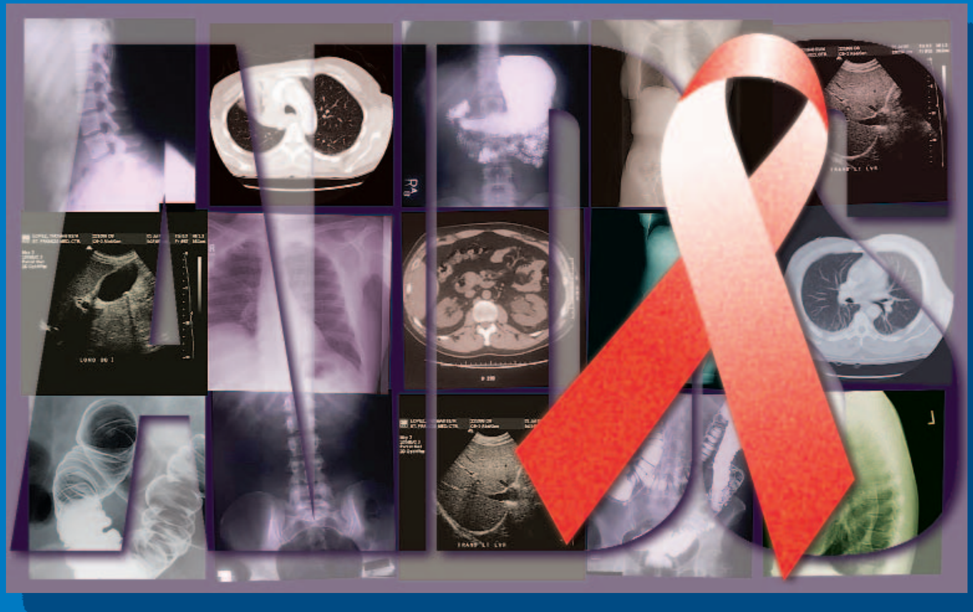
RSNA News

MARCH 2003 ▪ VOLUME 13, NUMBER 3

Imaging Plays Role in AIDS Diagnosis, Treatment



Also Inside:

- Government May Label Radiation as Carcinogen
- Radiologists Help Fight War on Terrorism
- Australian Radiology in Transition
- IHE to Expand Outside of Radiology
- History of the RSNA – Part 22

Abstract Deadline for RSNA 2003
April 15, 2003

RSNA News

March 2003

1 People in the News
3 Announcements
3 Letter to the Editor

Feature Articles
4 Government May Label Radiation as Carcinogen
5 Radiologists Help Fight War on Terrorism
6 Imaging Plays Role in AIDS Diagnosis, Treatment
8 Australian Radiology in Transition
11 IHE to Expand Outside of Radiology
12 History of the RSNA – Part 22

Funding Radiology's Future
15 Program and Grant Announcements
21 R&E Foundation Donors

14 RSNA: Working for You
16 *Radiology* in Public Focus
23 Meeting Watch
24 Exhibitor News
25 www.rsna.org

RSNA News
March 2003 • Volume 13, Number 3

Published monthly by the Radiological Society of North America, Inc., at 820 Jorie Blvd., Oak Brook, IL 60523-2251. Printed in the USA.

Periodical postage pending mailing with postage in Oak Brook, IL 60523, and additional mailing offices. POSTMASTER: Send address correction "changes" to: *RSNA News*, 820 Jorie Blvd., Oak Brook, IL 60523-2251.

Nonmember subscription rate is $20 per year; $10 of active members' dues is allocated to a subscription of *RSNA News*.

Contents of *RSNA News* copyrighted ©2003 by the Radiological Society of North America, Inc.

Letters to the Editor:
E-mail: *rsnanews@rsna.org*
Fax: (630) 571-7837
RSNA News
820 Jorie Blvd.
Oak Brook, IL 60523

Subscriptions
Phone: (630) 571-7873
E-mail: *subscrip@rsna.org*

Reprints and Permissions
Phone: (630) 571-7829
Fax: (630) 590-7724
E-mail: *strassne@rsna.org*

Advertising
Phone: (630) 571-7819
E-mail: *jdrew@rsna.org*
www.rsna.org/advertising/ratecardrsnanews.html

EXECUTIVE EDITOR
Joseph Taylor

MANAGING EDITOR
Natalie Olinger Boden

CONTRIBUTING EDITOR
Robert E. Campbell, M.D.

EDITORIAL BOARD
Susan D. Wall, M.D.
Chair
Lawrence W. Bassett, M.D.
Richard H. Cohan, M.D.
Nancy A. Ellerbroek, M.D.
David S. Hartman, M.D.
Bruce L. McClennan, M.D.
William T.C. Yuh, M.D., M.S.E.E.
Robert R. Hattery, M.D.
Board Liaison
Hedvig Hricak, M.D., Ph.D.
Board Liaison-designate

CONTRIBUTING WRITERS
Stephen Barlas
Stuart Birkby
Bruce K. Dixon
Mary E. Novak
Marilyn Idelman Soglin

GRAPHIC DESIGNER
Adam Indyk

ADVISORS
Dave Fellers, C.A.E.
Executive Director
Roberta E. Arnold, M.A., M.H.P.E.
Assistant Executive Director Publications and Communications

2003 RSNA BOARD OF DIRECTORS
David H. Hussey, M.D.
Chairman
Robert R. Hattery, M.D.
Liaison for Publications and Communications
R. Gilbert Jost, M.D.
Liaison for Annual Meeting and Technology
Theresa C. McLoud, M.D.
Liaison for Education
Gary J. Becker, M.D.
Liaison for Science
Hedvig Hricak, M.D., Ph.D.
Liaison-designate for Publications and Communications
Peggy J. Fritzsche, M.D.
President
Brian C. Lentle, M.D.
President-elect

In Memoriam

Yuji Itai, M.D., from Ibaraki, Japan, died in January at the age of 62. Dr. Itai, a 2002 RSNA Honorary Member, specialized in gastrointestinal radiology and helped to broaden the scope of radiologic research and clinical practice around the world. Dr. Itai was a professor and chairman of the Department of Radiology at the Institute of Clinical Medicine at the University of Tsukuba. He was also the head of the board of directors for the Japan Radiological Society. At the time of his death, he was investigating synchrotron radiation—a state-of-the-art x-ray source.

Yuji Itai, M.D., received an Honorary Membership award at RSNA 2002 from Society President R. Nick Bryan, M.D., Ph.D.

New NIBIB National Advisory Council Meets

Another milestone was reached in the development of NIBIB—the first meeting of the National Advisory Council for Biomedical Imaging and Bioengineering (NACBIB) was held in January. The next NACBIB meeting is scheduled for late May.

