

## CT Cardiac Angiography at Stony Brook Radiology

By Marlene L. Zawin, M.D.,  
Chief of CT, Co-director, Coronary CT Angiography Program

Coronary artery disease (CAD) is the leading cause of death in the United States. According to the American Heart Association, more than 12 million Americans had a history symptomatic disease, approximately 1 million experienced an acute coronary event, and approximately 500,000 died. The impact on the American economy is also significant. It is estimated that more than \$115 billion dollars are spent annually in the diagnosis and treatment of coronary artery disease.<sup>1</sup>

Catheter coronary angiography remains the gold standard for diagnosing coronary artery disease. More than 1.83 million studies were performed in the United States in 1999.<sup>2</sup> Luminal opacification of individual coronary arteries and their respective branches requires their direct injection of iodinated contrast through a femoral arterial catheter. Its advantages include excellent spatial and unsurpassed temporal resolution and the option to perform therapeutic interventions such as coronary stent placement and balloon dilatation. Procedural interventions are performed in roughly one third of the catheterizations performed in the United States. The remaining two thirds are performed for verification of the presence and degree of coronary artery disease. Given the risks and expense of conventional angiography, an accurate, noninvasive morphologic alternative has been sought.

The exam begins with a timing bolus in which a small amount of contrast is injected and followed by sequentially-timed images at a single location to determine the time of peak coronary arterial enhancement for image acquisition. While subsequent technical advances resulted in faster and more efficient scanning of non-cardiac structures, it took the development of multislice (multi-detector) helical technology for coronary CT angiography (coronary CTA) to become a clinical reality. We currently have two state-of-the-art General Electric (GE) 64-slice CT scanners (one located in the main hospital and the second in our new Outpatient Imaging Center.) We are anticipating a January installation of our third scanner in the totally renovated, comprehensive Emergency Department.

High-quality coronary CT angiography necessitates imaging of the entire coronary tree, consisting of a network of small arteries, highly susceptible to cardiac, respiratory and patient motion artifacts, within a single breath hold. The person is placed on a sliding table. A volume of data (the source of the computer-generated high-resolution images) is acquired helically as the individual slides through the rotating gantry, the latter housing the source of the pencil-thin x-ray beam and its opposing contiguous. The images with the least motion artifacts are those originating during the end-diastolic (resting phase) of the cardiac cycle. Their acquisition is achieved by coordination of the scanning with electrocardiographic monitoring of the heart cycle (ECG-gated). These images are transferred electronically to a sophisticated workstation where multiplanar, detailed images of the heart and coronary arteries are generated, and cardiac functional analysis is performed.

In order to maximize the quality of the acquired data, the patient's heartbeat must be slow and regular rhythm for successful gating and diagnostic image acquisition. A heart rate of 70 beats per minute or less is desired. To achieve this, patients are instructed to withhold intake of caffeine-containing beverages and to refrain from strenuous exercise the morning before the study. Beta-blocking agents are administered orally or intravenously in patients without contraindications prior to scanning.

The scanning protocol includes: initial localizing scout images, a noncontrast scan to evaluate and quantify the presence, distribution and amount of coronary arterial calcifications. This information, the coronary calcium score, provides clinically-proven, accurate information regarding the likelihood of future cardiac events based upon the individual's age and weight.

Following a timing bolus, a small amount of contrast is injected via a venous catheter that has been inserted, preferentially into an antecubital vein of the left arm and followed on sequentially-timed images at a single location to determine the time of peak coronary arterial enhancement for image acquisition. Once the location of the scans and the timing of the contrast have been determined and the patient receives final breathing instructions, the actual scan is performed (which generally lasts 6-8 seconds).

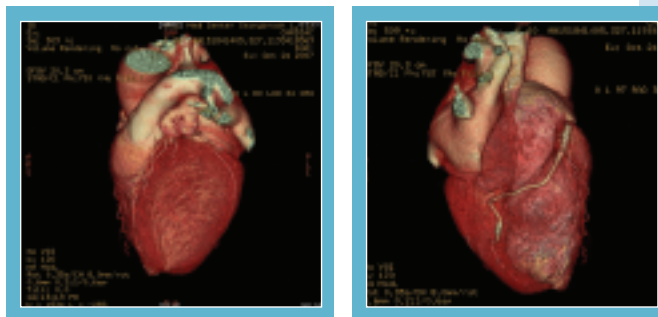


Figure 1 –  
Left coronary  
circulation (left),  
and right coronary  
circulation (right).

