

# EMORY RadReport

It's what's on the inside that counts!

February, 2012

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## Cultivating a Culture of Giving

The Department of Radiology and Imaging Sciences continues to cultivate a culture of giving by fostering donations from individuals who support the department's mission. Emory Radiology is known worldwide for its state-of-the-art technology, clinical resources for specialized care, and leading scientists and physicians. Through gift giving, we are able to sustain the innovation and discovery that helps the department to detect diseases in the earliest stage and provide preventative care to patients.

Recently, a generous unrestricted gift of \$50,000 was given to the Department of Radiology and Imaging Sciences by Syntermed, an Atlanta based company that is a leading provider of nuclear imaging software. The company takes great interest in Emory and support of our Department. Michael Lee, CEO of Syntermed states, "We have had a relationship with Emory since 1999. We consider our relationship to be a tight collaboration, particularly our relationship with the Department of Radiology and Imaging Sciences. Emory produces the leading scientists and physicians that will generate Game Changers; this is why we continue to invest in the Department of Radiology and



*Gift giving supports innovative techniques, state-of-the-art equipment, education, clinical service and research. The generous gifts also make programs such as, Adopt a Resident and Weens lecture very successful.*



Imaging Sciences." The department is thankful for Syntermed and many others who have expressed their generosity throughout the years. These gifts make it possible to support the work of the department's internationally recognized leaders and investigators.

Over the past year, Emory Radiology received many generous gifts from individuals, including Dr. Richard Colvin's gift establishing the "Radiology Residency Education

Endowment Fund." Generous gifts also make the Adopt-a-Resident program possible; this program gives funding to residents with unique projects that will enhance their educational program. These donations support an environment where academic medicine generates innovations and advances toward predictive.

Stacia Brown, Director of Development for Clinical Programs, feels giving is important: "Cultivating a spirit of philanthropy is

- Story continued on page 4

## Rad Report 5<sup>th</sup> Year Anniversary

Use your 2012 Rad Report knowledge to win a prize by completing the Crossword Puzzle on Page 5.

- First 5 entries will win a pair of movie tickets
- All answers must be correct
- Entries must be received by Feb. 17
- Include your contact information on your entry
- Answers will be posted on the website on Feb. 20  
[www.radiology.emory.edu](http://www.radiology.emory.edu)

Submit your completed crossword to EUH-CG20 or Fax to 404-712-4730

## LETTER FROM THE CHAIR

Dear Colleagues,

There are two new federal research institutions that I would like to draw your attention to.

The first of these is the National Center for Advancing Translational Sciences (NCATS), which is a NIH institute that has appeared as National Center for Research Resources (NCRR) has been retired. NCATS focuses on catalyzing the path of tools and technologies from innovation to improvements in health care. NCATS will serve as the home institute for the 60 NIH-funded Clinical and Translational Science Awards (CTSAs); our own CTSA, the Atlanta Clinical and Translational Science Institute, recently received a very promising review for its five-year renewal.

Second is the national Patient-Centered Outcomes Research Institute (PCORI), which was created and funded through the Patient Protection and Affordable Care Act with the mission to fund research that offers patients and caregivers the information they need to make important healthcare decisions. We often speak of evidence-based medicine and strive for it in every clinical decision, yet there are large gaps in that evidence base. Will a patient with certain co-morbidities benefit from X vs. Y medicine to best control their hypertension and reduce long-term risk of heart disease and stroke? If the appropriate randomized controlled study has not been performed, then physicians will treat that patient

empirically rather than using an evidence-based approach.

Closer to our world, there are many such research questions, such as: What is the optimum protocol for low-dose abdomen CT that will balance lowest patient exposure with highest detection of diagnoses such as appendicitis? Or, what CT reconstruction algorithms will tilt this balance to a further lower dose level?

PCORI focuses on such comparative clinical effectiveness research, and some of the specific studies could fall in our arena. PCORI has issued a statement of its goals and intentions and invited a public comment period. This is an opportunity for organized radiology to influence the forward path of this important institution by



identifying specific high priority research questions, advocating for a seat at the table on ad hoc advisory committees and supplying expertise on study sections that may review funding proposals.