Front row, from left: **Shirley A. Jackson, Ph.D.,** NIBIB Director **Roderic I. Pettigrew, M.D., Ph.D.,** NIBIB Deputy Director **Donna J. Dean, Ph.D., Esin Gulari, Ph.D.** Second row, from left: **C. Douglas Maynard, M.D., Jack Smith, M.D., R. Brent Harrison, M.D., Shu Chien, M.D., Ph.D., Stephen A. Williams, M.D., Ph.D., Carlo J. De Luca, Ph.D.** Back row, from left: **Rebecca Richards-Kortum, Ph.D., John Livengood, M.D., M.P.H., James A. Zagzebski, Ph.D., Linda C. Lucas, Ph.D., Janie Fouke, Ph.D., Arden L. Bement Jr., Ph.D., Frank C. Yin, M.D., Ph.D., Norbert J. Pelc, Sc.D.**

Prominent Scientist Joins NIBIB Staff

Robert M. Nerem, Ph.D., a world-renowned researcher in tissue engineering, has joined the staff of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) as a senior advisor for biomedical engineering. He will be responsible for keeping NIBIB staff abreast of advances in the field, identifying research areas of emphasis, mentoring junior staff in the bioengineering area and helping establish an intramural program.

"We are extremely fortunate to have Dr. Nerem join us," says NIBIB Director Roderic I. Pettigrew, M.D., Ph.D. "He is the bioengineer's bioengineer and will be invaluable in helping us to fulfill our mission of supporting and conducting innovative research focused on emerging technologies that can have a positive impact on the nation's healthcare agenda."

Dr. Nerem is currently the director of the Georgia Tech/Emory Center for the Engineering of Living Tissues and is also the director of the Parker H. Petit Institute for Bioengineering and Biosciences at the Georgia Institute of Technology.

Robert M. Nerem, Ph.D.

RSNA News Send your submissions for *People in the News* to *rsnanews @rsna.org*, (630) 571-7837 fax, or *RSNA News*, 820 Jorie Blvd., Oak Brook, IL 60523. Please include your full name and telephone number. You may also include a non-returnable color photo, 3x5 or larger, or electronic photo in high-resolution (300 dpi or higher) TIFF or JPEG format (not embedded in a document). *RSNA News* maintains the right to accept information for print based on membership status, newsworthiness and available print space.

New CIR Leaders Announced

The Colegio Interamericano de Radiologia/Interamerican College of Radiology (CIR) has named its 2002-2004 board of directors and vice-presidents. They are:

BOARD

PRESIDENT:
Luiz Karpovas, M.D.
(Sao Paolo, Brazil)

PRESIDENT-ELECT:
Miguel E. Stoopen, M.D.
(Mexico City)

TREASURER:
Francisco A. Quiróz, M.D.
(Brookfield, Wisc.)

SECRETARY-GENERAL:
Ricardo Garcia Mónaco, M.D. (Argentina)

VICE-PRESIDENTS (BY REGION)

NORTH:
Pablo R. Ros, M.D. (Boston)

CENTRAL AMERICA:
Ilka M. Guerrero, M.D.
(El Dorado, Panama)

INSULAR AND IBERIAN:
Luis Donoso-Bach, M.D.
(Matadepera Bar, Spain)

BOLIVARIAN:
Germán Urquizo, M.D.
(Lima, Peru)

SOUTH CONE:
John McKinnon, M.D.
(Santiago, Chile)

Left to right: **Ricardo Garcia Mónaco, M.D.,** *Secretary-General;* **Carlos Gimenez, M.D.,** *Past-President;* **Francisco Quiróz, M.D.,** *Treasurer;* **Luiz Karpovas, M.D.,** *President;* and **Miguel E. Stoopen, M.D.,** *President-elect.*

Hillman Named Editor-in-Chief of *JACR*

Bruce J. Hillman, M.D., has been selected as the editor-in-chief of the *Journal of the American College of Radiology.* Dr. Hillman is an ACR chancellor and recently announced his retirement as the Theodore E. Keats professor and chairman of the Department of Radiology at the University of Virginia School of Medicine in Charlottesville. The new journal is expected to launch in early 2004.

Bruce J. Hillman, M.D.

Yablonskiy Receives NIH Grant

Dmitriy A. Yablonskiy, Ph.D., a 2000 RSNA Research & Education Foundation Research Scholar, has earned a five-year, $1.9 million grant from the National Heart, Lung and Blood Institute at the National Institutes of Health for "Quantitation of the Lung Ventilation and Structure by 3He MR," which is based on his RSNA research project. Dr. Yablonskiy is a professor of physics and an assistant professor of radiology at the Mallinckrodt Institute of Radiology in St. Louis. For more on his research, see the July 2002 issue of *RSNA News.*

Dmitriy A. Yablonskiy, Ph.D.

Barry B. Goldberg, M.D. (right), **receives the presidential gavel from Charles Gooding, M.D., ROF founder and chairman.**

Goldberg President of ROF

Barry B. Goldberg, M.D., a professor and chief of ultrasound at Thomas Jefferson University Hospital in Philadelphia, is the new president of the Radiology Outreach Foundation (ROF). **Lilian L. Leong-Fung, M.D.**, president of the Hong Kong College of Radiologists and of the Asian Oceanian Society of Radiology, is the new vice-president.

Since its inception in 1988, ROF has distributed $9.1 million in educational materials to 102 institutions in 74 countries.

Lilian L. Leong-Fung, M.D.

Pettigrew to Speak at Georgetown

NIBIB Director **Roderic I. Pettigrew, M.D., Ph.D.,** will be the keynote speaker for the 5th Annual Dr. Ann M. Lewicki Lecture Series at Georgetown University Medical Center on April 18, 2003. The lecture series is named in honor of Ann M. Lewicki, M.D., M.P.H., a clinical professor of radiology at Georgetown.

Roderic I. Pettigrew, M.D., Ph.D.

RSNA Provides Donation to NMF

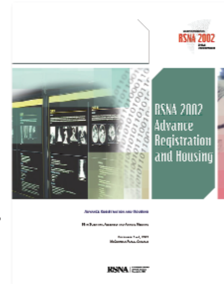
RSNA has contributed $2,500 to support the National Medical Fellowships' (NMF) Need-based Scholarship Program. The money will be used to provide scholarships to deserving minority medical students who plan to practice in underserved areas.

NMF is the only private, nonprofit organization dedicated to improving the health of underserved communities by increasing the representation of minority physicians, educators, researchers and policymakers in the United States; training minority medical students to address the special needs of their communities; and educating the public and policymakers to the public health problems and needs of underserved populations.

