

NEWS AND NOTES

ISSUE 2 SPRING 2010

The U-M Breast Imaging Division: REVOLUTIONIZING BREAST CANCER SCREENING

Breast cancer is the second leading cause of death in women in the United States. Studies have consistently shown that early detection and treatment can greatly improve survival. Thus, the American Cancer Society recommends annual mammographic screening for all normal risk women beginning at 40 years of age.

Presently, mammography is considered the best screening tool available because it can find cancers at an early stage, when they are small and most responsive to treatment.

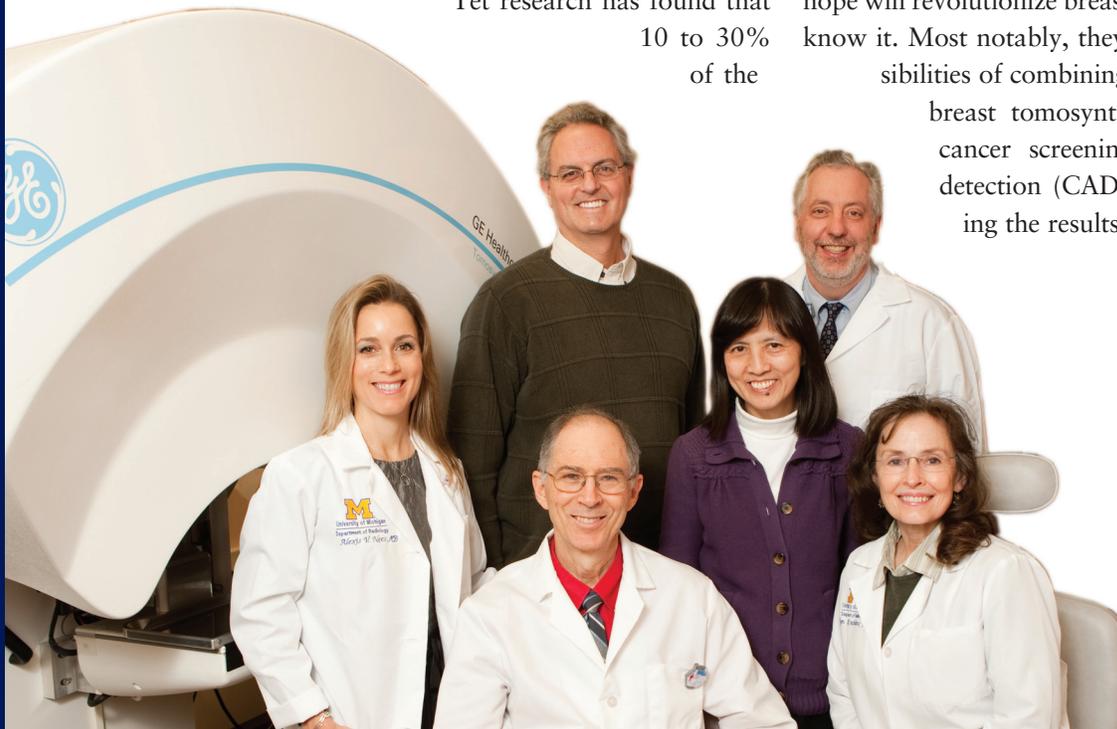
Yet research has found that 10 to 30% of the

breast cancers that are visible on mammograms in retrospective studies are not detected due to technical or human factors.

Modern mammography has changed very little since the first x-ray units dedicated to breast imaging became available in 1969. Efforts to improve it have been focused on refining the technology and how the x-rays are interpreted. The University of Michigan Breast Imaging Division is collaborating with other Department of Radiology researchers to develop new imaging technologies that they hope will revolutionize breast cancer screening as we know it. Most notably, they are exploring the possibilities of combining ultrasound and digital breast tomosynthesis (DBT) for breast cancer screening and computer-aided detection (CAD) systems for interpreting the results.

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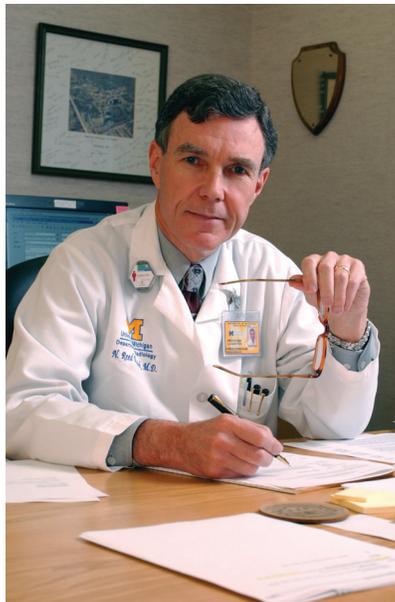
Some members of the Department of Radiology team working on breast imaging research and clinical studies; back row (l to r): Drs. Alexis Nees, Thomas Chenevert, Heang-Ping Chan, Mark Helvie; front row: (l to r): Drs. Paul Carson and Marilyn Roubidoux.