In addition to the “lumenogram” (the opacified lumen) of conventional angiography, CT images also depict the walls of the vessels and surrounding structures, providing a “lay of the land” perspective. This is particularly useful for diagnosing and characterizing anomalous coronary arteries, for visualizing vessels distal to non-negotiable (occluded) arterial segments and for depicting true and pseudoaneurysms.

Multidetector coronary CTA has the ability to help quantify and characterize coronary atherosclerotic plaque. Coronary artery disease involves both the vessel wall and the lumen, and includes both soft (noncalcified) and calcified plaque (the accumulated material that can result in local luminal narrowing and occlusion). Friable or hemorrhagic soft plaque is considered “vulnerable” to fragmentation and distal embolization. The majority of acute myocardial infarctions results from low-grade, rather than high-grade stenoses and is secondary to rupture of the thin fibrous cap covering vulnerable plaque.

Imaging techniques that identify luminal obstruction, including conventional angiography and indirectly, nuclear imaging will miss

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# Chairman's Corner

by Donald P. Harrington, M.D., M.A., F.A.C.R.



It is an exciting time as **Stony Brook Radiology** takes over the radiology services at **Peconic Bay Medical Center**. This undertaking will enhance the quality of service provided to the residents on the east end of Long Island. I am also pleased to announce that **Steven**

**Perlmutter, M.D.** has accepted the position of **Stony Brook Radiology's Medical Director at Peconic Bay**. I whole heartedly thank Steve for his dedication and outstanding years of service as **Director of Clinical Service and Director of the Residency Program** here at **Stony Brook**. Steve will still be at **Stony Brook** approximately one day per week. As you peruse the newsletter, you will note that **John Ferretti, M.D.** has accepted the position of **Director of Clinical Service and Director of the Residency Program**, and **William Moore, M.D.** has accepted the position of **Associate Director of the Residency Program**.

I would also like to thank **Paul Fisher, M.D.** for his many years of service as **Clerkship Director**. Paul is well known for his excellent teaching skills and has been awarded **Teacher of the Year** numerous times at **Stony Brook** including the most recent **Teacher of the Year Award for 2007**. **Robert Matthews, M.D.** has succeeded as the **Clerkship Director**.

Please join me in welcoming our new faculty members **Drs. Henry Woo, Matthew Barish, Christopher Saradoff and James Badia**. As you peruse the **Radiology Letter**, you will learn about their background and sub-specialties. The faculty and staff also join in welcoming our new residents and fellows. Congratulations and best wishes to our graduating residents and fellows as they leave for fellowship training and private practice.

The twenty-eighth **Annual Radiology Research Seminar** was a success. There were eight very well organized presentations given by researchers and clinicians from **Winthrop University Hospital and Stony Brook University Hospital**.

We look forward to a new year and the many challenges ahead.

## THE RADIOLOGY LETTER

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Donald P. Harrington, M.D., M.A., F.A.C.R. *Chairman*  
Michael J. Cortegiano *Administrator*  
Christine R. Hubbard *Editor and Staff Writer*

# Lectures

**Jane Cao, M.D.**, Clinical Director of Cardiac CT & MRI, St. Francis Hospital, Roslyn, New York presented a Grand Rounds on "*Minimally Invasive Cranial & Spinal Neurosurgery*" on Wednesday, May 2, 2007.

**Jeffrey C. Weinreb, M.D., F.A.C.R.**, Professor of Diagnostic Imaging, Director of Medical Imaging, Chief of Body Imaging and Chief of Magnetic Resonance Imaging at the Yale University School of Medicine, New Haven, Connecticut presented a Grand Rounds on "*MRI and CT of the Cirrhotic Liver*" on Monday, May 7, 2007.

**Steven Chan, M.D.** presented a Grand Rounds on "*Improved Timeliness of Final Interpretation of Neurological CT and MR Studies after a Multi-stage Quality Improvement Program*" on August 27, 2007.

**Mauricio Castillo, M.D., F.A.C.R.**, Professor of Radiology, Chief and Program Director, Neuroradiology, University of North Carolina School of Medicine, Chapel Hill, North Carolina presented a Grand Rounds on "*Diffusion Weighted Imaging & Tensor Imaging: Basics & Application*" on September 11, 2007.

**Jeffrey P. Goldman, M.D.**, Assistant Professor of Radiology, Mount Sinai Medical Center, New York, New York presented a Special Lecture on "*What is the Role of MR/CT in 21st Century Cardiac Imaging*" on October 19, 2007.