These institutions are important to radiology's future and our collective voice must be heard.

Best to all,

-Carolyn C. Meltzer, MD, FACR  
Chair of Radiology and  
Imaging Sciences

## MESSAGE FROM THE VICE CHAIR FOR RESEARCH

### What Have I Learned (part 2)?

Last month I wrote about three things I've learned since becoming Vice Chair. I'll expand on "things happen for a reason" since it generated the most dialogue. People asked me, "if I believe things happen for a reason, how have I altered my behavior?" And then they ask, "how do you use this new found insight to your advantage?"

Recall that I was talking about major leadership decisions and I suggested that usually someone has collected substantial information, considered many viewpoints and has tried their hardest to make the best decision possible. The first change in my behavior is that I no longer assume a person is an idiot when they make a decision that is different from what I wanted. I now know that most decisions are not personal. With this attitude, I can ask what factors were considered and why a decision was made. When I take a genuine interest in the question, I learn much more and I don't appear threatening to my colleague. I can have a dialogue with the

person, which has the added benefit that I often learn something.

The second change relates to how I try to affect future decisions. It is most important to get involved as early as possible. Most people are unwilling or unable to change a major decision or it is impractical to do so. Hence, if the decision is already made, I only try to understand what went into it. In the same vein, if the decision making process has advanced it will take a great deal of energy to interject your opinion. Once the options have been narrowed to only a few, a late arriving alternative is not likely to receive much attention. In this case, understanding the situation is probably the approach that will have the best long term effect. Expending a tremendous amount of energy to affect the decision needs to be saved for the most important issues. The best approach is to never be in the position to begin with. Stay up-to-date with the affairs of the Department and University, get involved in the areas that matter

to you and make sure that your view is considered among the options.

The third change is in how I present my case. No matter how good your argument, it only has meaning in relation to other arguments. It's like overtime in college football – you want to go on offense last so you know what you have to do to win. It's also like college football in that if you turn the ball over, chances are you'll never get it back. If your argument is not well made, or if it is effectively countered, you rarely get to try again. One last football analogy – you are on the play clock. Succinct clear arguments work best.

Come see me and tell me what you've learned. Good luck in your research.



By The Way, should the need arise, succinct clear arguments work best on me!

Sincerely,  
- John Votaw, PhD  
Vice Chair for Research

## AWARDS & RECOGNITION



### **Ioannis Sechopoulos, PhD**

Assistant Professor  
Radiology and Imaging Sciences

#### **Program Director for Physics Education**

As Assistant Program Director for Physics Education, Dr. Ioannis Sechopoulos will provide oversight and coordination of the physics education for our Diagnostic Radiology Residency program in close collaboration with Dr. Mark Mullins, Program Director. This includes the introductory radiologic physics course, refresher course, laboratory experiences and web-based physics modules.



### **Brent Little, MD**

Assistant Professor  
Radiology and Imaging Sciences

#### **2012 AUR- Philips Academic Faculty Development Program**

Dr. Little has been selected to participate in the 2012 AUR-Philips Academic Faculty Development Program. The goal of the program is to bring together promising junior radiology physician faculty members early in their academic careers for a one-day program of education and networking.



### **Doug Robertson, MD**

Professor  
Radiology and Imaging Sciences

#### **ORS Nominating Committee**

Dr. Robertson was elected by the membership of the Orthopaedic Research Society for the position of Nominating Committee. His term in this position will begin immediately following the ORS 2012 Annual Meeting in San Francisco, California.



### **Mary Newell, MD**

Associate Professor  
Radiology and Imaging Sciences

#### **RSNA Reviewer with Distinction**

Dr. Newell was recognized by RSNA as "A Reviewer with Distinction." She is a member of the Editorial Board for *Radiology Journal*. This publication requires substantial time and effort by numerous reviewers. Dr. Newell has been recognized for the high quality of her prompt scholarly reviews.



