De RSNA News*

MIRC debuts its electronic teaching file system

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RSNA's Medical Imaging Resource Center (MIRC) is now offering access to a wide variety of independent digital teaching files through one central point—mirc.rsna.org. This month, MIRC will unveil an authoring tool that will further expand the ability to create, share and access medical information for research and education.

"MIRC makes it possible for all institutions and even individuals to develop and share their information beyond their current capabilities," says Eliot L. Siegel, M.D., chairman of the MIRC subcommittee of the RSNA Electronic Communications Committee (ECC).

The goal of MIRC is to enable the medical imaging community to share images and information for education, research and clinical practice. Originally conceived as a central point of storage for such information, MIRC has evolved into a community of libraries searchable via the Internet. This linking of materials will encourage convergence on standard formats for teaching files and other research documents.

In addition to having access to a group of independent teaching file sites, MIRC also indexes documents containing images, graphics, audio and video elements in a standard MIRC format which can be displayed on standard Web browsers. It can also provide an index of presentations and scientific and technical papers in any format.

In its initial implementation, six institutions supplied more than 4,000 cases to MIRC, including medical images, scientific and technical documents, and research data, which then became available to any Internet user to browse through a single interface.

"Our early implementers have demonstrated that MIRC can interconnect and share information among multiple libraries in multiple formats and can respond in parallel to a single MIRC search query," says Dr. Siegel, who is also vice-chairman of information systems at the University of Maryland School of Medicine and chief of imaging for the VA Maryland Healthcare System. "The new tools will make it possible for all institutions, and even individuals, to share their images and related information with the rest of the MIRC community."

MIRCat

The MIRC authoring tool, called MIRCat, is an opensource, multiplatform software package that users will run on their personal computers or networked servers. It allows users to import and manipulate images from picture archiving and communication systems (PACS) and modalities. It also allows them to create and edit teaching file cases and scientific documents. These documents could then be submitted to a MIRC site, where they will be indexed and made available via the Internet.

MIRCat features the ability to include interactive quizzes, self-evaluation, continuing medical education credit reporting, and references to other MIRC documents.

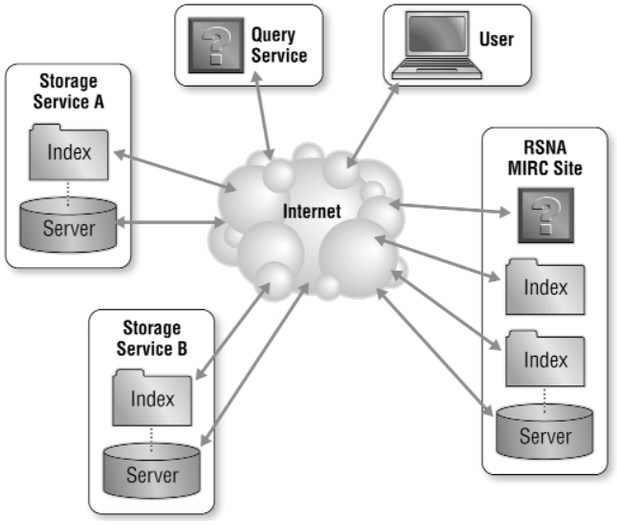
RSNA will provide the teaching file authoring and indexing software to the entire imaging community at no cost with the expectation that institutions and individuals will enhance the software and share their improvements. The software can be used to develop questions, quizzes, conference presentations and teaching modules.

To download a copy of the MIRCat software package, go to mirc.rsna.org and view the MIRC Documentation page, which links to instructions for installation.

"We conducted MIRC demonstrations at RSNA 2002 and the project was certainly well received," says Ronald L. Arenson, M.D., chairman of the ECC, and professor and chairman of the Department of Radiology at the University of California, San Francisco. "The RSNA Board of Directors considers MIRC to be a wise research and teaching investment and has consistently supported expansion of the project."

"Before MIRC, practicing radiologists could not access teaching material or case files in a readily available format," explains Dr. Arenson. "Because MIRC enables people to access many libraries at once, it helps radiologists research similar findings when reading problem cases. This is both a unique and valuable resource for radiologists in private practice."