In fiscal 2002-2003, RSNA will contribute more than $250,000 in cash, services and educational materials to related societies and organizations including the Academy of Radiology Research, the American Registry of Radiological Pathology and the National Council on Radiation Protection and Measurements.

RSNA Brochure Wins Graphic Design Award

The *RSNA 2002 Advance Registration and Housing* brochure is the winner of a 2002 Design Annual American Graphic Design Award. The brochure cover, along with four others, were featured in the December 2002 issue of *Graphic Design USA,* a monthly business-to-business magazine for professional graphic designers and related creative and production professionals.



LETTER TO THE EDITOR

Teens Will Explore Their Future in Radiology

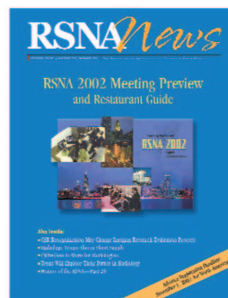
TO THE EDITOR:

In the October 2002 issue of *RSNA News* with subsequent follow up in January 2003, there was an interesting article, "Teens Will Explore Their Future in Radiology." What a wonderful concept. At the same time it may be shortsighted. I have had four teens working for me as research assistants. One is a pediatric resident (no longer a teen when she worked for me), two are pre-medical students and one does not like "blood and guts," but could become a research writer. All are or have been working on research towards publication.

They were given opportunities that I would have killed for. I pay them a salary. They get experience and their names in print, and I have help getting my research done in a busy clinical practice. The pediatric resident has eight case reports published and more case reports and papers yet to be submitted. The first of two pre-medical students has one poster, two oral abstracts, four published case reports and three case reports in print with more yet to be submitted.

Those of us in practice would like to see our work continued and provide direction at the same time. We can affect teens now and not only at the RSNA. Why not support them now as a group?

MICHAEL E. SPIETH, M.D.
DEPARTMENT OF RADIOLOGY NUCLEAR MEDICINE SECTION, MARSHFIELD CLINIC AND ST. JOSEPH'S HOSPITAL, MARSHFIELD, WISC.



Chicago Public High School students searched for an olive in a turkey breast during a hands-on activity at RSNA 2002.

RSNA News — Send your *Letters to the Editor* to *rsnanews@ rsna.org*, (630) 571-7837 fax, or *RSNA News*, 820 Jorie Blvd., Oak Brook, IL 60523. Please include your full name and telephone number. *RSNA News* maintains the right to accept information for print based on membership status, newsworthiness and available print space.

Government May Label Radiation as Carcinogen

Public fears about excessive radiation from CT scans and x-rays could dissipate or flare considerably based on how the National Toxicology Program (NTP) categorizes radiation in its 11th Report on Carcinogens. Due for release in the winter of 2004, the NTP, a research arm of the Department of Health and Human Services (HHS), is scheduled to put 17 different substances into one of three categories:

- Known human carcinogen
- Reasonably anticipated to be human carcinogen
- Not listed (the substance is not a carcinogen or the evidence is insufficient to label it as such)

Three committees, which include some non-government scientists, are studying existing scientific data on the relationship between cancer and radiation, specifically from current medical use and from past use of atomic weapons. Those committees will make individual recommendations as to classification to Chris Portier, assistant director of NTP, and Kenneth Olden, director of the National Institute of Environmental Health Sciences (NIEHS) at the National Institutes of Health. NIEHS provides 90 percent of the funding for NTP, which includes representatives from various federal agencies with an interest in potential environmental and occupational health threats. Portier and Olden will then make recommendations to HHS Secretary Tommy Thompson, who is the final arbiter of how each of the 17 substances will be classified.

"Listing a substance does not mean it will cause cancer as currently used," says NIEHS Communications Director Bill Grigg. "A listing is meant to alert Congress, regulatory agencies and others, including the public, to see if current limits, labeling, etc., are sufficient to safeguard the public."

Bill Beckner
NCRP Executive Director

The 11th Report's classification of medical radiation will presumably have more of an impact on public opinion than on federal agencies. The Food and Drug Administration requires imaging and other equipment to be labeled as to radiation output. But the FDA imposes no limits on the amount of radiation a radiologist can use for a particular scan, or on a particular person. It does not have the authority under the Food, Drug and Cosmetic Act to do so. Nor do states impose such limits.

If NTP decides to place radiation in one of the two cancer categories, the media coverage about the decision could scare patients away from imaging procedures despite a recommendation from their physician for such procedures.

"However, a good number of drug therapies, such as tamoxifen, have been listed as carcinogens," says Grigg. "The report in these cases has carefully noted that their value may well exceed any risk—and that the matter should be discussed with a person's physician. This careful wording has kept down panic."

Executive director for the National Council on Radiation Protection and Measurements (NCRP) Bill Beckner says, "I receive approximately five calls a week from patients. They tell me their doctor wants them to have another diagnostic procedure and they ask me 'Haven't I already had enough radiation?'"

Beckner says he conveys the conventional wisdom: the health risks from medical radiation are very small. "If the NTP calls medical radiation a carcinogen, there may be a lot of people denying themselves medical care because of an unreasonable concern," he says.

For that reason, if radiation is listed as a carcinogen, radiologists and medical physicists should be prepared to explain the benefits from radiologic procedures and to emphasize that the benefits will far exceed the risk for properly ordered procedures.

More Information

- List of the 17 substances under consideration and comments posted: *ntp-server.niehs.nih.gov/NewHomeRoc/11thConsideration.html*
- American Association of Physicists in Medicine information concerning the NTP listing: *www.aapm.org/announcements/Carcinogens.html*
- Additional information about benefits and risks of radiological procedures from the RSNA-ACR patient education Web site: *www.radiologyinfo.org*

Radiologists Help Fight War on Terrorism

The role of radiologists is evolving in the treatment of patients who may become the victims of nuclear or biological terrorism. As government officials ask physicians on the medical front lines to consider receiving smallpox immunizations, radiologists are trying to ascertain their roles.

Radiologists played a key part in the early diagnosis of inhalational anthrax following the attacks on the World Trade Center and the Pentagon (*RSNA News,* December 2001). Chest x-rays on those patients indicated something was wrong. Follow-up CT chest images were markedly abnormal with hyperdense lymph nodes due to bleeding and diffuse mediastinal edema. Through the Internet, radiologists shared radiographic images of confirmed cases of inhalational anthrax so that their counterparts in other hospitals could compare those images as they tried to diagnose patients.

A year-and-a-half later in the War on Terrorism, radiation injury expert Fred A. Mettler Jr., M.D., says radiologists won't be the first physicians sought to examine potential nuclear terrorism patients. But, he says radiologists can be of great assistance by communicating to the public the meaning of radiation doses.