**Suresh Mukherji, M.D., F.A.C.S.**, Professor and Chief, Department of Neuroradiology, University of Michigan, Ann Arbor, Michigan presented a Grand Rounds on "*CT/MR Imaging for Head and Neck Cancer*" on October 24, 2007.

**Javier Beltran, M.D.**, Chairman of Radiology, St. Maimonides Medical Center, Brooklyn, New York presented a Grand Rounds on "*MRI of the Hip: Extracapsular Pathology*" on October 26, 2007.

**Mark Anderson, M.D.**, Associate Professor of Radiology and Orthopaedic Surgery, Division Head, Division of Musculoskeletal Radiology, University of Virginia Health Science Center, Charlottesville, Virginia presented a Grand Rounds on "*MR Imaging in a Patient with Hip Pain*" on Thursday, November 1, 2007.

# Dr. Meyers Explores "Happy Accidents"

What do penicillin, chemotherapy drugs, X-rays, antidepressants, the hepatitis B virus, the adult stem cell, visualization of the coronary arteries, oncogenes, the Pap smear, and Viagra have in common? They were each discovered accidentally, found in the search for something else.

In his book, *Happy Accidents: Serendipity in Modern Medical Breakthroughs*, published this year by Arcade Publishers, Morton A. Meyers, M.D., founding Chairman of the Department of Radiology and Emeritus Professor of Radiology and Medicine at Stony Brook's School of Medicine, uncovers the surprising role of chance in medical discovery. He exposes the factors that stifle innovation and proposes specific steps to foster a more creative, rather than purely linear, approach to science. Happy accidents take place every day, but it requires intelligence, insight, and creativity to recognize a "Eureka!" moment when it occurs, and to know what to do next.

Robert Furchgott, Nobel Laureate in Medicine affirms: "Meyers reveals science's deep social! The pivotal role of serendipity in medical advances". James E. Till, Albert Lasker Award winner for the co-discovery of the adult stem cell, notes that "Meyers' book ought to be

studied by anyone interested in learning about how a combination of good luck, astute observations, good judgement, and persistence have led to important medical discoveries". The book has also received stellar reviews. *JAMA* hails it as "a great book...with a detailed and nuanced description of the unexpected ways in which medical discoveries are actually made...If we want to take advantage of such unusual routes to discovery, we must educate physicians and scientists in new ways, Meyers argues". The *New England Journal of Medicine* concludes: "This very readable and well-researched book provides much food for thought". The *Library Journal* recommends that the introductory and concluding chapters "should appear in many syllabi for first-year medical students".



# New Faculty

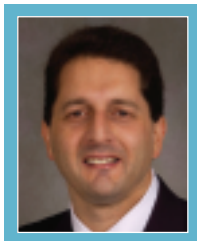
Photo © Jim Lennon



**James Badia, M.D.** joined the faculty staff as an Assistant Professor of Clinical Radiology. Dr. Badia received his residency in Diagnostic Radiology at Methodist Hospital in Brooklyn, where he served as Chief Resident. After years in private practice, he has returned to academic medicine and comes to us from Caritas Healthcare, formerly The St. Vincent's Catholic Medical Center of Brooklyn and Queens, where he served as Chairman of Radiology. His expertise is in new practice/program initiative.



**Henry H. Woo, M.D.** joined the faculty staff as the Director of the newly established Cerebrovascular Center. He is a cerebrovascular and endovascular neurosurgeon and has an appointment as Associate Professor of Clinical Radiology in the Division of Angiography and Interventional Radiology as well as the Department of Neurosurgery. Dr. Woo received his medical degree from the New York University School of Medicine, and practiced at the Cleveland Clinic Neurological Institute's Cerebrovascular Center in Ohio for five years. His professional memberships include the American Association of Neurological Surgeons (AANS), the American Society of Interventional and Therapeutic Neuroradiology, the Congress of Neurological Surgeons, the AANS/CNS Section of Cerebrovascular Surgery and the World Federation of Interventional and Therapeutic Neuroradiology. He has published widely and in journals such as Neurosurgery, Stroke, Journal of Neurosurgery and Critical Care Medicine. Dr. Woo brings a new area of expertise to Stony Brook for patients requiring treatment for cerebral aneurysms; endovascular management of acute stroke; and surgical, endovascular and radiosurgical treatment of cerebral arteriovenous malformations, spinal arteriovenous malformations and fistulas, and carotid and intracranial atherosclerosis.