### **Baowei Fei, PhD**

Assistant Professor  
Radiology and Imaging Sciences

#### **NIH Study Section Panel**

Dr. Fei was invited to participate the NIH Biomedical Imaging Technology (BMIT) Study Section. The BMIT Study Section reviews grant applications involving basic, applied, and pre-clinical aspects of the design and development of medical imaging system technologies, their components, software, and mathematical methods for studies at the cellular, organ, small or large animal, and human scale.

## NEW GRANTS

### **Early detection of amyloid plaques in Alzheimer's disease with x-ray phase CT**

*Principal Investigator:*  
Xiangyang Tang, PhD

*Co-Investigator:*  
Carolyn C. Meltzer, MD, Hui Mao, PhD, Marla Gearing, PhD

*Funding Organization:* Department of Defense

*Significance:* Alzheimer's disease (AD) has become the most common (60-80%) neurodegenerative disease with dementia as its clinical symptom. The proposed x-ray tube and grating based phase CT will potentially provide a modality for early detection and accurate therapeutic assessment of AD based on direct imaging of amyloid plaques. As a more accessible alternative to <sup>11</sup>C-PiB or <sup>18</sup>F-AV45 PET imaging,

this novel imaging method may substantially benefit the preclinical and clinical diagnostic and treatment applications for AD with markedly improved (i) low contrast detectability and dose efficiency compared to the conventional CT and (ii) clinical potential compared to the diffraction enhancement based phase CT using crystal x-ray monochromator and synchrotron.

## CHECK IT OUT

Hesheng, W, **Baowei, F.** An MR image-guided, voxel-based partial volume correction method for PET images. *Medical Physics*. 39(1):179-194, Jan. 2012.

# STRIVING FOR EXCELLENCE

## The Success of Partnerships

Your life doesn't just "happen." Whether you know it or not, it is carefully designed by the choices you make. You can choose happiness, sadness, courage, fear, decisiveness, ambivalence, failure or success. Just remember that every moment, every situation provides a new choice, and it gives a perfect opportunity to do things differently to produce more positive results.

Being proactive means thinking and acting ahead - this means using foresight. It's a great method not only for avoiding more work down the road but also extremely important for averting disasters, planning well for the future and for instituting systems that make life easier for you and your team. Proactive people control situations by causing things to happen rather than waiting to respond after things happen. People who are proactive don't sit around waiting for answers to appear. They stand up, put one foot in front of the other, and find the answers. They are resourceful, and they actively engage, not passively observe.

In the book *Habit 1: Be Proactive*, the author Corey suggests a few steps to become a more proactive person.

### 1. Try to Anticipate Needs - Predict

In order to be proactive, you must first develop foresight.

Proactive people learn to anticipate problems and events. Look for patterns and recognize the regular routines, daily practices, and natural cycles that exist in the work area. They try to anticipate needs (i.e. Are rushes seasonal? Are there extra activities associated with certain times of the week, month, quarter or year?)

### 2. Plan Ahead

Proactive people plan for the future. Look ahead and anticipate long-term consequences. They examine critically how one might perform the tasks more efficiently.

Before the rush period:

- (a.) Create a plan, procedure, checklist, or routine to accomplish the task.
- (b.) Look for steps in the process to eliminate, consolidate, or shorten.

A small amount of future stability can be self-generated by planning ahead and being ready for those things which you do have some control over.

### 3. Evaluate - Procedures and Processes

Proactive individuals evaluate procedures and processes as they use them. They make notes for improvements, and incorporate those improvements during the next calm period. Proactive people foresee

potential obstacles and exert their power to find ways to overcome them before those obstacles turn into concrete roadblocks. They develop a mind-set that looks to solve problems instead of dwelling on them.

### 4. Look for Ways to Automate Routine Tasks

Computers can manipulate data in all sorts of ways. Establishing a template or a standard plan of action can save time.

