

APPLICATION PROCEDURES

Radiology Clinical Fellowships/Practicum Programs: July 1, 2010- June 30, 2011

You will find attached a description of each of the fellowship/practicum positions available in the Department of Radiology at UCSF. The application form is also on our website at <http://www.radiology.ucsf.edu/fellows/index.shtml>

If applying for one of our ACGME accredited programs (Interventional, or Neuroradiology), contact the National Resident Match Program (NRMP) at (202) 862-6077 for application materials for Interventional or Neuroradiology. Also, review their website at <http://www.nrmp.org>. For Pediatrics, follow the below application procedures.

Regardless of applying to the match or not, please follow the application process below for UCSF Radiology.

The application process consists of:

1. Completion of the universal application (xls or pdf)
2. Current C.V.
3. A personal statement
4. Submission of three letters of recommendation requested by you from current and former professors (one should be from your program director)
5. Copies of USMLE scores (they do not have to be certified)

Your completed application and the three letters of recommendation, which you have requested should be sent to:

Ronald L. Arenson, M.D., Professor & Chairman
c/o Sandria Wong
Department of Radiology
University of California, San Francisco
School of Medicine
513 Parnassus Avenue, Rm. S-358, Box 0628
San Francisco, CA 94143-0628

Or faxed to: Sandria Wong,
Fellowship Program Coordinator, at (415) 476-0616

Or emailed to: sandria.wong@radiology.ucsf.edu

Applications should be completed before December 15, 2008 for Abdominal Imaging, Breast Imaging, Breast Imaging/Ultrasound (MZ-ML, SFGH-ML), Cross Sectional Imaging at the VAMC, Cross Sectional Imaging at SFGH, Musculoskeletal, Pediatric Radiology, Cardiac and Pulmonary Imaging, Ultrasound, and Interventional Neuroradiology.

Applications should be completed before **May 18, 2009 for Vascular Interventional and Neuroradiology**. You must also contact the NRMP office at (202) 862-6077 to request application materials to the match. We will not accept any external candidates outside the match, unless they are from our program (excluded from match).

Personal interviews will be requested based on the strength of the candidate's completed application. We will not grant interviews to candidates until all their materials have been received.

UCSF Radiology Fellowships/Practicums, with the exception of our ACGME programs (Vascular Interventional and Neuroradiology), will not be participating in the fellows match.

Interviews for non-ACGME fellowship programs will begin October 20, 2008 and end on January 9, 2009.

Interviews for our ACGME programs will begin February 23, 2009 and end on May 23, 2009. Rank order list closes May 13, 2009. Match day will be June 24, 2009.

Foreign Medical Graduates

Thank you for your interest in training programs at the University of California, San Francisco (UCSF). The following provides information on what you must accomplish prior to applying to our clinical training programs:

Step One

You must hold a current, valid certificate from the Education Commission for Foreign Medical Graduates (ECFMG). This is mandatory for appointment at this Institution as well as for medical licensure in the State of California. You will need to contact the ECFMG directly and arrange to take the United States Medical Licensing Examination (USMLE). After you pass the examination, including the English test, you will be granted an ECFMG certificate. If you are not a citizen of the United States, and you do not hold Permanent Resident status, you will be required to secure the ECFMG-J1 visa to enter this institution for medical training. The following is the address of the ECFMG:

Educational Commission for Foreign Medical Graduates
3624 Market Street
Philadelphia, PA 19104-2685 U.S.A.
Telephone: 215-386-5900
Website: <http://www.ecfm.org>

Step Two

After you have received your ECFMG certificate, and prior to applying for training at UCSF, you must contact the California Medical Board (CMB). The address is on the reverse of this letter. The CMB will require that you complete their application form and submit various documents and records along with a processing fee. Upon a successful review of your application credentials, your education, and your USMLE scores, the CMB will issue an "Applicant Evaluation Status Letter." This letter enables you to make

application for ACGME accredited training at UCSF. A copy of this letter should be submitted with your UCSF application.