**Christopher V. Saradoff, M.D.** joined the faculty staff as an Assistant Professor of Clinical Radiology in the Division of Diagnostic Radiology and Cross-sectional Imaging. Dr. Saradoff received his medical degree from the Sackler School of Medicine in New York, New York/Tel Aviv, Israel. He completed an Internal Medicine internship at Stony Brook and a Diagnostic Radiology residency at North Shore University Hospital in Manhasset, New York, as well as a fellowship in Cross-sectional Imaging at Yale University Hospital in New Haven, Connecticut where he remained on staff. Dr. Saradoff has also worked in the private practice sector. Dr. Saradoff is Board Certified in Diagnostic Radiology. He is a member of the Long Island Roentgen Ray Society, American Roentgen Ray Society, American College of Radiology and the American Medical Association.



**Matthew A. Barish, M.D.** joined the faculty staff as an Assistant Professor of Clinical Radiology in the Division of Cross-sectional Imaging. Dr. Barish received his medical degree from Boston University School of Medicine, and completed a Transitional internship in Medicine at Brockton Hospital in Massachusetts, and a Radiology residency at Boston Medical Center. Dr. Barish is Board Certified in Radiology, and his research focuses on replacing invasive diagnostic techniques with non-invasive imaging and 3D imaging processing. He is the current Director of the International Symposia on Virtual Colonoscopy, and serves as the Course Director for Virtual Colonoscopy at the new ACR Education Center. He is a member of the New England Roentgen Ray Society, American Roentgen Ray Society, Radiology Society of North America, American College of Radiology and the American Medical Association.

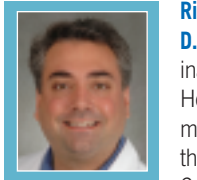
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# New Fellows



**Jeremy Baum, M.D.** is a Musculoskeletal fellow. He received his medical degree at the University of Nebraska College of Medicine in Omaha,

Nebraska and completed his Diagnostic Radiology Residency Program at the Michigan State University/Flint Area Medical Education in Flint, Michigan.



**Richard Pagliara, D.O.** is an Abdominal Radiology fellow. He received his medical degree from the New York College of Osteopathic Medicine and completed his Diagnostic Radiology Residency Program at the Hartford Hospital in Hartford Connecticut.

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# New Residents



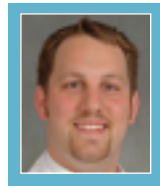
**Philip Di Carlo, M.D.** received his medical degree at SUNY Stony Brook and

completed a one-year Internal Medicine internship at SUNY Stony Brook in Stony Brook, New York.



**Folayan Fatade, M.D.** received his medical degree at the Ohio State University

and completed a transitional year at the Mount Carmel Health System in Columbus, Ohio.



**Eric Feldmann, M.D.** received his medical degree at the Albert

Einstein College of Medicine and completed a transitional year at the Sound Shore Medical Center in Westchester, New York.



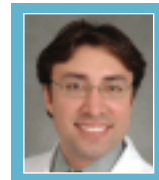
**Narmin Hussain, M.D.** received her medical degree at SUNY Downstate

Medical Center and completed a one-year Internal Medicine internship at Long Island Jewish Medical Center in New Hyde Park, New York.



**Kenny Lien, M.D.** received his medical degree at the Drexel University

College of Medicine and completed a transitional year at the Mercy Catholic Medical Center Program in Pennsylvania.



**Yasser Mir, M.D.** received his medical degree at the Ross University School of

Medicine and completed a one-year Internal Medicine internship at SUNY Buffalo, New York.

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# News in the Department



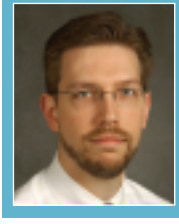
Welcome to our new Physician Assistant **Michael Kirshbaum, P.A.** who joined the Angiography and Interventional Radiology team. Michael comes to us from Neurosurgery.

**Elaine S. Gould, M.D.** was elected Secretary of the Long Island Radiological Society 2007-2008 and Treasurer of the Long Island Radiological Society 2006-2007. Dr. Gould also presented a seminar lecture (systems course) on MSK Radiology with pathologic correlation with Dr. Frederick Miller of Pathology to the second year medical school class.

