<td>David Saloner, PhD</td>
</tr>
<tr>
<td>10:45</td>
<td>Imaging of Stroke</td>
<td>Bhavya Rehani, MD</td>
</tr>
<tr>
<td>11:10</td>
<td>Current State of AVM Surgery</td>
<td>Michael T. Lawton, MD</td>
</tr>
<tr>
<td>11:35</td>
<td>Updates on AVM Pathology and Therapy</td>
<td>Hua Su, MD</td>
</tr>
<tr>
<td>12:00 pm</td>
<td>Questions and Discussion</td>
<td>Course Faculty</td>
</tr>
<tr>
<td>12:20</td>
<td>Lunch (provided)</td>
<td></td>
</tr>
<tr>
<td>1:35</td>
<td>Stroke Rehabilitation</td>
<td>Gary M. Abrams, MD</td>
</tr>
<tr>
<td>2:00</td>
<td>New Directions for Stroke Rehabilitation</td>
<td>Karunesh Ganguly, MD, PhD</td>
</tr>
<tr>
<td>2:25</td>
<td>Aneurysm and Subarachnoid Hemorrhage</td>
<td>Nerissa U. Ko, MD, MAS</td>
</tr>
<tr>
<td>2:50</td>
<td>Questions and Answers</td>
<td></td>
</tr>
<tr>
<td>3:10</td>
<td>Recess</td>
<td></td>
</tr>
<tr>
<td>3:30</td>
<td>Recent Advances in Pediatric Stroke</td>
<td>Anthony S. Kim, MD, MAS</td>
</tr>
<tr>
<td>3:55</td>
<td>TIA Management and Secondary Stroke Prevention</td>
<td>Anthony S. Kim, MD, MAS</td>
</tr>
<tr>
<td>4:20</td>
<td>Questions and Discussion</td>
<td>Course Faculty</td>
</tr>
<tr>
<td>4:35</td>
<td>Course Post-Test</td>
<td>Anthony S. Kim, MD, MAS</td>
</tr>
<tr>
<td>5:00 pm</td>
<td>Adjourn</td>
<td></td>
</tr>
</tbody>
</table>

Accreditation

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

UCSF designates this live activity for a maximum of 7.0 AMA PRA Category 1 Credits. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This educational activity meets the requirement under California State Assembly Bill 1195, continuing education and cultural and linguistic competency.
Getting to the Neuro IR Course

The workshop is held at the UCSF China Basin Research Center at 185 Berry Street (at Fourth Street), Lobby 6, Third Floor. The Center is located on the southeast side of the city, next to the baseball stadium, and one block from the CalTrain station.

For China Basin maps/directions: www.radiology.ucsf.edu/china-basin-imaging/location

Note that the CB free parking listed is for patients only (not course attendees).

For details on SF city transportation routes and fares, visit: www.sfmta.com

Attendees staying at one of the downtown hotels should note that the China Basin Center is approximately a 20 minute walk from Market Street, and is on the N-Judah streetcar line, which is accessible from any of the four underground Market Street Muni stations. The N-Judah stops one short block from the China Basin Center.

For those local to the bay area who will be taking BART, the Montgomery and Powell stations are closest. For those who will be driving, the entrance to Lobby 6 of China Basin Center is at the corner of Fourth and Berry Streets. Stockton Street (downtown SF) travels one-way south, and becomes Fourth Street after crossing Market.

24 Hour Parking:

**Beacon** 415–546–7755
Safeway parking lot, 4th & Townsend Streets

**IMpark** 415–227–0114
Giants Stadium parking, 3rd & Channel Streets

Getting to the Stroke & Aneurysm Course

Hotel Nikko Union Square, 222 Mason Street

The workshop is held at the Hotel Nikko, which is two blocks from Union Square plaza, and two blocks from the Powell underground transit station on Market Street. The Powell transit station connects to BART to both SFO and OAK airports, as well as the city MUNI transit system.