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LETTER FROM THE CHAIR

Dear Michigan Radiology Alumni, Friends, and Family:



There were many changes in the medical center this past year that affected radiology. The purchase of the facility adjacent to the North Campus vacated by Pfizer, Inc., added two million square feet of medical school research space, including 500,000 square feet of wet laboratory space. Staff at the Medical Center are still deliberating on the best use of this space, but have affirmed that laboratories that are expected to grow and to engage in collaborative efforts with other laboratories will

be given the highest priority. Our Molecular Imaging Center, led by Brian Ross, Ph.D., and Al Rehemtulla, Ph.D., has been selected to be one of the first to relocate to the North Campus Research Center.

We have completed the renovation of the space on Floor B1 of University Hospital that was vacated by Cardiology and have created a truly state-of-the-art series of angiography suites for neuroradiology, including interventional procedures. A biplane CT angiography suite, a biplane angiography room, and a multipurpose single plane angiography room are devoted to neuroangiography. Faculty from Radiology (Joe Gemmette and Neeraj Chaudhary) are working closely with Neurosurgery faculty (Greg Thompson and Aditya Pandey) to create an outstanding interventional neuroradiology program that provides around-the-clock expertise for the emergency evaluation and treatment of neurological emergencies.

The construction on the new Children's and Women's Hospital is ahead of schedule, and its completion should coincide nicely with the addition of three pediatric radiologists to our faculty: Jonathan Dillman, M.D., com-

pleted his fellowship in pediatric radiology in 2009 but is adding to his skills with a fellowship in abdominal imaging. Deepa Pai, M.D., is following a similar plan. Upon completing her fellowship in pediatric radiology, she will spend an additional year in musculoskeletal radiology before joining the pediatric radiology faculty. Maryann Mahani Ghadimi, M.D., spent most of her first year with us as a cardiothoracic fellow and as a staff member at the VA. This year, she is pursuing a full-time fellowship in pediatric radiology. Following her training, she will divide her faculty appointment between pediatric and cardiothoracic radiology.

With the "build out" of the shell space on the first floor, the construction in the Cardiovascular Center is complete. This new space is the home of our cardiac nuclear medicine facility. Jim Corbett, M.D., has attracted international attention with his pioneering work developing cardiac imaging protocols.

This past year was a banner year for our faculty's involvement in professional societies. Six faculty members served as society presidents, including Ruth Carlos (Radiology Alliance of Health Service Research), Reed Dunnick (American Board of Radiology), Isaac Francis (Society of Computed Body Tomography/Magnetic Resonance), Ella Kazerooni (American Roentgen Ray Society), Jim Ellis (Society of Uroradiology), and Nicolaas Bohnen (Brain Imaging Council, Society of Nuclear Medicine).

We look forward to seeing you at our receptions at the RSNA, ARRS, and SNM, and especially at our fall reunion in Ann Arbor (October 15-16, 2010).

Sincerely,

N. Reed Dunnick, M.D.

REVOLUTIONIZING BREAST CANCER SCREENING

continued from page 1



Dr. Paul Carson explains how the ultrasound and digital breast tomosynthesis (DBT) prototype machine operates.

Ultrasound and Digital Breast Tomosynthesis

Because the breast is three-dimensional, and conventional mammograms take x-rays of the breast from only two different viewpoints, small lesions (particularly in dense tissue) may go undetected. A team from the Department of Radiology Basic Radiological Sciences Division, including team director Paul Carson, Ph.D., and project leaders Mitchell Goodstitt, Ph.D.; Heang-Ping Chan, Ph.D.; and Xueding Wang, Ph.D., has worked with researchers from General Electric Global Research and U-M radiologists to develop and refine a prototype machine that can take both automated ultrasound and digital breast tomosynthesis (DBT) of the breast in the same view. Breast Imaging Radiologists Mark Helvie, M.D., Marilyn Roubidoux, M.D., Alexis Nees, M.D., Chintana Paramagul, M.D., and Renee Pinski, M.D., have steadily evaluated the combined system in human studies that could eventually lead to earlier detection and more effective diagnosis and treatment of breast cancer. The opportunity to take part in some of these studies is currently being offered to diagnostic patients at U-M. Work to include infrared imaging of the breast and new speed of sound imaging is progressing.