> *Education is the key. It is important that all RSNA members are reading from the same page.*
> **—Fred Mettler Jr., M.D.**

For example, Dr. Mettler says if someone is contaminated with 100 millirem (mrem) of radiation, a radiologist can explain that that amount is less than the amount of radiation in a CT scan (about 1,800 mrem) and therefore not harmful. Or, in the event of a much more critical contamination, he says, radiologists will be able to help explain the significance and potential medical risks and treatments.

Dr. Mettler is a professor emeritus of radiology at the University of New Mexico Health Sciences Center at Albuquerque, where he recently retired as the chair of radiology. He currently works with the New Mexico Veterans Affairs Healthcare System in Albuquerque and is RSNA's representative to the National Council on Radiation Protection and Measurements (NCRP). Additionally, Dr. Mettler is among an elite group of physicians working with the government's new Department of Homeland Security (DHS).

"Radiologists would be a critical part of an integrated medical team, but I don't see a front-line role for the majority of radiologists," he says.

Dr. Mettler says a number of radiology groups are working with DHS, the military and the Centers for Disease Control and Prevention (CDC) toward coordinating medical care in the event of a nuclear or biologic attack. Those groups include the American College of Radiology (ACR), the American Roentgen Ray Society and the Society of Nuclear Medicine.

"There are important efforts at the CDC related to early management and an all-hazards approach," Dr. Mettler says.

Loren Ketai, M.D.
University of New Mexico Health Sciences Center

Is This Patient Contaminated?

One of the difficulties facing physicians is how to determine the extent of a patient's injuries following a terrorist attack. "In such an event, you have to figure out if patients are contaminated. If so, are they contaminated by biological, chemical or nuclear agents or could it be two or three agents together?" Dr. Mettler explains. Medical and government officials say it's important for hospitals and physicians to consider this frightening possibility.

For example, Dr. Mettler says a hospital's nuclear medicine department and nuclear medicine physicians might be able to test a patient with a Geiger counter to see if he or she has received nuclear contamination. Dr. Mettler says radiation therapy experts will be very helpful in the event of a catastrophe, as will members of a hospital's nuclear medicine department. "Education is the key," he says. "It is important that all RSNA members are reading from the same page."

Bioterrorism

In the March 2003 issue of the *American Journal of Roentgenology,* Loren Ketai, M.D., Dr. Mettler and others

Continued on page 13

Imaging Plays Role in AIDS Diagnosis, Treatment

Radiologists are being urged to consider AIDS as a possible cause if they detect abnormalities during imaging procedures. This message was delivered during a refresher course at RSNA 2002 as experts from around the world presented findings on AIDS imaging in the major organ systems.

The course was sponsored by the RSNA Committee on International Relations and Education, chaired in 2002 by Pablo Ros, M.D., M.P.H., of Harvard Medical School and Brigham and Women's Hospital in Boston.

The Joint United Nations Programme on HIV/AIDS and the World Health Organization (WHO) estimate that 42 million people were living with HIV/AIDS in 2002[1] among them, 980,000 in North America,[1] including more than a half million in the United States.[2]

Harald Ostensen, M.D., coordinator of Diagnostic Imaging and Laboratory Technology for WHO in Geneva, Switzerland, reported that the highest incidence of AIDS is found in sub-Saharan Africa, Southeast Asia and the Caribbean.

In Africa, the "worst case" scenario projections are that one quarter of the sub-Saharan workforce will die, life expectancy will decrease from 63 to 47 years, and 14 million children will be orphaned over the next 20 years.

Some of the most important priorities for WHO are to reduce the possibilities for infection, screen the population at risk for AIDS and HIV, make antiretroviral drugs available, treat HIV-positive individuals without clinical disease, and offer clinical care and treatment of patients with AIDS.

Barry B. Goldberg, M.D., of Thomas Jefferson University Hospital in Philadelphia, focused on ultrasound evaluation of patients with AIDS. He showed ultrasound findings for a number of diseases and conditions that may be associated with AIDS, including enlarged lymph nodes and diseases of the bowel, liver, spleen, gall bladder and urinary tract.

Harald Ostensen, M.D.
Diagnostic Imaging and Laboratory Technology, WHO

Philip Costello, M.D.
Harvard Medical School and Brigham and Women's Hospital

He pointed out that ultrasound is often the first imaging study requested for evaluation of AIDS patients with abdominal symptoms, and that an important ancillary role of imaging is to guide interventional procedures so that surgery can be avoided.

Dr. Goldberg urges radiologists to keep in mind that the abnormalities they detect could have many causes—one of which could be AIDS.

"If you find abnormalities by ultrasound, remember to think of AIDS. If you find enlarged lymph nodes, the most common thing you think of may be a lymphoma. But remember that AIDS can do it," he said in a separate interview. "When you get an abscess, or a tumor, with no apparent cause, remember that AIDS could be a contributing factor."

Lilian L. Leong-Fung, M.D., of Queen Mary Hospital in Hong Kong, China, offered an Asian perspective on AIDS. Asia has more people living with HIV and AIDS than any region of the world outside sub-Saharan Africa.

Dr. Leong-Fung presented findings on musculoskeletal manifestations of AIDS including Kaposi sarcoma and AIDS-related non-Hodgkin's lymphoma; infections such as cellulitis, osteomyelitis and spinal infection; and miscellaneous conditions such as avascular necrosis.

She asserted that musculoskeletal complications are unusual manifestations in AIDS, and that a high index of suspicion is necessary for diagnosis because musculoskeletal involvement may, in some cases, be the first presenting symptom of AIDS.

Philip Costello, M.D., of Harvard Medical School and Brigham and

Adults and children estimated to be living with HIV/AIDS, end 2002

Reprinted with permission from UNAIDS.

Women's Hospital in Boston, offered information on pulmonary manifestations of AIDS. Pulmonary complications occur among 70 percent of patients, he said.

Dr. Costello pointed out that pulmonary complications of AIDS are varied, and may include bacterial, viral and fungal infections, as well as non-infectious complications such as Kaposi's sarcoma, lymphoma and lung cancer. There is also variability among the subpopulations with AIDS, and the epidemiology is evolving.

Francisco A. Arredondo, M.D., of Francisco Marroquin University School of Medicine in Guatemala, presented gastrointestinal imaging findings, with a focus on the spread of AIDS and HIV in Latin America and the Caribbean. About five percent of those living with AIDS worldwide are in Latin America and the Caribbean.

The biggest issue for most countries considering provision of treatment for HIV and AIDS patients is the cost of anti-retroviral drugs, as well as sophisticated diagnostic and monitoring equipment to track the progress of infection and adjust treatment regimens. □

Reference:
1. UNAIDS/WHO. Joint United Nations Programme on HIV/AIDS and World Health Organization. AIDS epidemic update. December 2002.
2. CDC. HIV/AIDS surveillance report. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 2001, 13.