The following is the address of the CMB:

Medical Board of California
1426 Howe Avenue, Suite 54
Sacramento, CA 95825-3236 U.S.A.
Telephone: 916-263-2344
Website: <http://www.medbd.ca.gov>

Step Three

If you are applying for a first year training position filled through the National Resident Matching Program (NRMP), it will be necessary for you to register with that organization. The following is the address of the NRMP:

National Resident Matching Program
2450 "N" Street, NW Suite 201
Washington, D.C. 20037-1141 U.S.A.
Telephone: 202-828-0676
Website: <http://www.aamc.org/nrmp/>

AFFIRMATIVE ACTION

The University of California, San Francisco is an affirmative action, equal opportunity employer, and complies with all applicable laws and regulations.

**UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
DEPARTMENT OF RADIOLOGY**

CLINICAL FELLOWSHIPS

The Department of Radiology offers fellowship opportunities to those physicians who wish to expand their expertise in several of the radiology subspecialties: abdominal imaging, breast imaging, breast imaging and ultrasound, cross sectional imaging (CT, Ultrasound and MRI), diagnostic neuroradiology, musculoskeletal, pediatric imaging, cardiac and pulmonary imaging, ultrasound, vascular interventional, ultrasound, and practicums in cross sectional radiology and breast and cross sectional radiology. The following fellowships are not participating in a national match program.

Abdominal Imaging, Fergus V. Coakley, M.D., Section Chief

The Abdominal Imaging Section of the Department of Radiology at the University of California, San Francisco offers six one-year fellowships in Abdominal Imaging. The fellowship provides structured training in the performance and interpretations of all forms of Abdominal Imaging and exposes fellows to a large and diverse Abdominal Imaging workload. Fellows receive comprehensive and supervised training in CT of the abdomen and pelvis (including advanced applications such as three-dimensional imaging, virtual colonoscopy, and CT cholangiography), MRI of the abdomen and pelvis (including liver, prostate, gynecologic, and genitourinary applications), image-guided needle biopsies, and GI and GU fluoroscopic examinations (including barium studies, defecography, and hysterosalpingography). In addition, fellows rotate through the Ultrasound Section (Ruth Goldstein, Chief, Ultrasound) for a total of four months. The ultrasound workload includes general abdominal, genitourinary, and obstetric imaging. The department employs state of the art high-resolution ultrasound scanners with color and power Doppler, high field strength MRI scanners with spectroscopic capability, and a recently installed interventional MRI scanner. Successful applicants will be involved in all aspects of Abdominal Imaging, and will fully participate in the clinical, teaching, and research activities of the department. Dedicated research time and mentoring is provided. Section faculty provides a didactic lecture series specifically for Abdominal Imaging fellows. Teaching duties include interdisciplinary tumor boards, clinicoradiological meetings, and resident and medical student conferences. Previous fellows have pursued successful careers in both academic radiology and private practice.

Breast Imaging, Bonnie N. Joe, M.D., Ph.D., Section Chief

The Breast Imaging Section is responsible for all breast-related imaging examinations, including mammography, ultrasonography, MRI, and interventional procedures (including lesion localizations, stereotactic- and ultrasound-guided core biopsy and fine-needle aspiration biopsy, cyst aspiration, ductography, etc.). We now do approximately 15,000 examinations per year, with a steadily increasing caseload. Fellow appointees will

share in performing all our clinical activities, under the supervision of three full-time breast imaging faculty. There is one weekly radiology-pathology correlation conference and one weekly multidisciplinary breast tumor board conference, both of which are attended by fellows and full-time faculty. For those fellows interested in an academic radiology career, research time will be allotted for giving teaching conferences and participating in a variety of ongoing (or self-developed) clinical research projects.

Breast Imaging and Ultrasound (Mt. Zion-UCSF M-L)

Bonnie N. Joe, M.D., Ph.D. and Ruth B. Goldstein, M.D., Section Chiefs

The Department of Radiology is offering a one-year fellowship in Women's Imaging under the direction of Professors R. James Brenner and Ruth Goldstein. Fellows accepted into the program will spend six months rotating through two sections at the UCSF campus. These are the breast imaging section (Professor Brenner) and the section of diagnostic sonography (Professor Goldstein).