With DBT, an x-ray tube moves in an arc around the breast, taking 21 images from multiple angles and various depths, which are then reassembled on a computer to create 3-D views of the breast. Such views allow radiologists to detect lesions at an earlier stage, leading to a better prognosis. DBT has just recently been approved for use in Europe, but has not yet been approved in the U.S. by the Food and Drug Administration. “If scientific investigation can support positive findings, we may see DBT in clinical settings in the near future,” explains Dr. Helvie, director of U-M’s Breast Imaging Division.

Using ultrasound in conjunction with DBT can lead to an earlier and more precise diagnosis. Ultrasound imaging is used to distinguish solid tumors from fluid-filled cysts and to evaluate lumps that are hard to see on mammograms. “Mammography alone can miss up to 40 percent of cancers in dense breasts, most of which are detected by ultrasound,” explains Dr. Carson.

Computer-Aided Diagnosis (CAD) Systems

In addition to developing better screening tools for breast cancer, new computerized systems that can give doctors a “second opinion” for reviewing mammograms and other breast scans are also showing great promise at U-M.

The Department of Radiology’s CAD Research Laboratory team has worked for more than 15 years to develop CAD systems for breast imaging. Led by Heang-Ping Chan, Ph.D., the group is working closely with radiologists in the U-M Breast Imaging Division to evaluate new techniques. Together, the group has made significant progress using computers to increase the accuracy of interpretation of digital mammograms and breast ultrasound images.

The U-M team hopes this research will advance the field by improving mammogram classification of lesions as malignant or benign, enhancing breast ultrasound imaging, aiding with detection and classification on film and digital mammograms, and allowing precise tracking of an individual’s tumor over time.

Other Promising Research

Currently, Breast MRI is used to screen very high-risk patients and selected women diagnosed with cancer. A team of researchers led by Tom Chenevert, Ph.D., is also exploring the use of MRI to monitor the effectiveness of breast cancer treatments and to individualize cancer care by gauging a patient’s response to treatment.

“What really sets Michigan apart is our truly integrated approach to cancer care. On one end of the spectrum, our division is participating in exciting research focused on developing better, more accurate care. On the other end, we’re collaborating with breast surgeons, pathologists, medical oncologists, radiation oncologists, and plastic surgeons to carry out that care,” adds Dr. Helvie.

RESEARCH SPOTLIGHT

New Ultrasound Research Could Transform the Treatment of Cancer and Other Diseases



J. Brian Fowlkes, Ph.D., Director of the Basic Radiological Sciences Ultrasound Group.

Thanks to increased funding from the National Institutes of Health and other organizations, the Basic Radiological Sciences Ultrasound Group at the University of Michigan has entered an exciting period of discovery. Scientists are engaged in research that could lead to breakthroughs in the diagnosis and treatment of numerous diseases. Below are two examples of some of these potentially transformative research projects.

A Better Treatment Option for BPH (Benign Prostatic Hyperplasia) By the time they reach 80, eighty percent of men have BPH, a noncancerous growth of the prostate gland that can result in urinary difficulties. If symptoms become severe enough to warrant treatment, men with BPH face a difficult decision: Should they undergo prostate surgery, which is currently the most effective treatment available, but one that may produce painful and debilitating side effects? Or choose a painless non-invasive treatment that may not produce the best long-term outcome? Thanks to a new ultrasound procedure

developed by a team of researchers at U-M, BPH patients will soon have a better option.

More than a decade ago, Drs. Charles Cain (Biomedical Engineering) and Brian Fowlkes, (Biomedical Engineering and Radiology) began investigating the use of short high-intensity ultrasound pulses to destroy diseased tissue, a procedure later named “histotripsy.” “The pulses produce tiny, energetic gas bubbles at the focus of the ultrasound field, which break down the cellular structure of tissue,” explains Dr. Fowlkes. The end result is liquefied tissue that can be removed from, or reabsorbed by, the body. Since the bubbles’ activities can be viewed by ultrasound imaging, operators can use histotripsy to destroy abnormal tissue in a precise manner, thereby avoiding damage to healthy tissue.

A clinical prototype of histotripsy is currently being developed for submission to the U.S. Food and Drug Administration. Dr. Fowlkes anticipates that, given the tool’s similarity to another ultrasound method widely used in treating kidney stones (lithotripsy), it should be approved in a timely manner. Once it becomes commercially available, BPH sufferers will have an effective, less painful, and low-cost treatment option. In the meantime, a research team that includes Drs. Cain and Fowlkes, Dr. Zhen Xu of Biomedical Engineering, and Drs. Timothy Hall and William Roberts of Urology continue to explore histotripsy’s potential for treating benign and cancerous soft tissue lesions and other possible uses of the technology.