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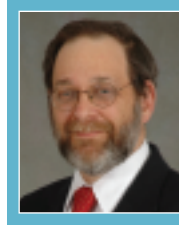
**John A. Ferretti, M.D.** has accepted the position of Medical Director of Clinical Service and Director of the Radiology Residency Program.



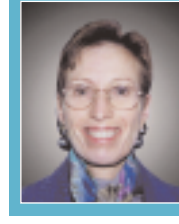
**William H. Moore, M.D.** has accepted the position of Associate Director of the Radiology Residency Program.



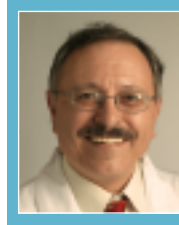
**Robert Matthews, M.D.** has accepted the position of Director of the Radiology Clerkship Program.



**Harris L. Cohen, M.D.** has been named one of New York's best doctors in the 7th edition of Castle Connolly's acclaimed guide to the top medical specialists in the nation.



**Marlene L. Zawin, M.D.** was named Chief of Noninvasive Cardiovascular Imaging. Dr. Zawin has her accreditation in Level III Coronary CTA.



**Steven Perlmutter, M.D.** was named Stony Brook Radiology's Medical Director at Peconic Bay and elected President of the Suffolk Academy of Medicine and President-Elect of the Suffolk County Medical Society for the 2007-2008 year.

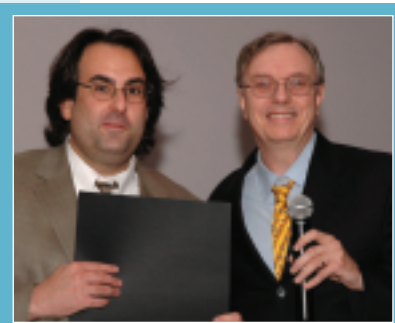
*Photo © Jim Lennon*

# Residency and Fellow Graduation Dinner



*Graduating Residents Charles Girard, M.D., Mohit Naik, M.D., Khaldoon (Kal) Al-Dulaimy, M.D., and Amit Patel, M.D. (left to right)*

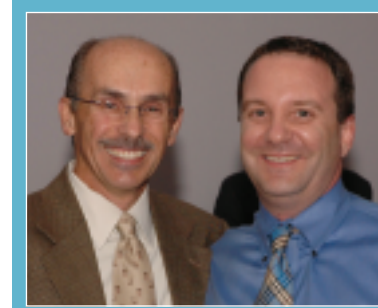
The Residency/Fellow Graduation Dinner was held on June 14, 2007 at Flowerfield Celebrations in St. James, New York. The event was sponsored by Fuji Medical Systems U.S.A. It was a pleasure to have Maryellen Egan, Digital Imaging Sales Specialist from Fuji, join us at this festive occasion. It was good to see Drs. Harold Atkins, Kathleen Finzel, Harold Parnes, Leon Serchuk, William (Bill) Zucconi, and Maureen Blazowski, Faith Cardone, and Alice Jimenez.



*Cliff Bernstein, M.D. (left) completes his one year training in Breast Imaging, Paul Fisher, Director of Breast Imaging (right).*

Congratulations to Khaldoon Al Dulaimy, M.D., Charles J. Girard II, M.D., Mohit M. Naik, M.D. and Amit V. Patel, M.D. in completing their four-year Radiology Residency Program.

Ann Rose Deshong, M.D. completed an Abdominal Radiology Fellowship, Neil Denbow, M.D. a Musculoskeletal Radiology Fellowship and Cliff Bernstein, M.D. completed a year of training as a junior attending.



*John Ferretti, M.D. (left) congratulates Neil Denbow, M.D. in completing a musculoskeletal Radiology Fellowship.*



*Harris L. Cohen, M.D. (right) presents Iakovos (James) Koutras, M.D. with the Roentgen Resident/Fellow Research Award.*

Dr. Paul Fisher was the recipient of the "Teacher of the Year Award" and Mohit Naik, M.D. the "Resident Teacher of the Year Award". Dr. Ferretti's "Unknown Case Contest" was won by Mohit Naik, M.D. who received a textbook of his choice. Iakovos (James) Koutras, M.D. also received the "Roentgen Resident/Fellow Research Award" (RSNA Research and Educational Fund) for his accomplishments in radiological investigation.

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# CT Cardiac Angiography *(continued from cover)*

the early atherosclerotic changes, particularly vulnerable plaque. This is promising for asymptomatic disease detection and in identifying individuals who will benefit from medical (with lipid-lowering and antihypertensive agents) and positive lifestyle management. Follow-up examinations may reveal the efficacy of these interventions in reducing or eliminating plaque burden, and thereby preventing future, possibly fatal coronary events.