Editor's Note: *See page 10 for more information on WHO's Diagnostic Imaging and Laboratory Technology team.*

Francisco A. Arredondo, M.D.
Francisco Marroquin University School of Medicine

Australian Radiology in Transition

Ask an Australian radiologist how corporatization is affecting the profession "down under" and you may get an earful.

The corporatization of radiology practices began in earnest in Australia in 1997 as private partnerships started selling out to large, publicly-held companies. For the partners it was a terrific deal—in exchange for their practices, they received hefty packages of cash and stock options. The billing process was taken over by the corporation. Financial incentives were built into most packages, but were nowhere near the income the partners would have received as private practitioners.

In general, corporations buying out radiology practices made the principals sign employment contracts to work for that practice for a certain number of years on a negotiated salary that was quite lower than their partnership earnings. That process has been called "golden handcuffs" by many radiologists.

Alexander Pitman, M.B.B.S., director of radiology at the Peter MacCallum Cancer Institute, a public teaching hospital in Melbourne, explains, "Patient billings in Australia in the private sector are heavily subsidized by the government through universal health insurance—Australian Medicare. These patient billings can be lawfully redirected from the physician to another entity such as a corporation, while the physician is on a flat salary or another negotiated arrangement."

Alexander Pitman, M.B.B.S.
Peter MacCallum Cancer Institute

Dr. Pitman points out that radiology corporatization followed the similar, rapid acquisition and consolidation of Australian pathology practices. In some cases companies operating private hospitals bought out first pathology and then radiology practices. In other cases, partners of radiology practices were proactive.

What followed was a rapid consolidation of ownership of medical imaging providers in the private sector. About 54 percent of the radiology revenues from the private sector are either owned or partially owned by four public companies, according to a 2002 Royal Australian and New Zealand College of Radiologists (RANZCR) workforce publication. That compares with 10 percent four years ago.

Dr. Pitman explains the attraction of selling to a corporation, "Let's say I'm in my late 50s and I have a small practice and along comes a corporation which offers me five times my takings for the transfer of ownership. I sign a contract to work for them for five years and I get a salary of about $300,000 [Australian dollars (AUD)], which is, let's say, about half of what I was mak-

SYDNEY HARBOR, AUSTRALIA

Photos courtesy of Lee Mickus.

ing previously. I'm relieved of all the hassles of running the practice and I end up with capital that I didn't have before."

He continues, "Before corporatization, traditional partnership payout to a retiring partner was similar to the pay-in of an incoming partner—usually one year's takings. So for the partner approaching retirement it's a good thing." But for younger radiologists, especially recent graduates, corporatization is viewed as counterproductive.

"Junior radiologists who did not have a partnership to sell face the loss of future security and control over their professional destiny. They also have to accept a salary based on market rates rather than on patient billings," explains Dr. Pitman.

While a radiologist's salary differs somewhat in each of the six Australian states, the salaries of consultant radiologists practicing in public teaching hospitals range from $100,000 to $140,000 AUD, according to Michael Sage, M.D., a neuroradiologist at Flinders Medical Center in Adelaide, and a 2001 RSNA Honorary Member. Those dealing with fee-paying, private patients typically earn between $170,000 and $230,000 AUD. Incomes of partners in a large, non-corporatized practice earn between $300,000 and $800,000 AUD.

In 1999 when Dr. Pitman was doing his fellowship in nuclear medicine, the largest private practices in Melbourne were going corporate. "By 2001 there were only a few independents left. The public hospital climate was quite unappealing, particularly because the state government was in cutback mode," he says.

To 57-year-old Gary O'Rourke, M.B.B.S., of Sonic Pathology and Radiology in Queensland, corporatization is neither good nor bad—it's just different.

Dr. O'Rourke was one of 25 partners in a practice that was purchased by Sonic, the largest of the four firms dominating corporatization in Australia. He admits to the loss of some ownership control, but says, "Corporates in general have maintained a hands-off approach allowing businesses to be run by the radiologists in the same way as prior to the corporatization." He adds that corporatization leads to increased spending and more efficient services to patients.

Radiologist Shortage in Australia

Dr. O'Rourke concedes that young Australians seeking careers in medicine may be more likely to bypass radiology and go into more lucrative areas, which would be unwelcome in a nation that already has a radiologist shortage. However, he adds that training positions are under the control of the state governments and more positions are being funded, "All training positions are still easily filled with many more applicants than positions."

RANZCR reports there are 1,200 to 1,300 practicing radiologists in Australia—that's just over 60 radiologists per million people. "About 30 percent of Australian radiologists work primarily in the public sector in state government-funded hospitals, and therefore are employed by the government," says RANZCR Workforce Advisory Board Convenor D. Neil Jones.

"About 70 percent work primarily in the private sector, which is funded mainly by the federal government through the Medicare Benefits Schedule program. Many radiologists work in both sectors to varying degrees," Jones says. "Of those radiologists who work primarily in the private sector, about 600 to 700 work for the four listed companies that now control about 60 percent of the total private sector revenues."

The future of corporatization in Australia is unclear. "A number of private practices remain which have not been corporatized," says Dr. Sage. "Recently, the process of corporatization has slowed because of concerns about the incomes that can be generated for shareholders when there's a shortage of radiologists and there may be demands for higher salaries."

Physician Practice Management in America

That may ring a bell for American physicians familiar with Physician Practice Management (PPM) companies, which bought all or portions of practices and, in exchange, promised to provide the physicians with management services. When the PPMs reneged and investors pulled out, the PPM movement evaporated, according to Lawrence R. Muroff, M.D., chief executive officer of Imaging Consultants in Tampa and

Continued on next page

Michael Sage, M.D.
Flinders Medical Center

Lawrence R. Muroff, M.D.
Universities of Florida and South Florida

Fred Gaschen, M.B.A., C.H.E.
Radiological Associates of Sacramento

Continued from previous page

a professor of radiology at the Universities of Florida and South Florida

"My belief is that the few PPM companies in radiology were doing it correctly, but once the market turned and the sector turned, there was no chance for these companies to overcome the tide," says Dr. Muroff. "In fact, there's only one radiology-specific PPM left, and its stock price remains in the low single digits."

Princeton University economist Uwe E. Reinhardt, Ph.D., says corporatization in Australia may meet a similar fate because it's based on the same premise as PPMs—greed. "Unless physicians are smarter in Australia, they're going to get fleeced just like those here got fleeced."

Dr. Muroff agrees with Australian radiologists who say corporatization undermines incentive. "If you're a young person looking to join a practice and you have two practices from which to choose—one where you'll be a full and equal partner and your earnings will be commensurate with what you generate, or one where you're working for a salary from some company that has bought your practice—it's a no-brainer; you'd join the one where you could earn commensurate with your abilities."