Acoustic Droplet Vaporization A process called acoustic droplet vaporization (ADV) could eventually be an effective tool in a number of clinical applications, including drug delivery and occlusion therapy (therapy involving the blockage or closure of a blood vessel). ADV refers to the transformation of perfluorocarbon liquid droplets into gas bubbles upon exposure to ultrasound pulses. Since the boiling point for the droplets is below body temperature, they are superheated after injection in the body. When perturbed by the ultrasonic pulses, the droplets, which are small enough to pass through capillaries, change into gas bubbles five times larger than the size of red blood cells. Because of their size, the gas bubbles can

The Inauguration of the First Saroja Adusumilli Collegiate Professorship



The late Dr. Saroja Adusumilli's parents, Drs. Surendranath Adusumilli and Swatantra Adusumilli with Dr. Richard Cohan (center left) and Department of Radiology Chair Dr. Reed Dunnick (center right).

Dr. Richard Cohan was recently installed as the first Saroja Adusumilli Collegiate Professor of Radiology. Family, friends, and colleagues gathered to celebrate the late Dr. Adusumilli's life, and to congratulate Dr. Cohan on this honor.

Dr. Cohan is a professor of radiology and the associate chair of education and the associate residency training program director for the Department of Radiology. Like the late Dr. Adusumilli, he is also a member of the abdominal imaging group.

New One-stop Option Aids Neurovascular Diagnosis and Intervention

The opening of a new neurointerventional suite has greatly enhanced the already excellent neurovascular care patients receive at U-M. A collaboration between Radiology and Neurosurgery, the suite makes it possible to both detect and treat strokes, cerebral aneurysms, and more all in the same room. It has three scanning rooms and houses both a 64-slice CT scanner and biplane imaging tools for angiography, together with other equipment for minimally invasive diagnostics and interventional procedures. A patient gets one-stop treatment: going from diagnosis to intervention in the same room, with a team of radiologists and neurosurgeons working closely together.

(adapted from an article printed in Colleagues in Care, Fall 2009)

be used to occlude the flow of blood to selected regions of the body. This can be an effective tool for destroying cancer cells when combined with other therapies, since occlusion will cut off the flow of oxygen and nutrients to these cells.

Recent studies by Dr. Oliver D. Kripfgans, and his team of researchers in Radiology, show that ADV can block the flow of blood to selected regions of the kidney and thus may enhance the effect of radio-frequency ablation. With radiofrequency ablation, a thin needle guided by ultrasound is inserted into a tumor and electrical energy produced at the tip heats and destroys the tumor. ADV could enhance the effect of radio-frequency ablation by reducing the loss of heat via the blood flow. The team has also been investigating ADV enhancement of ultrasound thermal therapies applied through the skin, which would eliminate the need for needle placement and be used anywhere ultrasound can travel.

According to other studies by Kripfgans and his team, ADV could also help improve the effectiveness of chemotherapy. With ADV, chemotherapy drugs can be delivered more precisely to specific body sites, such as cancerous masses in the kidney or liver. Researchers incorporated chemotherapy agents in the liquid droplets and then released and vaporized these drugs at the target site. This focused approach reduces toxicity to the rest of the body.

SAVE THE DATE

University of Michigan Hodges Society Alumni Reunion

October 15th: CME Program,
Department Tours, Alumni Dinner

October 16th: Tailgate Party,
Michigan vs. Iowa Football Game

www.med.umich.edu/rad/homecoming.html

PROFILES

FACULTY

James Robert Corbett, M.D.

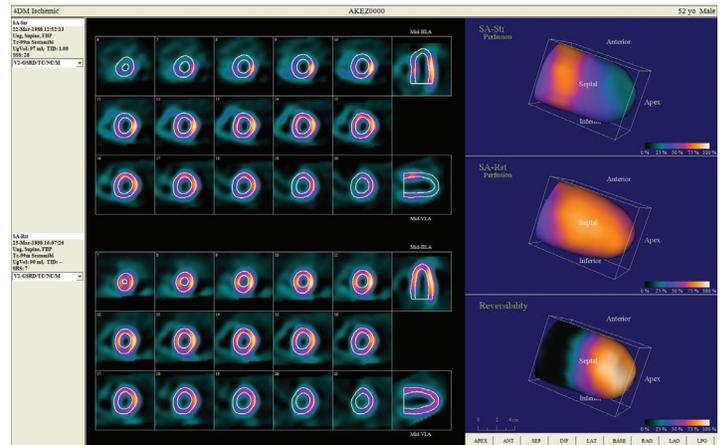
*Professor, Department of Radiology
Professor, Department of Internal Medicine
Director, Cardiovascular Nuclear Medicine*

Developing a Better Way to See the Heart

A member of the U-M Department of Radiology faculty since 1993, Dr. Corbett has more than 30 years of experience in nuclear cardiology, with specializations in cardiovascular disease and nuclear cardiology. His research explores the quantification of cardiac structure and function through three-dimensional analytic methods applied to Single Photon Emission Computed Tomography (SPECT) and Positron Emission Computed Tomography (PET) imaging data.