In summary, proactive people are not idle observers, they are active participants. In order to be proactive, you must get involved. You must take the initiative and be a part of the solution. Whatever your personal or professional goals are, being proactive can offer you guidance on your journey to success. Remember being proactive means you have taken careful, thoughtful steps to choose the appropriate path. Therefore, as Emory and the Department of Radiology and Imaging Sciences strive for excellence in Clinical, Education and Research, it requires each of us to be proactive instead of reactive. We must remember to ask what can be done today to ensure success tomorrow.

-Vivian Smith  
Assoc. Clinical Administrator



*Cultivating a Culture of Giving, continued from page 1*

important because the research and education that the department provides is not completely funded through grants, government funds or university funding. Emory is a non-profit organization, which makes philanthropy vital; it closes the gap between traditional funding and what is needed." When you support the Department of Radiology and Imaging Sciences, you fund a partnership of leading scientists and physicians who advance all areas of medicine. Your gift will support innovative techniques and state-of-the-art equipment for screening and diagnostic imaging that can detect diseases earlier. Your generous gift will improve the quality of life for all patients who are touched by the Department of Radiology and Imaging Sciences.

-Camille Dingle  
Communications Specialist

## Opportunities to Give..

### Endowed Chairs, Professorships

Your support will help Emory Radiology attract outstanding researchers and clinicians who will advance the science and practice of radiology through innovation, translation research, and clinical application of imaging sciences. Our physicians also are teachers who train the next generation of radiologists, technologists, and imaging scientists.

### Imaging Innovation Fund

Contributions to this fund will support research in imaging technology and applications including Predictive imaging in Alzheimer's disease, evaluation of a unique MR/PET prototype scanner, advanced multi-modality cardiac imaging, and clinical translation of dedicated breast imaging technologies.

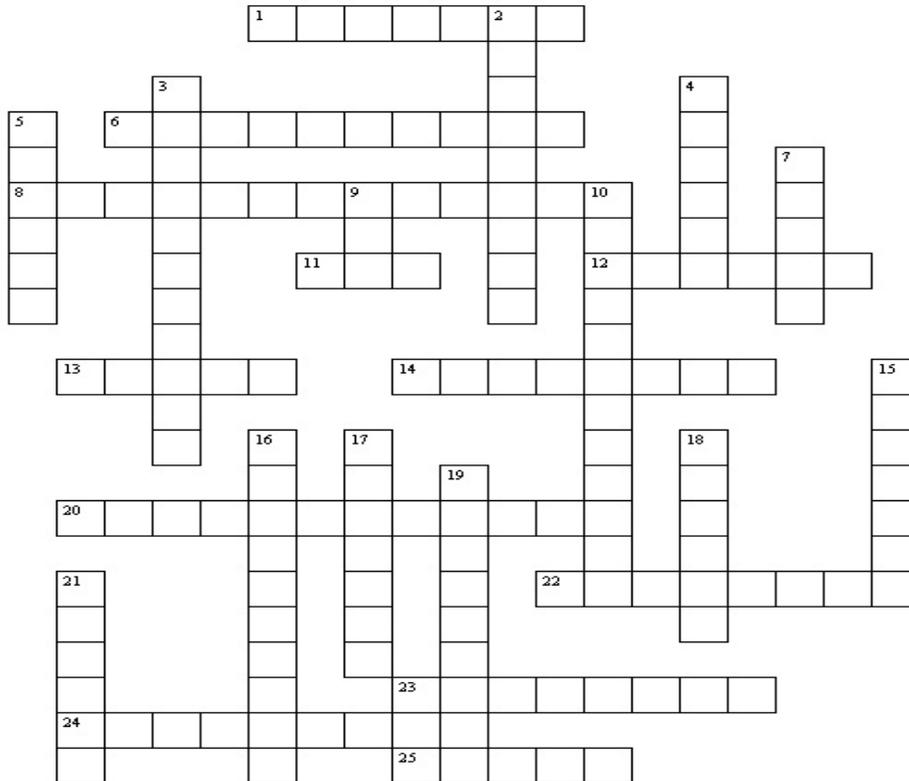
### Adopt-a-Resident Program

This program permits an individual or group donor to commit \$2,500/year for a four year period to support a resident's pursuit of innovative interdisciplinary career development pathways.