Further information on airport connections and hotel options can be found on the next page.
Air Travel  [www.radiology.ucsf.edu/postgrad/sf_travel](http://www.radiology.ucsf.edu/postgrad/sf_travel)

UCSF Radiology has negotiated discounted fares with Delta and United Airlines for radiology course attendees. You may use the following tour codes to book online or by phone:

**Delta**  [www.delta.com](http://www.delta.com)  code: NMJNW  800−328−1111  
**United**  [www.ual.com](http://www.ual.com)  code: ZSN9112526  800−426−1122  ($25 fee via phone)

Flights can be arranged to either San Francisco (SFO) or Oakland (OAK) airports.

BART subway service (the least expensive transit option), shuttle vans and taxis are available from both airports to downtown San Francisco.

**For more information on transit options to/from both SFO and OAK airports,** visit:

- SFO:  [www.flysfo.com](http://www.flysfo.com)  
- OAK:  [www.oaklandairport.com](http://www.oaklandairport.com)

**Bay Area Rapid Transit (BART)**  [www.bart.gov](http://www.bart.gov)

BART trains connect the cities surrounding San Francisco within the Bay Area, including SFO and OAK airports. BART travels to/from both SFO and OAK to the downtown SF underground transit stations along Market Street, the Nikko is three short blocks from the Powell Station.

For schedules, travel times and costs from both airports, visit the website listed above.

**Plan your airport transfers using the Bay Area Trip Planner**  [http://transit.511.org](http://transit.511.org)

Enter your origin and destination points to get public transit options (BART/MUNI), travel times and fare costs to/from both SFO and OAK.

---

The SF Giants have baseball home-games this weekend, and the SF Giants Stadium is next to the UCSF China Basin Research Center.

For schedule and ticket information, go to:  [sanfrancisco.giants.mlb.com](http://sanfrancisco.giants.mlb.com)

**Photo:** AT&T Park, Giants Stadium at China Basin

---

**Hotel Options**

*Online listing:*  [www2.radiology.ucsf.edu/postgrad/calendar](http://www2.radiology.ucsf.edu/postgrad/calendar)

The hotels listed are located near or around the Union Square and/or downtown Market Street area; all near one of three main underground transit stations along Market Street (Powell, Montgomery and Embarcadero) with entrances to the BART subway that connects to SFO and OAK airports, as well as SF Muni city transit lines.

The UCSF China Basin Research Center is approximately a 20-minute walk from Union Square (heading south, next to AT&T Park / Giants Stadium). The Hotel Nikko is two blocks from the Powell Street underground transit station.
REGISTRANT INFORMATION (PLEASE PRINT)

Name ____________________________________________________________
First ____________________________ Last ____________________________ Degree ____________________________
Address ___________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
Tel ____________________________ Fax ____________________________
Area code ____________________________ Area code ____________________________
E-mail ____________________________________________________________

You must provide an email address with your registration to receive advance syllabus information. Paper copies will not be provided on site.

Would you like to receive general UCSF Radiology CME email notices?  ☐ Yes  ☐ No
Month/Day of Birth for record verification: _______ / _______ / X X

METHOD OF PAYMENT
☐ Check, payable to UC Regents.
☐ Visa  ☐ Mastercard  ☐ American Express

Card No. ____________________________________________________________________________
Exp. Date ___________  Signature __________________________________________________________

Payment may be made by check or money order drawn on a U.S. bank in U.S. currency. We regret that we cannot accept checks drawn on foreign banks. Enrollment confirmation will be mailed to you within two weeks of receipt of the application. In the unlikely event that the program is cancelled, UCSF Radiology will refund the registration fee in full, but cannot be responsible for any hotel or travel costs.