What nuclear medicine physicians can determine from SPECT and PET scans depends upon how well the data can be imaged and interpreted. Dr. Corbett's work is dedicated to finding better "ways of seeing" the heart. In the 1990s, he was one of the founding research investigators, along with U-M nuclear medicine research scientist Dr. Edward Ficaro, to develop commercially available computer software that generates quantitative three-dimensional displays of measured heart blood flow and function called 3D-MSPECT. In 1994, the Division of Nuclear Medicine at U-M began routinely using this software for all patients referred for myocardial perfusion SPECT imaging. In 2000, its name was updated to 4D-MSPECT to also reflect the time dimension in gated studies of three spatial dimensions. In 2005, the technology was taken out of U-M with the formation of the start-up company INVIA Medical Imaging Solutions and the name was updated to Corridor4DM.

The Corridor4DM software is used by nuclear medicine imaging systems to display and quantify heart images used in the diagnosis and evaluation of heart problems. Nuclear medicine images are taken during heart stress testing where a cardiac patient walks on a treadmill or receives a pharmacologic stressor.



An example of computer images generated by the Corridor4DM software.

The patient is injected with a compound that traces cardiac blood flow at peak stress and compares it to similar measurements performed at rest. Using SPECT or PET imaging, computer images are created that represent the patterns of heart blood flow and contractile function. The Corridor4DM software lets nuclear medicine physicians manipulate the images to view different angles, to watch the heart in motion, compare a patient's information with databases of normal distributions, and to identify and measure areas of abnormal blood flow and function. By comparing images when the heart is under stress with images at rest, Corridor 4DM aids in the identification of blocked coronary arteries or damaged heart tissue, the potential for serious clinical problems, and the prescription of further tests or treatments such as coronary angioplasty or bypass. There is a built-in database generator that allows doctors doing studies of new heart tracers or protocols or special patient populations to characterize their normal distributions.

Drs. Corbett and Ficaro continue to enhance this software, integrating new functions such as automatic report generation and extensions to other imaging techniques. Currently under development is the ability to measure absolute heart muscle blood flow using dynamic cardiac PET imaging.

For more information about Dr. Corbett and Dr. Ficaro's company INVIA Medical Imaging Solutions, go to www.inviasolutions.com.

RESIDENT/FELLOW

Jonathan Dillman, M.D.

Clinical Lecturer, Department of Radiology



Giving His Best to Radiology

One outstanding fellow who has shown unwavering commitment to research, patients, and U-M's Department of Radiology is Jonathan Dillman, M.D. Currently an Abdominal Imaging Radiology Fellow (Dr. Dillman completed the Pediatric Radiology Fellowship at U-M in July 2009), Dr. Dillman has conducted ground-breaking research in many areas of pediatric radiology and abdominal imaging, finding time to publish numerous articles as well as present a variety of papers and educational exhibits at national radiology meetings. Dr. Dillman also serves as a Section of Pediatric Radiology faculty member at C.S. Mott Children's Hospital one day per week.

One of Dr. Dillman's recent investigations examined the safety of intravenously administered computed tomography (CT) contrast agents in children, the largest study at the time to explore this topic. The results confirmed that these contrast agents are very safe and only a tiny minority of

children experience allergic-like reactions to them. This research also found that severe reactions can occur, and that radiologists must be prepared to treat them promptly. Another ongoing study focuses on the use of magnetic resonance imaging (MRI) in the diagnosis and assessment of inflammatory bowel disease in children. Preliminary results show that MRI is an excellent alternative to CT (the current standard imaging test), since it allows for the evaluation of both intestinal and extraintestinal disease manifestations without the ionizing radiation, which is especially critical in pediatrics where radiation dose reduction is most important.