For more information on opportunities to Give please click [here](#).

# ANNUAL CROSSWORD PUZZLE CHALLENGE

This issue marks the fifth year anniversary of the Rad Report. Over the last year, many different types of stories have been covered, throughout radiology. Test your Rad Report knowledge by completing the crossword puzzle featuring items that have appeared over the last year.



## Rad Report 5<sup>th</sup> Year Anniversary

Use your 2012 Rad Report knowledge to win a prize by completing the Crossword Puzzle. See details on page 1.

Submit your completed crossword to EUH-CG20 or Fax to 404-712-4730

The answers will be posted on the website on Feb. 20 [www.radiology.edu](http://www.radiology.edu)

### ACROSS

- 1 With the help of Dr. Provenzale, Dr. \_\_\_\_\_ launched the Jr. Faculty Mentorship Program.
- 6 Our department's Adopt-a-Resident grant gave Dr. \_\_\_\_\_ the opportunity to explore his own interest in global health.
- 8 The \_\_\_\_\_ team hosted their Annual Employee Luncheon at Decatur Plaza.
- 11 This Radiology Technologist is a Hospital Corpsman Chief in the Naval Reserve and a Technologist at EOUSH. She is currently deployed in Afghanistan.
- 12 This Emeritus Professor of Radiology recently made a generous gift establishing the "Radiology Residency Education endowment Fund."
- 13 A teak bench was established in honor of our long term employee \_\_\_\_\_, after she passed away unexpectedly on July 1, 2011. She devoted 38 years of her life to EUH and touched so many lives.
- 14 After a year of preparation, Drs. Hudgins and Tahvildari traveled to \_\_\_\_\_.
- 20 Dr. \_\_\_\_\_ is one of 16 scientists selected as an Associate Scientific Advisor for Science Translational Medicine.
- 22 This faculty member retired after 37 years of service in the Department of Radiology and Sciences (Pediatric Radiology).
- 23 Our promise to our \_\_\_\_\_ is to provide the very best care possible.
- 24 An important role of the \_\_\_\_\_ Workflow Administrator is to provide communication within the department for our technologist.
- 25 For years, Emory Radiology has participated in the Metro Atlanta \_\_\_\_\_ Walk and continues to draw support from all divisions of Emory Radiology.

### DOWN

- 2 This division works closely with the Emergency Medicine Department which allows them to provide final study interpretation.
- 3 This retired faculty member's son was a guest speaker for the 28th Annual Weens Lecture.
- 4 This faculty member was promoted to Associate Professor September 1, 2011.
- 5 This graduate student won best poster in the Cardiac CT category at the North American Society for Cardiovascular Imaging in Boston, MA.
- 7 This nurse was nominated for the Georgia March of Dimes Nurse of the Year award.
- 9 The mission of the \_\_\_\_\_ is to create a sustainable culture of service excellence in the Department of Radiology and Imaging Sciences by empowering its faculty and staff to exceed patients' expectations.
- 10 Radiologic \_\_\_\_\_ Week celebrates the valuable work of RTs in the care field and the quality of work they perform.
- 15 Prior to \_\_\_\_\_, accurate diagnoses for patients with movement disorders could take up to six years.
- 16 Our \_\_\_\_\_ Radiology Residency is now one of the largest programs in the country.
- 17 Dr. \_\_\_\_\_ received the Outstanding Mentor Award at the First Radiology and Imaging Sciences Faculty Awards Ceremony.
- 18 This faculty member was bestowed with the Endowed Professorship in Cardiac Imaging.
- 19 This faculty member was elected as Vice Speaker of American College of Radiology.
- 21 This student graduated from the Medical Imaging Program in May of 2011 and was valedictorian.