As the number of radiologists using MIRC begins to grow, new uses and applications for the site are expected to develop. Dr. Siegel says he wouldn't be surprised if the ma-



jority of the imaging community eventually uses MIRC in some form or another, "The MIRC project expansion will bring the imaging community closer together."

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MIRC Sessions at RSNA 2003

A number of MIRC sessions will be available in the infoRAD area at RSNA 2003. Seating is limited to 90 people. CME credit is available.

A Tour of the MIRC Community

Learning Objectives:
- Learn how to find MIRC sites on the Web
- Learn how to query individual MIRC sites
- Learn how to query the entire MIRC community
- Learn how to construct a complex query to limit query results

How to Author MIRC Teaching File Documents

Learning Objectives:
- Download and install the MIRC authoring tool on your laptop computers during the class
- Use the authoring tool to access and manipulate images from a PACS and create a teaching file case using the images
- Learn to submit cases to a MIRC site

Inside the RSNA MIRC Software

Learning Objective:
- Learn the internal structure of the MIRC software and how to modify both the software and the configuration files.

Recommended Prerequisite:

How to Build a Databasedriven MIRC Teaching File System

Learning Objective:
- Learn how to interface the MIRC teaching file software to an existing databasedriven teaching file system.

Recommended Prerequisite: Inside the RSNA MIRC Software

For more information or the classroom schedule, go to www.rsna.org/rsna/advanceregistration/pdf/AdvanceRegistration2_online.pdf.

RSNA Grant leads to ultrasound centers opening in África

Three ultrasound centers have opened in Africa—one in Uganda and two in Nigeria—and five additional centers are moving through the application and contract process as a result of a grant from the RSNA Research & Education Foundation.

Barry B. Goldberg, M.D., is spearheading the initiative for ultrasound training in Africa through the Jefferson Ultrasound Research and Education Institute (JUREI)—an institute he founded at Thomas Jefferson University in Philadelphia. Dr. Goldberg is the director of the Division of Ultrasound and a professor of radiology at Thomas Jefferson University Medical Center and Hospital.

In 2001, Dr. Goldberg was awarded a three-year, $300,000 RSNA International Radiology Education Program Grant to "Teach the Teachers" from Emerging Nations, which he has used to bring radiologists from SubSaharan Africa to learn in Philadelphia. To date, 12 radiology professors from SubSaharan Africa have completed JUREI's intensive 12-week course in diagnostic ultrasound. The professors returned to their respective countries to set up ultrasound education centers and to train others. In addition to the course work and clinical experience, the professors were provided with donated ultrasound equipment, educational materials, videotapes, books and educational CDROMs to help them teach physicians back home.

The improvements in radiology practice in Uganda are readily apparent. "There is a better understanding of medical physics, ultrasound anatomy and instrumentation, and how these relate to the day-to-day practice of ultrasound," says Michael G. Kawooya, M.M.Ch.B., M.Med.(Rad), institute manager at the Ernest Cook Ultrasound Research and Education Institute at Mengo Hospital in Kampala, Uganda, in cooperation with the Radiology Department at the Makerere University Medical School Mengo Hospital.

Ultrasound is the modality of choice in developing countries because CT and MR imaging units are not widely avai-

lable. Dr. Kawooya says areas of ultrasound, such as musculoskeletal, interventional and vascular imaging, were not practiced a few years ago. "Now they are becoming routine," he says. "The radiologists and sonographers are more careful, systematic and observant while performing examinations, in addition, we now have a better theoretical understanding of sono graphic patterns and this has resulted in more accurate diagnoses."

Kathryn M. James, M.B.A., R.D.M.S., a clinical instructor at JUREI and technical coordinator for education in the Department of Radiology at Thomas Jefferson, says the program has clearly made a difference: "The African radiologists are quite good at ultrasound. They can perform a broad spectrum of ultrasound imaging."

Dr. Kawooya was among three radiologists from Uganda who were trained in Philadelphia under Dr. Goldberg. Dr. Kawooya says the opening of the Ugandan institute was a major victory for radiology. The first ultrasound class had 10 students who passed the JUREI examinations. Currently, there are 45 students utilizing the facilities at the Ernest Cook Ultrasound Research and Education Institute.