The breast imaging section is responsible for all breast-related imaging examinations, including sonography, MRI and interventional procedures (including lesion localizations, stereotactic- and ultrasound-guided core biopsy and fine-needle aspiration biopsy, cyst aspiration, ductography, etc.). The section does approximately 15,000 examinations per year, with a steadily increasing caseload. Fellow appointees will share in all clinical activities, under the supervision of three full-time breast imaging faculty. There is one weekly radiology-pathology correlation conference and one weekly multidisciplinary breast tumor board conference, both of which are attended by fellows and full-time faculty.

The section of diagnostic sonography has 7 faculty members and 21 ARDMS registered sonographers. We perform approximately 110 cases per day among 3 sites at UCSF including Moffitt/Long Hospital, the Ambulatory Care Center, and the Women's Health Center on the Mt Zion campus. The 3 sites are fully staffed each day (one faculty/resident/fellow) and imaging at all sites is linked by PACS.

The department employs state-of-the-art high-resolution ultrasound scanners with color and power Doppler to perform a wide variety of sonograms including pediatric, abdominal, thyroid, testicular, liver, kidney, and pancreas transplants, genitourinary as well as obstetric and gynecologic imaging. Fellows will get experience performing a number of procedures including saline infusion sonograms, US-guided needle biopsies, needle aspirations, highly specialized ultrasound-guided fetal interventions in the Delivery or Operating suites.

The Ultrasound section has a large commitment to the prenatal diagnosis of fetal anomalies and participates fully in the UCSF Fetal Treatment center, a major referral center for in utero therapy.

Fellows' education is augmented by formal lectures, viewbox teaching, hands-on scanning, and conference teaching. Ultrasound fellows, supervised by faculty, participate

in numerous interdisciplinary and radiology conferences. Fellow teaching responsibilities include resident, fellow and medical student conferences.

Breast Imaging and Ultrasound (SFGH-UCSF M-L)

Lori M. Strachowski, M.D., Co-Director, Women's Imaging

Ruth B. Goldstein, M.D., Co-Director, Ultrasound Fellowship

Women's Imaging at UCSF and The Avon Comprehensive Breast Care Center

Two fellowship positions are currently being offered in Women's Imaging to include a total of six month's each in ultrasound and breast imaging, divided in three month intervals, as follows:

Ultrasound at University of California, San Francisco

The section of diagnostic sonography has 7 faculty members and 21 ARDMS registered sonographers. We perform approximately 110 cases per day among 3 sites at UCSF including Moffitt/Long Hospital, the Ambulatory Care Center, and the Women's Health Center on the Mt Zion campus. The 3 sites are fully staffed each day (one faculty/resident/fellow) and imaging at all sites is linked by PACS.

The department employs state-of-the-art high-resolution ultrasound scanners with color and power Doppler to perform a wide variety of sonograms including pediatric, abdominal, thyroid, testicular, liver, kidney, and pancreas transplants, genitourinary as well as obstetric and gynecologic imaging. Fellows will get experience performing a number of procedures including saline infusion sonograms, US-guided needle biopsies, needle aspirations, highly specialized ultrasound-guided fetal interventions in the Delivery or Operating suites.

The Ultrasound section has a large commitment to the prenatal diagnosis of fetal anomalies and participates fully in the UCSF Fetal Treatment center, a major referral center for in utero therapy.

Breast Imaging at the Avon Comprehensive Breast Care Center

The breast imaging program at the Avon Comprehensive Breast Care Center is located on the San Francisco General Hospital campus. This beautiful 4500 square foot, state-of-the-art, breast imaging facility opened in July 2004 and is fully digital with 3 FFDM units in house and one FFDM unit on a mobile van which serves the community. In addition, there are 2 dedicated breast ultrasound units, a breast interventional suite for vacuum-assisted stereotactic core biopsies on a prone table and an outpatient surgical suite for minor breast surgical procedures. Additional breast procedures performed at the center include ultrasound guided fine needle aspiration and core biopsies, ductography, and wire localization. Breast MRI is performed on the main SFGH campus and interpreted in the center via a multi-modality, vendor-neutral workstation enabling the integrated interpretation of mammography, ultrasound and MRI equipped with an MRI computer

aided detection program. High volume, coupled with a wide breadth of pathology and abundant procedures highlight the educational experience.