# IN THE KNOW

## Quality Corner

### Quality: Not Just a Word

The word quality is being used in the health care world at an ever-increasing rate. Health care reform is at the forefront of national news on a daily basis. As providers, one part of this reform is ensuring our standards are consistently at the highest possible level in order to give excellent care. The quality of what we do – starting an IV, performing an exam, conducting research – is an important core principle we cannot allow to suffer. Each patient interaction matters, no matter how large or small.

Currently there are several initiatives in place at Emory to maintain and improve the quality of our care. Representatives from all entities serve on a Computed Radiography/Digital Radiograph (CR/DR) Quality Committee, which focuses on improvements specifically in diagnostic radiology. Similarly, the CT Quality and Safety Committee headed

by Dr. Anh Duong centers around CT. The US Quality and Safety Committee dedicated to monitoring and promoting improvements in ultrasound. At EUHM, a fantastic employee engagement committee boosts morale and allows employees to fund several projects and events each year. Other quality improvement programs are still in the design phases. One academic institution we recently visited endorses a Merrill's Committee. This self-reporting program challenges diagnostic technologists to produce the highest quality images possible. Techs can nominate themselves or colleagues when they have obtained an exceptional image. Small prizes are awarded monthly, followed by a grand prize winner yearly. We are considering implementing a similar program here at Emory. What a great way to foster healthy competition and promote excellence in our department.

Each of us has been a patient ourselves or has a loved one who has been a patient. The experience may have been superb or it may have been terrible. If you've ever had a terrific patient care experience, you likely felt a strong sense of gratitude and loyalty toward that institution. This is the feeling we want to encourage in each and every patient who exits our doors. Our jobs as health care providers are twofold: providing the care, and providing it in a world-class manner. At times working in medicine can be stressful. We have tight schedules, work short, have a full waiting room and the list goes on. However, allowing ourselves to lose sight of the quality care we promise our patients is truly failing them. We must strive to not only provide our services but to provide it with compassion, empathy, and a smile.

-Katy Day and Steve St. Louis  
Imaging Workflow Administrators

## Updates from Imaging Applications Support (IAS)

### Working in Your Strengths

Typically, when you get your child's report card the focus is on low grades, not necessarily the celebration and encouragement of the good grades. This can be demoralizing to the child who is continually working to improve talents that may not be natural. This concept translates to adults as well.

We (IAS team) are working as a team to identify our strengths and sharing tasks that we may not do well with others who have the talent to complete the task. In a recent activity, the team used the Strengthsfinder 2.0 tool, each identify our top five talents. We then reviewed each strength and identified circumstances and interactions where we observed each person utilizing their strengths.

This was a very enlightening exercise and created more understanding and respect among the team members.

The next step is for us to incorporate some of the actions outlined in the book to increase our skills and our talents. We will also apply some communication recommendations for how to interact with others based on their talents. I'm encouraged about our exercise and the opportunity to work in a manner that maximizes our strengths. With increased understanding and the ability to focus on our strengths, we can be more efficient and our work will be more satisfying.

Feel free to contact me for more information about this message.

-Karen Boles, Manager, Clinical Applications

## GET INVOLVED

### Service Excellence Institute

#### Session One Make-up Days

We are excited to announce that we have completed our first session of the Service Excellence Institute (SEI). For those who were unable to attend the session in January there will be make-up days in February. SEI is a required curriculum for all faculty, staff and trainees. If you have not registered, we encourage you to do so as soon as possible.

The make-up sessions are scheduled for February 20<sup>th</sup>, 24<sup>th</sup>, 28<sup>th</sup> and March 1<sup>st</sup>. Lunch and breakfast will be provided for everyone during training. To enroll for the make-up session, please follow the steps below:

- go to: <http://elmprod.emory.edu>
- Login to ELMS using your PeopleSoft user ID and password.
- Select Search Catalog
- Enter "Service Excellence"
- Review the dates and time of sessions for "Service Excellence Institute". Enroll in the session of your choice.

We are looking forward to everyone the second session for the SEI. You will have an opportunity to share the changes you have been able to make and also build on the tools that were provided in session one. Please begin to plan for attendance in your areas. These sessions will be listed in the ELMS system soon.