CTA has a role in the evaluation of patients with equivocal nuclear medicine studies secondary to body habitus (energy attenuation) or inability to adequately exercise during stress testing. It is also valuable for post procedural evaluation, depicting the integrity, position and patency of coronary arterial stents and bypass grafts.

Non-atherosclerotic cardiac information is provided including: the presence and locations of coronary arteriovenous fistulae, venous varices, pulmonary venous anatomy pre-catheter ablation of left atrial arrhythmogenic foci in patients with refractory arrhythmias, the status of the great vessels, intra and extra cardiac shunts, intracardiac masses, valvulopathies, and pericardial abnormalities. Additional diagnostic information is available regarding the included extra-cardiac structures: the lungs, mediastinum, bones and included portions of the upper abdominal viscera.

The most important indication for coronary CTA, however, is to rule out coronary artery stenosis. This examination has a reported negative predictive value of approximately 95-100%. This means that if the study does not reveal coronary artery stenosis, the physician can be very confident that a person does not have significant coronary artery disease and can reliably say that the patient needs no further testing. This is particularly valuable in an Emergency Department setting. Chest pain is one of the leading reasons for presentation to the emergency room. Approximately one third of the patients will be diagnosed with acute coronary syndromes. Many of these patients have equivocal findings, including normal coronary enzyme levels and nondiagnostic electrocardiograms. The potentially fatal consequences of inadvertently discharging a patient with acute myocardial infarction results in unnecessary inpatient hospital admissions in the United States at an annual cost of more than 6 billion dollars. Early diagnosis and intervention has proven efficacious in limiting the damage of the acute event and improving morbidity and mortality.

While CTA is a promising noninvasive coronary arterial (and noncoronary cardiac) diagnostic modality, it must be kept in mind that it is not for everyone. Time is critical for individuals presenting with threatened myocardial viability. Patients presenting with a high pretest probability of unstable coronary disease should still go directly to conventional angiography in cases in which catheter-directed therapeutic intervention is highly likely or if emergent surgery is anticipated. Additional limitations include individuals with absolute contraindications for iodinated contrast adminis-

tration, and those with persistent tachycardia and/or irregular heartbeats which preclude the acquisition of motion-reduced, diagnostic images. Like conventional coronary angiography, iodinated contrast is required for vascular opacification and organ enhancement. The currently available contrast agents are all potentially harmful (nephrotoxic) to functionally-impaired kidneys and carry a risk (albeit relatively small) of idiosyncratic reactions. If the examination is deemed necessary in specific cases, accepted premedication protocols and other appropriate precautions should be followed.

Patients with pacemakers and those with significant coronary arterial calcifications can be scanned and clinically useful information obtained regarding the status of structures beyond their immediate areas.

It must be remembered at all times that CT scanners utilize x-ray energy, and thus entail radiation exposure. The effective radiation dose associated with coronary CTA can be relatively high, approximately 15mSv. Dose reduction is a priority, and multiple strategies are continuing to be developed. Currently, a common strategy is dose modulation, a technique in which the output of the x-ray tube is 100% during the quiescent phase of the cardiac cycle and only 20% during systole, the active phase, with a resultant reduction in radiation dose of 30-50%.

We at Stony Brook are in the process of acquiring the GE Healthcare upgrade consisting of an axial step-and-shoot image acquisition which results in an approximately 50% dose reduction. Our comprehensive Cardiac Imaging and Wellness Program is unique in that it provides on site, multidisciplinary expertise in both outpatient and inpatient diagnosis, treatment, and planning. The Coronary CTA Program is under the leadership of Level II and Level III American College of Cardiology Certified readers and teachers - Dr. Smadar Kort, an extensively trained and experienced cardiologist, and Chief of Echocardiography and myself, a specialty trained diagnostic radiologist and Chief of Computed Tomography. The combination of these skills provides additional depth and insight into our studies. In addition, we are fortunate to have on site excellent colleagues, members of the Department of Cardiology, headed by Dr. David Brown, the Division of Cardiothoracic Surgery headed by Dr. Todd Rosengart, and the Department of Diagnostic Radiology under the leadership of Dr. Donald P. Harrington, available for consultation and to provide comprehensive, state-of-the-art diagnosis, treatment and to expand and promote Cardiac Wellness.