Fellows' education at all sites is augmented by formal lectures, view-box teaching, hands-on scanning, and conference teaching. Ultrasound and breast imaging fellows, supervised by faculty, participate in numerous interdisciplinary and radiology conferences. Fellow teaching responsibilities include resident, fellow and medical student conferences. Research opportunities are abundant.

Cross Sectional Imaging (CT/MR/US) Program, SFGH
Pierre-Alain Cohen, M.D., Program Director

UCSF has a unique one-year cross sectional imaging program, centered at our San Francisco General Hospital campus, designed to provide excellent clinical exposure as well as offer flexibility to tailor the experience towards each trainees' future career goals and interests. The appointees are afforded the opportunity to act with relative independence and develop the skills that bridge the gap between the sheltered didactic experiences of residency and the complex realities of clinical practice in Radiology.

Cross Sectional Imaging Program

The program accommodates 4 board certified/eligible radiologists and includes a 2 week orientation period followed by a total of 8-10 weeks of in-depth clinical rotations covering each of the major modalities: MRI, CT, US, and radiography, with focused attention in body and musculoskeletal MRI, neuroradiology, obstetrical US, and Cardiac and Pulmonary imaging. Experience with biopsy techniques, using a variety of modalities, is available. Furthermore, should the participant desire, more specialized interventional experience may be obtained, although participants at San Francisco General Hospital do not rotate through the interventional radiology service, and are not responsible for the performance of interventional procedures. Vacation is earned at the rate of 2 days per month (24 days) and 10 days of meeting leave are available. As Clinical Instructors at San Francisco General Hospital and the University of California, San Francisco, trainees are appointed as junior faculty, which provides an annual salary that is considerably higher than most other postgraduate radiology fellowship programs.

Benefits and Unique Features of the Cross Sectional Imaging Program at San Francisco General Hospital

Participants in the program learn to deal with the problems of managing a radiology department by providing primary oversight over day-to-day clinical operations. Senior faculty staff every subspecialty at San Francisco General Hospital and are present to ensure a satisfying training experience. Program participants at San Francisco General Hospital work under the direct supervision of the senior faculty on a daily basis. The senior faculty also provide after-hours back up coverage on call and daily didactic conferences for the UCSF radiology residents rotating at San Francisco General Hospital,

which the program participants may attend as their schedule permits. In addition, there are weekly conferences designed especially for this program that include subjects of the participants' particular interest, whether case based conferences or didactic lectures in areas of faculty expertise: musculoskeletal MRI, trauma/ED radiology, pelvic, body, and cardiovascular MRI and MRA, high-resolution CT of the lung, and ultrasound.

The Cross Sectional Imaging Program at San Francisco General Hospital offers in-depth training in cross-sectional modalities with subspecialty expertise, yet with the flexibility required to tailor the training to the individual's needs. One recent addition is a rotation at the San Francisco Magnetic Resonance Center, an affiliated facility, which allows increased exposure to musculoskeletal imaging. Independent study time can be used at other UCSF facilities in order to gain access to virtual colonoscopy, PET, PET/CT, and cardiac MRI.

San Francisco General Hospital

San Francisco General Hospital (SFGH) is an urban Level I trauma center that serves the City and County of San Francisco. The Radiology Department at SFGH is quite active and the case material is widely diverse. SFGH Radiology enjoys an excellent working relationship with the Emergency Department, the Departments of Medicine and Surgery, and the various subspecialty services, many of which are under the direction of world-renowned leaders and researchers. SFGH Radiology currently employs two GE/CT/i helical CT scanners, (with planned upgrades to multislice CT scanners), a recently updated 1.5T GE magnet, and six Acuson ultrasound imagers (including Sequoia machines). An additional 1.5T magnet sited at the main hospital is planned. San Francisco Magnetic Resonance Center also houses several magnets and a PET scanner. An SFGH / UCSF outpatient imaging facility houses three magnets (including a 3T magnet), two multislice CT scanners, and will also house a dedicated PET/CT scanner (currently under installation).