SEI Session Two Dates:

- April 9 – 12
- April 16 – 19
- April 27
- April 30 – May 4

Visit [SEI](#) web page for additional information.

#### Stories of Harm and Charm

We would love to hear your stories of Harm and Charm. If you would like to share your stories, please contact Alison Dunkerly, Radiology Services Manager ([adunker@emory.edu](mailto:adunker@emory.edu) or 404-778-2626).

#### HR Tip

#### Tobacco-Free Emory Task Force

Emory became a tobacco-free campus on January 1, 2012. We now join over 580 other U.S. colleges and universities and more than 2,800 hospitals and health care institutions that have made the conscious decision to eliminate the use of tobacco campus-wide.

For a quick overview of what this policy means, please take a few minutes to view the following websites:

TOBACCO-FREE ENVIRONMENT POLICY:

- Policy 4.113 and Policy 8.10
- TEMPORARY SMOKING ZONES
- CESSATION HELP
- COMMUNITY ENFORCEMENT

Thank you for your continued support and assistance with a successful transition to a tobacco-free Emory!

## Radiology Calendar

#### Week of February 6, 2012

Wed., February 8 –

Grand Rounds -

Stuart R. Pomerantz, MD

*Diagnostic Quality Head CT at Low-to-Sub millisievert Doses: Focus on Iterative Reconstruction and Optimized Acquisition, Post-Processing and Image Review Settings*

Thurs., February 9 –

Research In Progress Series (RIPS) -

Jonathan Nye, PhD

*Cocaine-induced trafficking of the dopamine transporter*

#### Week of February 13, 2012

Wed., February 15 –

**Sprawls Lecture**

Grand Rounds - Eva Sevick, PhD,

*Non-invasive imaging of the lymphatics in health and disease using near-infrared fluorescence*

Thurs., February 16 –

Research In Progress Series (RIPS) -

Eva Sevick, PhD

*Discovery in translation of a new imaging modality: near-infrared fluorescence imaging and tomography*

#### Week of February 20, 2012

Wed., February 22 –

Grand Rounds - Carolyn C Meltzer, MD

*Challenges, hurdles, and opportunities for transformation: Our tripartite mission and health care reform*

Thurs., February 23 –

Research In Progress Series (RIPS) -

Xiangyang Tang, PhD

*Improving CT's low contrast detectability - Phase contrast, Iterative Reconstruction with photon counting detection, and biomarker targeted agents*

#### Week of February 27, 2012

Mon., February 27 -

Cancer Imaging Lecture Series-

Daniel Brat, MD PhD

*Molecular Correlates of MRI and Pathology Features Derived from TCGA Glioblastoma Data*

Wed., February 29 –

**Distinguished Lecture**

Grand Rounds -

Timothy J. Mosher, MD

*Functional Cartilage Imaging*

**For times & locations visit the website:  
[www.radiology.emory.edu](http://www.radiology.emory.edu)**

# GETTING TO KNOW YOU

## Physics and Computing Research Lab

The physics and computing group has an interest in everything related to image processing. This includes image registration where images from before and after treatment are precisely overlaid to monitor therapy, to calculating physiological parameters such as renal blood flow or the density of a specific protein in the brain based on how a contrast agent (think radioactive or Gd-based) washes through an organ.

This month I'd like to highlight the work of Baowei Fei, who along with collaborators, David Schuster, Viraj Master, and Peter Nieh has taken registration to the next level in an attempt to improve prostate cancer diagnosis and treatment. Transrectal ultrasound (TRUS)-guided prostate biopsy is the current standard for verifying the presence of prostate cancer. In the United States, more than 1.2 million biopsies are performed

annually at a cost that exceeds two billion dollars. Unfortunately, the technique has a significant sampling error that results in the biopsy being collected from an unintended position up to 30% of the time. It is technically very challenging to place the biopsy probe in a precise position in the prostate. To help, Dr. Fei is developing a molecular image-directed, 3D ultrasound image-guided biopsy system.