"I think the Ugandan institute is successful because we hit the right combination," says Dr. Goldberg, who is also chairman of the RSNA Committee on International Relations and Education. "Our program selects good physicians who like to teach and who have the drive and energy and the circumstances to succeed. We try to pick individuals who are in places that have some infrastructure to allow for development of an ultrasound training program. Plus, we work with the World Health Organization (WHO) and local organizations to help us select the best teachers for training. The radiologists from Uganda learned a lot and went back and applied the program's information. They followed our format and have been very successful."

Dr. Kawooya says educational programs like this are making a difference for patients, radiologists and other physicians. "In my opinion, our diagnoses are now more accurate and this is creating more confidence in physicians who refer patients to us," he says. "I think positive patient outcomes are most apparent in obstetrics and gynecology, interventional radiology and musculoskeletal diagnosis. We are using ultrasound for diagnosing and studying abdominal trauma, abdominal aneurysms, shoulder rotator cuffs, abdominal tumor staging and almost all image-guided abdominal studies."

The radiologists from the African centers will attend a month long training session in Philadelphia in November and will then attend their first RSNA annual meeting. They will also have the opportunity to meet with members of the R&E Foundation to discuss the profound impact the R&E grant to Dr. Goldberg has had on their lives.

"I would like to thank the RSNA members for giving us such an opportunity," says Dr. Kawooya. "It is exciting to have a global effort focused on us that is improving our training and practice."

Despite the success of the program, the Ugandan institute still faces many challenges and difficulties. There are very few ultrasound machines for training and only limited teaching aids. The program does not have an LCD projector or enough textbooks, and between 12 to15 students share one ultrasound unit, according to Dr. Kawooya. Dr. Goldberg is working to obtain additional ultrasound equipment and educational materials.

JUREI has been training educators for more than a decade and now has 56 affiliated centers around the world including Afghanistan, China, India and Mongolia, with a current focus on Africa.

JUREI is the only center recognized for general training in diagnostic ultrasound by WHO. The institute has 21 scanning rooms and three conference rooms as well as an audiovisual center. A review of the pre and postexaminations given to the students shows the participants have essentially doubled their ultrasound knowledge during the training program at JUREI.

At RSNA 2003, Dr. Goldberg and some of his colleagues will present information on the effectiveness of the R&E funded program in comparison to the previously established educational programs.

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The faculty and students of the Ernest Cook Ultrasound Research and Education Institute in Uganda with ultrasound equipment received through a donation from the Jefferson Ultrasound Research and Education Institute in Philadelphia.

Radiologists in the Congo say that their recent ultrasound training helps them to more easily diagnose tropical diseases and successfully treat patients.

Last year, Michel Tshikwela Lelo, M.D., completed the threemonth ultrasound training program at JUREI. Upon his return to the Congo, Dr. Lelo established the Institute d'echographie de Kinshasa at Kinshasa University Hospital, where he is the director and ultrasound instructor.

"Before my training at Thomas Jefferson, many patients at the hospital were referred to private ultrasound practitioners," says Dr. Lelo. "Our doctors now have appropriate training and equipment. Our patients are very satisfied and are no longer sent away."

The Institute d'echographie de Kinshasa trains radiology residents and practicing radiologists, as well as other interested physicians. This past spring, the institute offered ophthalmologists an ocular ultrasound course, which was well received. Gynecology, obstetrics and breast ultrasound will be offered to gynecologists this summer.

Civil War Impacts Country's Health

The Congo's hospitals are overcrowded and many patients die because of a lack of money or access to care, says Dr. Lelo. "The civil war, with its many catastrophes and traumas, has greatly increased the number of patients who need ultrasound check ups. Unfortunately, the civil war in our country focuses the governmental budget on acquiring weapons and not on purchasing ultrasound equipment," he says.

"There are many medical doctors who do not live in the Congo's capital city, Kinshasa, but are willing to travel for ultrasound training. Unfortunately, many cannot reach the school because of the war. Even in Kinshasa, medical doctors cannot afford to pay the tuition, which is reasonable for a country that is in a civil war. Consequently, organizing the ultrasound course sessions is difficult, but we are doing our best," he says.