Fred Gaschen, M.B.A., C.H.E., executive vice-president of Radiological Associates of Sacramento, agrees, "Generally speaking, the harder you work and the more you do, the more you get paid. You take the incentive away if you get the same amount of money whether you see 50 patients or 100 patients."

While improving patient care is also a motivation, "there's nothing wrong with getting paid decent money after spending all of those years of training to become a physician," says Gaschen.

Dr. Muroff concludes that corporatization, in a theoretical sense, is not bad if it's done right. "The problem is, it has rarely been done right, in this country or elsewhere."

Tips for Running a Successful Radiology Practice

1. Develop a mission statement and business plan. Review, evaluate and revise them annually.
2. Implement an effective governance structure.
3. Establish policies to proactively deal with important issues such as leave, partial retirement and the problematic partner.
4. Remember that radiology is a service-oriented specialty. Always strive to provide outstanding patient care in a timely, cost-effective and courteous manner.

Courtesy of Lawrence R. Muroff, M.D.

What is WHO's Diagnostic Imaging and Laboratory Technology?

The World Health Organization has a Diagnostic Imaging and Laboratory Technology (DIL) team that works to make safe and reliable diagnostic imaging and health laboratory services accessible to as many people as possible. DIL provides advice, guidance, support and assistance to healthcare workers, health administrators, politicians and others about the necessity for safe and appropriate diagnostic imaging and health laboratory services under their own responsibility.

Coordinated by Harald Ostensen, M.D., DIL believes a national strategy should be developed to ensure that diagnostic imaging services at all levels adhere to national and international regulations and standards. Among DIL's recommendations:

- National and international regulations and guidelines for radiation protection should be followed at all times.
- An adequate number of trained staff should be available, in accordance with the needs of the hospital.
- The technical and medical quality of examinations should conform with generally accepted international practice and recommendations.
- Examinations should be performed in accordance with medical considerations.

In 2002, DIL's Global Steering Group for Education and Training in Diagnostic Imaging succeeded in hosting training courses and workshops in Nairobi, Kenya, continued preparations for new training centers in diagnostic imaging and launched its first training activity in China.

Last March, members of the steering group, together with local experts at the Nairobi Center of Excellence, educated 21 senior radiographers selected by the Kenyan government. None of the radiographers were involved with quality control (QC) programs. During the training session, the radiographers learned how to develop and implement QC programs into their own hospitals, were motivated to initiate QC training for other hospitals and were instructed on how to improve their ability to assist clinicians/non-radiologists in reading radiographs.

On a follow-up visit in October, the experts learned that 16 of the 21 senior radiographers had implemented QC programs, one had implemented part of the program and three had done nothing.

In 2003, the staff at the Center of Excellence and representatives of the steering group will return to Kenya to conduct regional workshops and to begin intensive hands-on training in ultrasound. It will also expand the programs to neighboring countries and will finalize diagnostic imaging publications on positioning and radiographic techniques, the basics of radiation protection and maintenance of imaging equipment.

RSNA has two representatives on the Global Steering Group. They are Board Liaison for Education Theresa C. McLoud, M.D., and Executive Director Dave Fellers, C.A.E.

IHE to Expand Outside of Radiology

The Integrating the Healthcare Enterprise (IHE) initiative is now in its 5th year and may face its most challenging year yet, according to the chairman of the RSNA Electronic Communications Committee, Ronald L. Arenson, M.D.

"Year 5 efforts will be focused on expansion of IHE outside of radiology and the completion of solutions for pressing radiology workflow problems," says Dr. Arenson, chairman and the Alexander R. Margulis Distinguished Professor of Radiology at the University of California, San Francisco.

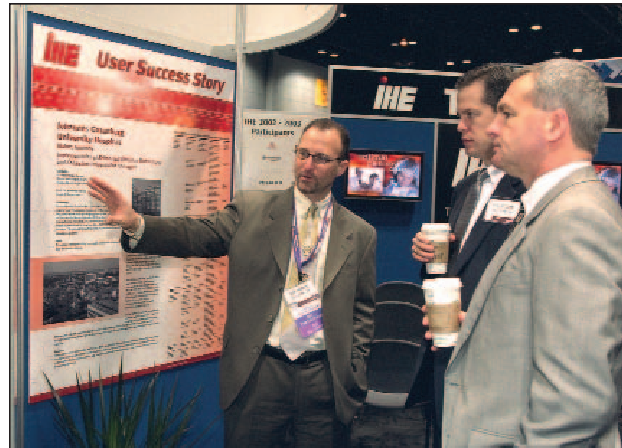
The goal of IHE is to standardize various components of information systems so that they can interface, make workflow easier and ultimately lead to better patient care. RSNA and the Healthcare Information and Management Systems Society (HIMSS) have developed IHE integration profiles that address many day-to-day clinical and operational problems that arise while using RIS, PACS, imaging modalities and other information systems within a hospital radiology department.

Ronald L. Arenson, M.D.
Chairman, RSNA Electronic Communications Committee

HIMSS' role is to act as a hub linking the domains of multiple medical specialties. HIMSS will coordinate the development of profiles related to infrastructure issues such as security, master patient indices and related topics.

The American College of Cardiology has announced that it will coordinate IHE development in its domain. Other specialties, including laboratory and pharmacy, are expected to become involved in the near future.

"RSNA has an opportunity to lead with HIMSS in what potentially could be a major standardization effort in the healthcare industry at a time when national leadership is calling for exactly that effort," says Dr. Arenson. "On that front, IHE is being represented by HIMSS in numerous national forums as the mechanism to use for integration activities."



More than a dozen institutions presented information about how IHE has improved their radiology departments.

For Year 5, the radiology effort will be focused on improved archiving, reporting and evidence documents.

At RSNA 2002, there were non-stop multimedia presentations detailing IHE functionality as well as specific "User Success Stories" in which more than a dozen vendors explained how systems integration is helping to improve patient care.

"Each of these hospitals has improved workflow in electronic radiology—the way information is gathered, tracked, managed and stored—by implementing a set of standard transactions which are specified in the IHE technical framework," says Chris Carr, director of RSNA's Informatics Department. "Workflow is really the bedrock of IHE. All of the other functions are related to that in some way."

Among those presenting IHE User Success Stories at RSNA 2002 were radiologists from the Mayo Clinic in Jacksonville, Fla., Northwestern Memorial Hospital in Chicago, Cleveland Clinic, University of Wisconsin Hospital in Madison and Detroit Medical Center.

Their successes include improved scheduled workflow, storage commitment, modality worklist and patient information reconciliation.