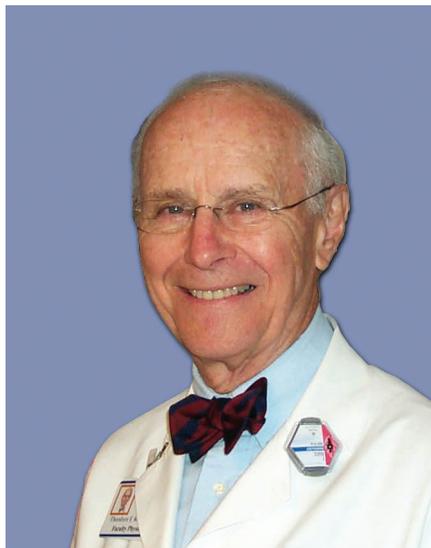
The exceptional quality of Dr. Dillman's research and clinical work has been recognized with numerous awards. As a resident, Dr. Dillman received U-M Department of Radiology's Outstanding Scientific Resident Paper Award and the Society of Uroradiology's Member-In-Training Best Paper Award. He also received the Best Poster awards at the 2009 meetings of the Society of Uroradiology and the Society of Gastrointestinal Radiologists. As a Pediatric Radiology Fellow, he received the Roentgen Fellow Research Award from U-M's Department of Radiology and the Radiological Society of North America.

Dr. Dillman has been thrilled by the outstanding educational and research opportunities available to him at U-M. "The faculty here are wonderful teachers and research mentors," he says. "Also, residents have exposure to state-of-the-art imaging technologies, which enable them to work at the cutting-edge of clinical care and research." Dr. Dillman is looking forward to assuming a full-time staff position at C.S. Mott Children's Hospital after completing his Abdominal Imaging Fellowship.

ALUMNI PROFILE

GRATEFUL U-M ALUMNUS TO ENDOW
FULL PROFESSORSHIP

Theodore E. Keats, M.D.



By all accounts, former U-M Department of Radiology resident (1949–51) Dr. Theodore E. Keats has had a stellar career. For more than six decades, he has been exploring what is “normal” when interpreting countless x-rays. He has written dozens of book chapters, hundreds of papers and articles, and six books on radiological topics; acted as editor of four medical journals; and

lectured around the world about normal anatomical phenomena that can be mistaken for disease on x-rays. “Diagnosing a disease that a patient does not have is the worst mistake a doctor can make,” he explains. For his work’s impact on the field of radiology, he received the 1995 American College of Radiology’s Gold Medal, the most prestigious honor awarded by the 30,000 member international group.

Having been fortunate to have had such a long and successful career, Dr. Keats is now finding ways to thank those who have helped him along the way. He has never forgotten the new ideas and encouragement that U-M provided him early in his career so he has decided to leave a bequest to the U-M Department of Radiology for the endowment of a full professorship.

This is due to the fact that it was during his training in Ann Arbor that some of the seeds of his impressive career were planted. At that time, there was no in-depth book regarding anatomic variants, and often patients with these variants were treated as having pathology, including “going to the OR for repairs.” One of his mentors at Michigan, Dr. Jack Holt, had been collecting a series of radiographs for years that he felt were normal

variants. He used these images in teaching residents and hoped to turn them into a useful reference book someday. During a sabbatical, Dr. Holt tried to convert his collection into a textbook but became overwhelmed by its organization and eventually gave up.

Intrigued by Dr. Holt’s idea, Dr. Keats also began saving examples of “normal variants” after he completed his residency. Years later, Dr. Holt turned over all his material to Dr. Keats, who put them all together into what is now known as the classic 1973 textbook *An Atlas of Normal Röntgen Variants That May Simulate Disease*. Now in its eighth edition, this book lists hundreds of x-ray variations that may closely resemble disorders. It is used worldwide in radiology departments, emergency rooms, and clinics as a reference for anatomic variants. Over the past several editions, CT and MRI images have also been added. The ninth edition, currently in the works, will include an online component as well.

Dr. Keats ended up spending the majority of his career at the University of Virginia where he was chair of the Department of Radiology for 28 years, from 1963 to 1991. He has taught thousands of medical students and more than 231 residents, many of whom now have distinguished careers in academic radiology. He is well loved and highly respected at U.Va. and was honored for his contributions there in 1992 by the naming of the Keats Professorship in Radiology. In 2005, the U.Va. Department of Radiology also established a Keats Alumni Society as a tribute to his career.

Even though Dr. Keats officially “retired” in 2001, he still continues to work part-time today at U.Va. at age 85. He lives with his wife Patricia Hart Keats in Charlottesville, Virginia. He hopes that his bequest to endow a full professorship in the Department of Radiology will inspire others at U-M just as Dr. Holt had done for him so many years ago.

A CAREER DEVOTED TO U-M RADIOLOGY

Robert Rapp, M.D.