Four easy ways to register:
1. Online at www.cme.ucsf.edu
2. Fax this form to 415−502−1795
3. Mail this form to: UCSF Office of CME, PO Box 45368, SF, CA 94145−0368
4. Phone using Visa, Amex or MC, 415−476−5808, 8:30 am−4:00 pm (Pacific time)

You must register for BOTH courses SEPARATELY:

NEUROINTERVENTIONAL TUTORIAL
September 11, 2015 / Friday (RAD16 A08)
Attendance is limited to 24 persons.
By 7/17/15 ☐ After 7/17/15 ☐
$ 700 ☐ $ 750 ☐ Physician MD / DO / PhD

Cancellation A refund of the enrollment fee, less $75, will be made upon receipt of a written request only (fax or email) by Friday, August 28, 2015. No refunds will be made after this date.

STROKE & ANEURYSM UPDATE
September 12, 2015 / Saturday (RAD16 B08)
$ 250 ☐ $ 175 ☐ Physician MD / DO / PhD

Cancellation A refund of the enrollment fee, less $50, will be made upon receipt of a written request only (fax or email) by Friday, August 28, 2015. No refunds will be made after this date.
UPCOMING CME CONFERENCES

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 17-22 2015</td>
<td>Imaging on the California Coast</td>
<td>Santa Barbara, CA</td>
</tr>
<tr>
<td>May 28–30</td>
<td>Virtual Colonoscopy Workshop</td>
<td>San Francisco, CA</td>
</tr>
<tr>
<td>Jun 15–19</td>
<td>Imaging Review &amp; Optional Workshops</td>
<td>Sydney, Australia</td>
</tr>
<tr>
<td>Aug 5–9</td>
<td>Musculoskeletal MRI &amp; Workshop</td>
<td>San Diego, CA</td>
</tr>
<tr>
<td>Aug 24–28</td>
<td>Advanced Review: Matching Practice</td>
<td>San Francisco, CA</td>
</tr>
<tr>
<td>Sep 14–18</td>
<td>Interventional Radiology Review</td>
<td>San Francisco, CA</td>
</tr>
<tr>
<td>Sep 17–19</td>
<td>Virtual Colonoscopy Workshop</td>
<td>San Francisco, CA</td>
</tr>
<tr>
<td>Nov 1–6</td>
<td>Diagnostic Imaging Update on Maui</td>
<td>Maui, HI</td>
</tr>
<tr>
<td>Nov 8–10</td>
<td>Breast Imaging Update</td>
<td>Palm Springs, CA</td>
</tr>
<tr>
<td>Nov 11–13</td>
<td>Women’s Imaging Update</td>
<td>Palm Springs, CA</td>
</tr>
<tr>
<td>Dec 6–11</td>
<td>Imaging Warm-up in Costa Rica</td>
<td>Puntarenas, CR</td>
</tr>
<tr>
<td>Jan 10–15 2016</td>
<td>Breast Imaging &amp; Emerging Technologies</td>
<td>Kona, HI</td>
</tr>
<tr>
<td>Jan 17–22</td>
<td>Body Imaging in Paradise</td>
<td>Kona, HI</td>
</tr>
<tr>
<td>Jan 31–Feb 2</td>
<td>Musculoskeletal MR Imaging</td>
<td>Palm Springs, CA</td>
</tr>
<tr>
<td>Feb 3–5</td>
<td>Abdominal &amp; Pelvic Imaging</td>
<td>Palm Springs, CA</td>
</tr>
<tr>
<td>Feb 7–12</td>
<td>Neuro &amp; Musculoskeletal Imaging</td>
<td>Kona, Hawaii</td>
</tr>
<tr>
<td>Feb 28–Mar 4</td>
<td>Spring Review: Comprehensive</td>
<td>San Francisco, CA</td>
</tr>
<tr>
<td>Mar 3–5</td>
<td>Breast Imaging Update</td>
<td>San Francisco, CA</td>
</tr>
</tbody>
</table>

Cover Photo: Lombard (the crookedest) Street at nightfall.

ADDRESS CHANGES: To facilitate change-of-address, please return the full mailing panel and do not cross out the original address. Thank you.