An initial ultrasound image is collected and used to create a 3D prostate ultrasound model that is aligned with the PET/CT/MRI model. Then during the procedure, ultrasound images capture the position of the biopsy probe which is translated back to the high resolution and contrast images. The system operates in real-time so the surgeon has immediate information as to the location of the probe and can biopsy the exact location needed for making an appropriate diagnosis.

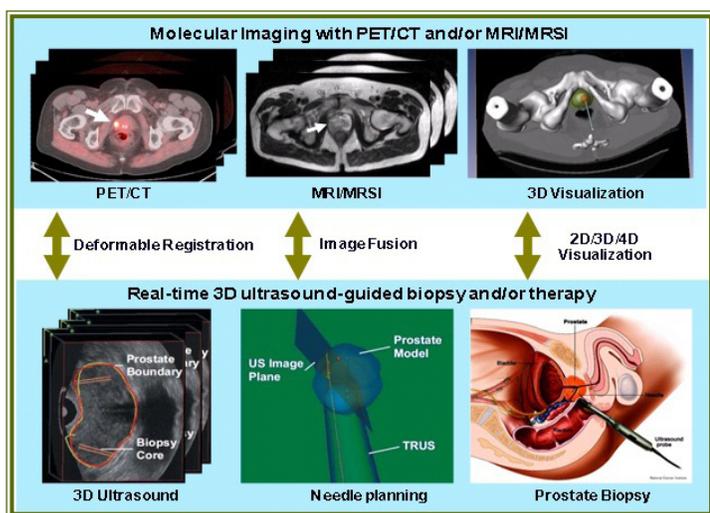
The figures show how the system works. Prior to the biopsy, PET/CT and MRI images are collected to identify the lesion within the prostate (white arrow). These images are processed into a 3D model to allow the surgeon to plan the biopsy procedure. But, this is not enough; the surgeon needs feedback to know the location of the probe as it is being inserted. During the procedure the surgeon only has ultrasound available, which doesn't have the resolution of MRI or contrast of PET/CT. Recognizing this limitation, Dr. Fei is working on a system to have all of the available information immediately available during the biopsy procedure.

The pre-biopsy registration aspects of the system have been worked out and tested on two patients. In the next few months, the fusion images from PET/CT and ultrasound will be used to guide prostate biopsies. This work is funded by the NIH (R01CA156775, PI: Fei).

Feel free to contact Dr. Fei with questions regarding this work, or me with questions about the Physics and Computing research group.



- John Votaw, PhD  
Vice Chair for Research



The Physics and Computing Research Lab works to develop methods to extract the maximum possible information from molecular imaging studies.

## NEED FOR NEWS

### Would you like to contribute to the Rad Report?

This February we are celebrating the fifth year of publication for the Rad Report. Our readership has grown with new subscribers each month and generates more than 400 hits on our website the day it is released.

The primary goal of our newsletter is to serve as a vehicle to communicate across our divisions and create a better understanding of how each of us contributes to the department as a whole. Through the continuous content submissions, the commitment of the editors, and the dedication of the readers, this newsletter is a success.

Thank you to all who, through monthly content submissions, have utilized this tool to disseminate pertinent information and recognize the accomplishments within our department.

Thank you to the editing team for reviewing the content each month before going to print. Editors: Dr. Carolyn Meltzer, Dr. William Torres, Habib Tannir, Dr. John Votaw, Dr. Mark Mullins, Dr. Kimberly Applegate, Alaina Shapiro, Jessica Paulishen, Camille Dingle and photographs by Kevin Makowski.

Thank you to the readers who make the effort worth while. Without your readership, the newsletter would fail to serve its purpose.

If you have an idea for a story or would like to acknowledge a professional accomplishment, you can become involved with the Rad Report by sending an e-mail to [RadiologyComm@emoryhealthcare.org](mailto:RadiologyComm@emoryhealthcare.org). When submitting content for consideration, please copy your supervisor, manager or director.



- Monica Salama  
Communications Manager

Look for a new issue of the Rad Report the first full week of March