Figure 2 – Tree view of entire circulation: stents present in right coronary artery and posterior descending artery

1. American Heart Association, American Stroke Association. 2002 Heart and stroke statistical update. Dallas, TX: The American Heart Association, 2002.  
2. American Heart Association, 2002 Heart and stroke statistical update. Dallas, TX: American Heart Association, 2001.

## “Lauterbur’s Legacy: Looking at Life” Symposium



Paul Lauterbur, Ph.D.

A special symposium and banquet was held on September 7, 2007 in celebration of the life and accomplishments of the late Professor Paul C. Lauterbur, who was awarded the 2003 Nobel Prize in medicine for his ground breaking research at Stony Brook that led to magnetic resonance imaging (MRI). The plenary Presidential Lecture entitled “How One Man Helped to Revolutionize Medicine” was given by Professor Richard Ernst of the ETH (Swiss Federal Institute of Technology in Zürich). A banquet reception followed the Symposium.



Richard Ernst, Ph.D.

# Peconic Bay Medical Center



We are pleased to announce the radiologists from Stony Brook University Medical Center are now also providing radiological services at Peconic Bay Medical Center. Stony Brook radiologists will have dual appointments at both institutions. This operation will expand the availability of services at Peconic Bay by providing subspecialty consultations and care to the populace, specialists and practitioners on the east end of Suffolk County. This growing partnership includes the Emergency Department and surgeons who will be performing cases at Peconic Bay. Emergency Medical Services (EMS) is also provided jointly by Stony Brook and Peconic Bay. It is anticipated that the radiology res-

idents from Stony Brook will rotate through Peconic Bay, expanding their off-site educational experience.

Broadband internet communication has been implemented to allow instant transmission of imaging studies. Three Stony Brook Radiology attendings, Steven Perlmutter, M.D., Dr. James Badia, M.D., and Dr. Vanya Saradoff, M.D. are providing services onsite at Peconic Bay with the support of other radiologists from Stony Brook who will be contributing and consulting via teleradiology. The Stony Brook Interventional team, under the supervision of John Ferretti, M.D., will also be available to perform selected procedures at Peconic Bay. The overall team is under the supervision of Donald P. Harrington, M.D., Chairman, Department of Radiology at Stony Brook University Medical Center. The onsite Medical Director at Peconic Bay is Steven Perlmutter, M.D. This partnership should enhance the medical care for residents of the east end and strengthen both institutions.

idents from Stony Brook will rotate through Peconic Bay, expanding their off-site educational experience.

## Twenty-Eighth Annual Radiology Research Seminar

This program is designed to provide a forum for exchange of information and discussion about clinical and basic research in the area of diagnostic radiology and other imaging modalities. Presentations were made by researchers and clinicians from the Department of Radiology, Stony Brook School of Medicine and Winthrop University Hospital in Mineola.

### Yogi Trivedi, M.D.

*The Utility of Ventriculoperitoneal Shunt Series in Evaluating Shunt Abnormality: A Radiological Imaging Perspective*  
Winthrop University Hospital, Mineola, NY

### Iakovos Koutras, M.D.

*CT Angiography with Gold-Based Nanoparticles Contrast Media*  
Stony Brook University Hospital and Medical Center, Stony Brook, NY

### David Winger, M.D.

*Frequency of Ventricular Effusions Detected on CT and Echocardiography in Children With Parapneumonic Effusions of Empyema*  
Winthrop University Hospital, Mineola, NY

### Adina Sonners, M.D.

*Chest X-ray Teaching by Self-study Module in Pre-Clinical Medical Education*  
Stony Brook University Hospital and Medical Center, Stony Brook, NY

### Steven Blumer, M.D.

*Characterization of Bladder Hernias Identified on CT*  
Winthrop University Hospital, Mineola, NY

### Ekta Gupta, M.D.

*Improved Dynamic Infrared Imaging (DIRI) and Its Potential Detection of Breast Malignancy*  
Stony Brook University Hospital and Medical Center, Stony Brook, NY

### Steven Blumer, M.D.

*Non-Enhanced CT for Suspected Renal Colic in Children and Adolescents: Recent Experience at a Single University Hospital*  
Winthrop University Hospital, Mineola, NY

### Vaibhav Mangrulkar, M.D.

*Ultrasound Diagnosis of the Cervical Rib*  
Stony Brook University Hospital and Medical Center, Stony Brook, NY



From left to right – Harris L. Cohen, M.D., Terry Button, Ph.D., David Keating, M.D., Steven Blumer, M.D., Iakovos Koutras, M.D., Ekta Gupta, M.D., Adina Sonners, M.D., Yogi Trivedi, M.D., Douglas Katz, M.D., Donald P. Harrington, M.D.