IHE Updates on Web

- The IHE section of RSNA Link *(www.rsna.org)* has been updated with a list of 2002-2003 vendor participants, expanded integration profiles and detailed results of the 2002 North American and European Connectathons. There are also links to Web sites of participant companies that have posted IHE Product Integration Statements.

History of the RSNA—Part 22

Turning 75

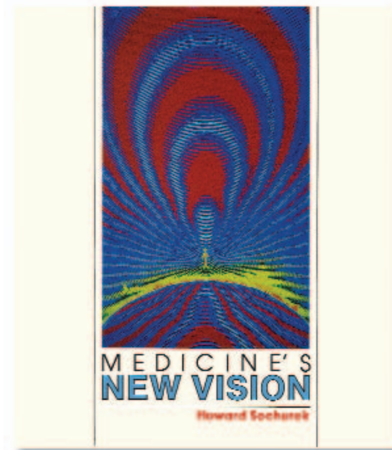
The continued intertwining of computer developments with radiology led the RSNA Board of Directors to form the Electronic Communications Committee in 1986. Its mission was to evaluate computer software and hardware, magnetic and optical data storage devices and electronic data transmission that facilitate scientific communication. Edward V. Staab, M.D., was selected to be the committee's first chairman.

By the late 1980s, RSNA launched a publication called *On Display* (now called *Buyer's Guide: Radiology Products and Services*). Printed each fall, *On Display* contained brief descriptions and contact information from the technical exhibitors scheduled to attend the upcoming scientific assembly. The publication also included details of new radiology products.

Over the subsequent years, *On Display* also included news of the Research and Education Foundation and overviews of the work done by various committee members to plan for the annual meeting. Another tabloid ("Colleagues in Commerce") was started by the Society and was targeted to technical exhibitors and advertisers. It was discontinued after only a few issues.

Visiting Professor Program

As RSNA continued to assist radiologists worldwide, a Visiting Professor Program was developed and administered by the RSNA Committee for International Radiology Education (now the Committee on International Relations and Education). This was the culmination of a program first proposed in 1982 by then-President-elect Richard G. Lester, M.D. He had read an article in the *New England Journal of Medicine,* "Undrained Brains: A Modest Proposal to Recognize Some Contemporary Medical Heroes," by Ralph Crawshaw, M.D., which addressed the problems of "the bright, dedicated, highly trained physicians of the Third World who have chosen to remain and practice scientific medicine under the daunting conditions of their native lands." Dr. Lester believed various medical societies, such as RSNA, should establish travel fellowships to further educate those radiologists.



Subsequently, an ad hoc committee was formed to study the role of RSNA in education in emerging nations. Chaired by W. Peter Cockshott, M.D., of Hamilton, Ontario, the committee determined that the Society could provide the most effective long-term benefits by enriching local educational opportunities at the residency level rather than by supporting individuals brought to North America. The rationale was that a program in which a visiting professor works with the faculty and residents of a host institution would have a more widespread and long-term impact than one in which a resident from any emerging nation trained for a limited time in the United States or Canada.[1]

The first visiting professor was Edmund A. Franken Jr., M.D., from the University of Iowa. He taught at the University of Nairobi in Kenya for six weeks in 1987. RSNA President Richard E. Buenger, M.D., oversaw arrangements to provide Dr. Franken with audiovisual equipment, videocassettes, syllabi, copies of *Radiology* and *RadioGraphics* and donated textbooks, which were left at the university to form the basis of an educational resource center. Dr. Franken fit the description of the ideal visiting professor, defined in a 1988 *Radiology* editorial by Dr. Cockshott as an "experienced radiology teacher who is flexible and has empathy with the problems of the host institution."

In addition, RSNA continued to assist subspecialty groups within radiology. In 1988, the Society published the first issue of a scientific journal for the Society of Cardiovascular and Interventional Radiology (SCVIR) as part two of the March issue of *Radiology.* This led to collaboration with SCVIR over the next half-dozen years during which RSNA assisted in the production of SCVIR's official publication, the *Journal of Vascular and Interventional Radiology.*

A Book for the 75th Anniversary

Also by 1988, RSNA leaders became aware of a writer named Howard Sochurek, who had recently published a *National Geographic* article, "Medicine's New Vision," about new breakthroughs in medical imaging. RSNA Chairman E. Robert Heitzman, M.D., and 1988 Society President Malcolm

Jones, M.D., wondered if Sochurek could expand the article into a book with color illustrations that would explain the role of the radiologist to the general public. They believed the book would be an excellent way to promote radiology and to mark the Society's 75th anniversary.

After obtaining the permission of *National Geographic,* Sochurek spent the next year traveling to interview leaders in radiology. "I found that—more than any other medical specialist—the radiologist has harnessed the computer and devised technologies to extend his diagnostic abilities in exciting and innovative ways," Sochurek later wrote.[2]

Sochurek's original manuscript was reviewed by leading radiologists. The book was designed and printed by Mack Publishing Company, the same company that had been printing *Radiology* for more than a half century. The final product, *Medicine's New Vision,* was distributed gratis to all RSNA members. Soon afterward, RSNA also gave complimentary copies to annual meeting attendees and other radiologic organizations.

Staff Changes

In the midst of anniversary celebration plans, two key staff members ended their tenure with RSNA. First, Mary Ann Tuft left the Society for personal reasons. As the Board of Directors formed a committee to search for a new executive director, George Schuyler, director of scientific meetings, announced he would retire in 1989.

For his accomplishments, specifically his assistance in moving the annual meeting from Chicago's Palmer House to McCormick Place, Schuyler was presented with an RSNA Gold Medal at the 1988 Scientific Assembly. Attendance at the 1988 annual gathering surpassed 40,000.

References

1. RSNA continues to support Visiting Professor Program. *RSNA News* 1991; 1(1):6.
2. Sochurek H. *Medicine's New Vision.* Easton, Pa.: Mack Publishing, 1988.

The entire *History of the RSNA* series, to date, is available on our Web site at *www.rsna.org/about/history/index.html.*

Radiologists Help Fight War on Terrorism

Continued from page 5

published a study on "Radiographic Manifestations of Potential Infectious Biologic Agents." Dr. Ketai is an associate professor of radiology at the University of New Mexico Health Sciences Center at Albuquerque and has lectured at RSNA annual meetings on emerging infectious diseases.

"According to the literature, most biologic warfare is expected to be delivered as an aerosol. Depending upon the type of bioterror, the lungs could be affected first, as in anthrax," says Dr. Ketai. "In other cases, the biologic agent enters the body via the lungs and attacks other parts of the body, such as viral encephalitis, which attacks the central nervous system."