For further information, please contact Dr. Cohen's office at (415) 206-8026.

Cross Sectional Imaging (CT, Ultrasound, and MRI), Judy Yee, M.D., Chief of Radiology, Veterans Affairs Medical Center

Radiology at the VAMC-SF offers two fellow positions in a combined fellowship including CT, ultrasound, and MRI. At the entry to San Francisco Bay, abutting the Golden Gate National Seashore, this is a 350-bed, acute care medical center, one of four hospitals of the University of California San Francisco, Department of Radiology's Resident Training Program. All faculty are members of the University of California San Francisco, committed to patient care, teaching, and research. An internationally recognized magnetic resonance spectroscopy program is also on station.

Ultrasound training is comprehensive, excluding obstetrics, and has a strong vascular component, including carotid and graft surveillance, abdominal vascular, and venous

studies, as well as intraoperative, thyroid, parathyroid, male pelvis, renal, bladder, scrotum, and biopsy localization cases. The Ultrasound program has two Registered Vascular Technologists.

CT training encompasses body as well as neuroradiologic cases, including access to a 3D Imaging Laboratory, with frequent CT angiography, CT virtual endoscopy and bronchoscopy, and CT-guided biopsy/aspiration procedures. Extensive use of dynamic scanning of the abdomen and chest occurs along with frequent evaluation of the lung with thin section imaging.

MRI training includes a balance of neuroradiology, musculoskeletal, and body cases, as well as an advanced program of MR angiography.

Involvement in interventional procedures includes percutaneous biopsy, abscess drainage, and other procedures localized by CT, Ultrasound, or MRI.

This fellowship is primarily body cross sectional imaging, but CT and MRI rotations also include all neuroradiological and musculoskeletal (including 3D and CT bone densitometry) studies. While based at the VA, this fellowship is a UCSF appointment, well supervised by VA and UCSF faculty who provide care. Fellows are encouraged to become involved in a research project and publish and present their work.

Musculoskeletal Radiology, Lynne S. Steinbach, M.D., Program Director

This fellowship is directed toward clinical activities with the opportunity to participate in additional investigative studies. The fellow's duties include attending, teaching, and working conferences in the disciplines of rheumatology, orthopedics, metabolic bone disease, tumor imaging, and sports medicine; preparing weekly and monthly conferences covering conventional radiography, CT scanning and MRI as related to the musculoskeletal system; directly supervising radiology residents; performing and supervising arthrography and biopsies; and active participation in clinical projects. This fellowship includes spine and pediatric musculoskeletal imaging. The fellowship is comprised of two fellows per year and two attendings. Both attendings are members of the International Skeletal Society.

Interventional Neuroradiology, Van V. Halbach, M.D., Director, Fellowship Training (Prerequisite of 1 year diagnostic neuroradiology training)

This fellowship is designed for individuals wishing to devote full-time to interventional neuroradiologic procedures. The fellowship involves extensive training, under the supervision of three full-time faculty, in diagnostic (1,000 cases per year) and interventional (600 cases per year) neuroradiology as well as intensive care unit medicine. Applicants from radiology are required to have completed a residency in diagnostic radiology and twelve months of diagnostic neuroradiology training. Applicants from neurological surgery must have completed their residency and be board eligible.

Our program currently accepts one or two trainees per year and the minimum fellowship duration is twenty-four months.

Cardiac and Pulmonary Imaging, Brett Elicker, M.D., Program Director

The fellowship in thoracic imaging is designed for radiologists interested in furthering their knowledge in pulmonary and cardiac radiology. The fellow, under the supervision of faculty, will be guided in obtaining expertise in all aspects of clinical Cardiac and Pulmonary imaging including CT, high-resolution CT, MRI (including cardiovascular MRI and MRA), and biopsy techniques. The fellow will spend the majority of his/her time on pulmonary imaging. He/she will be responsible for teaching residents and conducting conferences, in association with the clinical responsibilities and will be encouraged to participate in clinical and basic research projects. The time and requirements are available to develop the skills and understanding of the problems in Cardiac and Pulmonary Imaging and how to solve them.