## Publications

**Al Dulaimy K, Cohen HL, Vitulli P, Moore WH.** Case 3. Diagnosis: Infarcted leiomyoma after uterine embolization procedure. *Ultrasound Quarterly* 2006;22:106-109.

**Bonvento M, Moore WH, Button T, et al.** CT angiography with gadolinium-based contrast media. *Acad Radiol.* 2006;8:979-985.

**Cohen HL, Al Dulaimy K, Moore WH.** Case 4. Diagnosis: Fibromatosis coli. *Ultrasound Quarterly* 2006;22:109-111.

**Cohen HL, Al Dulaimy K, Moore WH.** 2005 SRU cases of the day-answers. *Ultrasound Quarterly* 2006;22:101-111.

**Cohen HL.** Reply. Intraoperative sonographically guided needle localization of nonpalpable testicular tumors [Letter to the Editor] *AJR* 2006;187:124.

**Cortegiano, MJ.** Tenth Annual Academic Radiologist Productivity Study Report. *The RBMA Bulletin*, March/April 2007.

**Espeleta VJ, Moore WH, Kane PB, Baram A.** Eosinophilic pneumonia due to duloxetine. *Chest* 2007;131(3):901-903.

Fan Y, Lu H, Hao C and **Liang Z.** Fast analytical reconstruction with non-uniform attenuation compensation for dynamic cardiac SPECT imaging. *JNM*, vol. 47, no.5, Supplement 1, pp.122.

Fan Y, Lu H, Hao C, and **Liang Z.** Analytical reconstruction of 4D dynamic cardiac SPECT with noise-reduction and non-uniform attenuation compensation. *Nuclear Instruments and Methods in Physics Research* vol. 571, 195-198.

Fan Y, Lu H, Hao C, and **Liang Z.** Fast analytical reconstruction of gated cardiac SPECT with non-uniform attenuation compensation. *International Journal of Image and Graphics* vol. 7, no.1, 87-104.

Hsiao I, **Khurd P**, Rangarajan A and **Gindi G.** An Overview of Fast Convergent Ordered-Subsets Reconstruction Methods for Emission Tomography Based on the Incremental EM Algorithm. *Nuclear Instruments and Methods in Physics Research A*, vol. 569, pp. 429 - 433, Dec. 2006.

Johnson JA, Schweizer S, **Lubinsky AR.** A Glass-Ceramic Plate for Mammography. *J. Am. Ceram. Soc.* 90, 693-698.

**Khurd P, Zhou L**, Rangarajan A, and **Gindi G.** Aperture Optimization in Emission Imaging Using Optimal LROC Observers. *Proc. IEEE Nuclear Science Symposium and Medical Imaging Conference*, vol M03-6, pp. 1703 - 1710, Oct 2006.

**Kulkarni S, Khurd P**, Hsiao I, **Zhou L** and **Gindi G.** A Channelized Hotelling Observer Study of Lesion Detection in SPECT MAP Reconstruction Using Anatomical Priors. *Phys. Med. Bio.*, vol. 52, pp. 3601 - 3617, May 2007.

**Kravets F, Cohen HL**, Sheynkin Y, Sukkarieh T. Intraoperative sonographically guided needle localization of nonpalpable testicular tumors. *AJR* 2006;186:141-143.

**Langer JE, Cohen HL.** Case 1. Diagnosis: Paratesticular adenomatoid tumor. *Ultrasound Quarterly* 2006;22:101-104.

Lehovich A, Bruyant P, Gifford H, **Gindi G**, Schneider P, Squires S, King M. Human Observer LROC Study of Lesion Detection in Ga-67 SPECT Images Reconstructed Using MAP with Anatomical Priors. *Proc. IEEE Nuclear Science Symposium and Medical Imaging Conference*, vol. M03-05, pp. 2150-2154 Oct. 2006.

**Li D, Zhao W.** Avalanche Detector with Field Emitter Readout, Proceedings of the 33rd Annual Northeast Bioengineering Conference, pp. 67-68.



# RADIOLOGY LETTER

*A Radiologist's Approach to Imaging Vistas* ■ State University of New York at Stony Brook

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