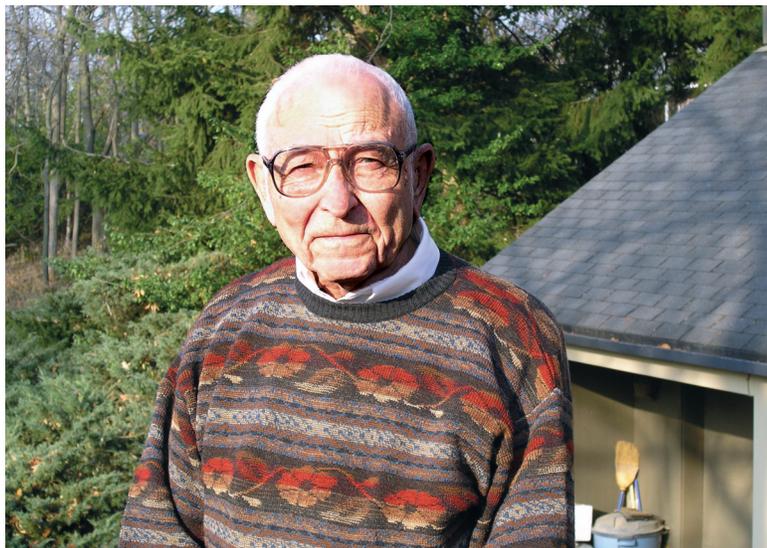
“I didn’t start out wanting to go into radiology,” says Robert Rapp (Resident ’53). “When I was serving as an intern at a hospital in Reading, Pennsylvania, following medical school, my future plan was to become a gastroenterologist.” But then fate intervened.

After completing his internship, Dr. Rapp was sent to a general hospital in Stuttgart, Germany, to run its x-ray department. Periodically, consultant radiologists came to the hospital, including Dr. Fred Jenner Hodges, then the chairman of the U-M Department of Radiology. “Dr. Hodges was so impressive,” says Dr. Rapp. “He was one of the best mentors I know of and we hit it off beautifully.” When Dr. Hodges encouraged him to apply to the residency program in radiology at U-M, Dr. Rapp felt he couldn’t go wrong.

Dr. Rapp entered U-M’s residency program in 1950. He recalls the enormous impact of the Radiology faculty, especially Dr. Hodges and Dr. Jack Holt, on his education. “The department had a number of high-class radiologists, and I received excellent training. U-M was a tremendous medical center during Dr. Hodges’s time, and it had one of the best clinical x-ray departments in the country.”

In 1953, Dr. Rapp became the chair of the Department of Radiology at the newly opened Ann Arbor VA Hospital, and he joined the staff of U-M’s University Hospital. During his 17 years at the VA, Rapp worked hard to ensure his department had the most up-to-date equipment and procedures in order to provide optimal clinical care to patients. “We had the first body CT scanner in Ann Arbor,” says Dr. Rapp, and “we brought back the intravenous pyelogram (IVP) to the Department of Radiology.”

In 1970, Dr. Rapp left the VA to assume a full-time position at U-M’s University Hospital, reading outpatient imaging studies. He remained there until his retirement



in 2003. During his fifty years at U-M, Dr. Rapp witnessed many remarkable advances in the field of radiology. “We used to perform oral cholecystograms to diagnose disorders of the gallbladder, but now this test has been largely replaced by ultrasound, and CT is now used instead of IVP for the diagnosis of renal stones.”

In reflecting upon his career in radiology, Dr. Rapp remarked that he enjoyed it from beginning to end. “I relished my stay at the U-M; I miss the University,” he says. Because the Department of Radiology has given so much to him, Dr. Rapp has decided to leave a bequest—a generous portion of his estate—to the department. “I want to give back to the department because I wouldn’t have had the successful career that I did without the training I received at Michigan.”

**Radiology Alumni —
we want to hear from you!**

Please contact Alisha Faciane at affenty@umich.edu or at 734.232.3248 to update us on your activities.

FACULTY AWARDS + RECOGNITION

Local, regional, and national awards and distinctions continue to recognize the expertise and innovation of our faculty members. Here are highlights of recent recognition received by our faculty.

Prachi Agarwal, M.D., was awarded a General Electric Association of University Radiologists Fellowship.

Nicolaas Bohnen, M.D., was elected president of the Society of Nuclear Medicine Brain Imaging Council.



James Carey, M.S., was awarded the Gold Medal by the Society of Nuclear Medicine Central Chapter.

Ruth Carlos, M.D., was elected secretary of the Association of University Radiologists and president of the Radiology Alliance for Health Services Research.

Thomas Chenevert, Ph.D., was awarded a fellowship by the International Society for Magnetic Resonance in Medicine.