Pediatric Radiology, Heike Daldrup-Link, M.D., Ph.D., Section Chief

The fellow shares responsibility with three full-time faculty for performing daily routine and special radiographic procedures on children, for teaching pediatric radiology residents and for conducting conferences. The opportunity to participate in any of several ongoing clinical and laboratory investigations and/or initiate one's own investigation is available. A close working relationship exists between the Pediatric Radiology Section, Pediatric Surgery, and Pediatric Medicine Services based on cooperation and frequent interaction. Participants are encouraged to investigate pediatric disease with CT body scanning, ultrasound, magnetic resonance imaging, and to participate in other section's activities as they relate to pediatric radiology. This fellowship is ACGME accredited.

Ultrasound, Ruth B. Goldstein, M.D., Section Chief

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RESEARCH FELLOWSHIP

Center for Pharmaceutical and Molecular Imaging (CPMI), Robert C. Brasch, M.D., Director

A one-year fellowship in the Center for Pharmaceutical and Molecular Imaging is offered to radiologists and radiology trainees to study the applications of contrast media in magnetic resonance imaging and optical imaging. The experience includes work in the laboratory with animal imaging as well as participation in clinical studies. The fellow is a member of a multi-disciplinary group including radiologists, chemists, pharmacologists, and MRI specialists. The position is designed to provide a thorough grounding in the conduct of scientific investigations and a broad exposure to MR imaging and molecular imaging for candidates interested in an academic career. The fellow will be encouraged to develop new projects and to actively participate in ongoing protocols.

THE FOLLOWING TWO CLINICAL FELLOWSHIPS ARE PARTICIPATING IN THE NATIONAL MATCH PROGRAM.

Contact the National Resident Match Program (NRMP) at (202) 862-6077 in October 2007 for match application materials.

Vascular and Interventional Radiology, Jeanne M. LaBerge, M.D., Director, Fellowship Training

The fellowship in interventional radiology is ACGME accredited and is tailored for radiologists who plan a full-time career in interventional radiology. The fellow performs the full range of abdominal and peripheral vascular and nonvascular interventions under the direct supervision of five full-time faculty. The VA and County Hospitals have three additional faculty. The fellowship includes trauma experience at the County Hospital. Non-catheter angiography (CTA & MRA) is a part of the fellowship. Combined MR/angio and angio/ultrasound and fluoro/CT rooms are included in the well equipped Division. The divisions of Vascular Surgery and Interventional Radiology are in the

process of integration. Each year, the program has three fellows from radiology and one fellow from vascular surgery. All four fellows rotate through vascular surgery gaining valuable clinical experience on ward rounds and in the outpatient clinic and experience with stent grafts and modern endovascular techniques in the operating room. Exposure to the non-invasive lab is included in the fellowship. The fellow is involved in clinical research and wide variety and number of procedures performed, the varied hospital base including tertiary University; VA; County; Outpatient and Cancer Centers, the close partnership with vascular surgery, the emphasis on clinical aspects of care and the experienced, stable and harmonious faculty.

Diagnostic Neuroradiology, William P. Dillon, M.D., Section Chief

The fellowship in Neuroradiology is an ACGME accredited one-year fellowship designed for radiologists wishing to develop academic careers. Twelve full-time faculty share in the training. Training includes all aspects of diagnostic neuroradiology (including pediatrics, functional MRI, spectroscopy, PET, head/neck, angiography, and spine imaging) as well as exposure to interventional neuroangiography, neuropathology, and neurosurgery. An active program in laboratory research is ongoing. Weekly interdisciplinary conferences highlight the clinical interactions. The fellowship assists radiologists in becoming independent, competent contributors to the investigation of neurological disease.