Michael DiPietro, M.D., received the Haller Award for teaching from the Society of Pediatric Radiology.

N. Reed Dunnick, M.D., was appointed to the Executive Committee, and is past president of the Academy of Radiology Research. He is also president of the American Board of Radiology and a member of the Board of Directors of the Radiological Society of North America.

James Ellis, M.D., was elected president of the Society of Uroradiology.

Lorraine Fig, M.D., became a member of the Board of Regents of the American College of Nuclear Medicine.

Isaac Francis, M.D., was elected president and is a member of the Board of Directors of the Society of Computed Body Tomography.



Kirk Frey, M.D., Ph.D., was elected a trustee of the American Board of Nuclear Medicine.



Ella Kazerooni, M.D., received the Gold Medal Award from the Association of University Radiologists was elected a trustee of the American Board

of Radiology, is a member of the American College of Radiology Board of Chancellors, and is president of the American Roentgen Ray Society.

Aine Kelly, M.D., was awarded a Scholar Grant from the Radiological Society of North America.

Michael Kilbourn, Ph.D., received the Aebersold Award from the Society of Nuclear Medicine.

Robert Koeppe, Ph.D., became a member of the International Society for Cerebral Blood Flow.

Suresh Mukherji, M.D., received a fellowship from the American College of Radiology and was elected treasurer of the American Society of Head and Neck Radiology.

Perry Pernicano, M.D., received a fellowship from the American College of Radiology.

Douglas Quint, M.D., received a fellowship from the American College of Radiology.

Leslie Quint, M.D., was appointed to the Board of Directors of the International Cancer Imaging Society, and is a member of the Board of Directors of the Society of Computed Body Tomography.

Brian Ross, Ph.D., received a fellowship from the International Society for Magnetic Resonance in Medicine.

Ashok Srinivasan, M.D., received the Scholar Award from the Radiological Society of North America.

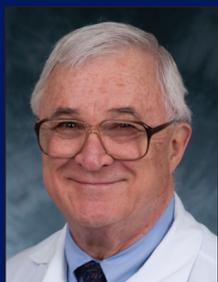


Peter Strouse, M.D., became a member of the Board of Directors of the Society of Pediatric Radiology.

DONOR HONOR ROLL

In Grateful Acknowledgment of Our Supporters July 1, 2008 to June 30, 2009

Dr. Kuhl Awarded Prestigious Japan Prize



David Kuhl, M.D., was awarded a 2009 Japan Prize for technological integration of medical science and engineering by the

Science and Technology Foundation of Japan. One of only two recipients of the 2009 award, Dr. Kuhl is known as "the father of emission tomography" and was recognized for developing a novel method of tomographic imaging of the distribution of radioactive isotopes in the body. As the first U-M recipient of this award, he is one of 66 people in 13 countries around the world who have received the prize.

Dr. Kuhl's research of tomographic imaging began in the 1950s. He was the first to demonstrate the clinical utility of image separation in brain tumors and stroke. In the 1970s his continued research into 3-D imaging moved the field from cerebral circulation and pathophysiology to transformative scientific discovery in neuroscience and behavioral science research.

Dr. Kuhl was recruited by U-M in 1986 to lead the Division of Nuclear Medicine. His research works to accomplish earlier diagnosis of patients with Alzheimer's disease and Parkinson's disease.

- Surendranath Adusumilli, M.D., & Swatantra Adusumilli, M.D.
Prachi Agarwal, M.D., & Ashok Srinivasan, M.D.
Abass Alavi, M.D., & Jane Alavi, M.D.
Anil Kumar Attili, M.D., & Mrs. Sreevalli Chamarthi
Janet E. Bailey, M.D.
Roger A. Berg, M.D., & Mrs. Lucille A. Berg
Torrey C. Bergman, M.D.
Mr. Brian Bevacqua & Mrs. Maryanne Bevacqua
Nicolaas Bohnen, M.D., & Mrs. Miriam Bohnen
Anu Bommareddi, M.D.
Richard Brown, M.D., & Mrs. Donna Brown
Elaine Caoili, M.D., & Michael Hudson, M.D.
Paul Carson, Ph.D., & Mrs. Patricia Carson
Heang-Ping Chan, Ph.D., & Kwok Leung Lam, Ph.D.
Thomas Chenevert, Ph.D., & Mrs. Deborah Chenevert
Neeraj Chopuri, M.D., & Mrs. Carolyn Chou
Richard Cohan, M.D., & Mrs. Nina Shafiroff Cohan
Gregory Creamer, M.D., & Mrs. Wendy Creamer
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