"Radiologists played an important role in recognizing pulmonary anthrax. Chest radiographs and chest CTs showed extensive mediastinal adenopathy and edema that is rare in other pulmonary infections," he says. "In contrast, radiologists would probably not be involved in the diagnosis of smallpox. The first diagnosis of smallpox would be made by clinicians examining the patient. Radiologists would be involved only in atypical cases or complications, such as when a smallpox patient developed pneumonia a week or so later."

Other biological threats that radiologists might help diagnose include tularemia and plague pneumonias. A radiologist's role in the diagnosis of hemorrhagic fevers is less certain. Among the hemorrhagic fevers, only the American hantaviruses cause dramatic interstitial edema and rapid progression to pulmonary edema. "Other hemorrhagic fevers, like Ebola, affect the lungs to a lesser degree and cause damage to other organ systems, such as a bleeding diathesis, that dominates the clinical picture," Dr. Ketai says.

Department of Homeland Security
www.dhs.gov

CDC Public Health Emergency Preparedness and Response
www.bt.cdc.gov

National Council on Radiation Protection and Measurements
www.ncrp.com

Free Publication "Disaster Preparedness for Radiology Professionals" from ACR, AAPM and ASTRO
www.astro.org/public/Disaster-Management.html

Editor's note: *The abstract for Drs. Ketai and Mettler's* AJR *article, "Radiographic Manifestations of Biologic Agents," is available at* www.ajronline.org. *An earlier version of the study is included in the publication "Disaster Preparedness for Radiology Professionals."*

FDA Urges Applications to Market Radiation Treatment Prussian Blue

The Food and Drug Administration is asking manufacturers to submit marketing applications for Prussian blue. This mineral has been shown to be safe and effective for treating people for internal contamination with radioactive elements such as cesium-137, a potential component of conventional explosive devices with radioactive materials ("dirty bombs"). Prussian blue can reduce the body's burden of exposure to radioactive particles by binding with them in the gut and causing them to be eliminated from the body.

For more information, go to *www.fda.gov/bbs/topics/NEWS/2003/NEW00868.html*

Working For You

RSNA Annual Meeting Feedback

In order to improve the user-friendliness of the RSNA Scientific Assembly—the largest annual medical meeting in the world—the Society conducted focus groups during RSNA 2002 to give attendees and exhibitors an opportunity to voice their opinions, concerns and criticisms.

Leading Medicine's RSNA 2002 Digital Transformation

What we've learned is that despite its enormous size, attendees believe the meeting is well organized, the scientific program is excellent and the technical exhibits are outstanding. This is good news. But of more help in the collective effort to improve the meeting are some of the critical observations:

REGISTRATION PROCESS

Most participants had registered online for the meeting and for refresher courses and found the process "outstanding." However, several people expressed frustration that the refresher courses filled so quickly. These comments will help in review of the meeting's schedule.

SCIENTIFIC PROGRAM

While there was consensus in each group that the scientific program is the best of any radiology meeting for an overview in the field, many said that they have to rely on their subspeciality meetings for specific content. Apropos of these comments, RSNA has been working closely with subspecialty societies—American Society of Neuroradiology, Society of Interventional Radiology and American Society of Therapeutic Radiology and Oncology—to give RSNA attendees an opportunity to be exposed to some of the superb content from their meetings.

OVERLAPPING COURSES

There was frustration at having to choose among programs being offered at the same time. With regard to scheduling, RSNA is examining options for repetition of popular courses.

TECHNICAL EXHIBITS

Several participants said that seeing the latest equipment, consulting with vendors and planning for their future technology needs was the number one reason for attending. Technical exhibitors should be pleased with this news while adherents of the scientific and educational programs will be surprised—and challenged to win over the "techies."

COST OF MEETING

A strength of the meeting is the great number and variety of attendees. The variety, however, means it may be more difficult for some attendees to pay for hotel rooms, food and transportation, and for some exhibitors to take advantage of the high-tech features of the meeting. Costs of all features of the meeting remain an area of constant concern and effort for RSNA committees and staff.

GENERAL COMMENTS

Many participants like the Chicago location, but expressed a desire to hold the meeting at a different time of the year. Transportation had mixed reviews. Participants found the Help Center was really helpful, but criticized other McCormick Place accommodations such as food service, coat check and directional signage. These are all slated for improvement.

Media Coverage of RSNA 2002

An estimated two billion people learned about some of the latest advances in radiologic science and technology through media coverage of RSNA 2002.

More than 200 reporters attended the event resulting in about 2,300 tracked media placements. The diverse schedule of news conference topics included issues ranging from mammography to the fertility of male mountain bikers.

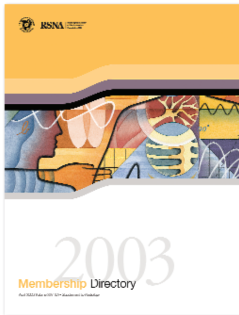
Coverage included articles in major newspapers such as *The New York Times, The Wall Street Journal, USA Today* and the *Chicago Tribune;* stories on major television network programs including ABC World News Tonight, NBC Nightly News, the Today show and CNN Headline News; and articles in magazines such as *Time* and *Reader's Digest.*

The RSNA Public Information Committee met at RSNA Headquarters in January to assess media coverage of RSNA 2002 and to make recommendations for future programs and activities.

(left) **Carol M. Rumack, M.D., Susan D. Wall, M.D., David M. Hovsepian, M.D.,** (right) **Robert Novelline, M.D., Burton P. Drayer, M.D.,** *Chairman,* **Katarzyna J. Macura, M.D., Ph.D.**

2003 RSNA Membership Directory

RSNA members will receive the 2003 RSNA Membership Directory with their April issue of *Radiology*. The directory includes contact information for the Society's 33,000 members, important current and historical information about RSNA, 2002 annual reports from the Board of Directors and RSNA committee chairs, and membership applications.



For more information, contact the Membership and Subscriptions Department at (630) 571-7873 or *membersh@rsna.org.*

WORKING FOR YOU PROFILE

SERVICE TO MEMBERS:
I manage the Membership & Subscriptions Services Department with the help of six staff assistants. The department reviews RSNA membership applications and works closely with the volunteer members on the Membership & Credentials Board. The Membership Department staff responds to member inquiries regarding dues payments and online access to the RSNA journals, and resolves member concerns in a timely manner. Other responsibilities include updating member and subscriber records, exporting data for journal fulfillment and monthly membership reports.

WORK PHILOSOPHY:
RSNA members and subscribers are very important to us and hopefully we relay this to our members and subscribers. My work philosophy is to encourage teamwork among our staff and to resolve member and subscriber concerns as proficiently as possible. I consider every new challenge as a learning experience and encourage our staff to feel the same way. I try to create a happy environment for our staff by doing this.

NAME:
Hilary Gentile

POSITION:
Manager, Membership & Subscriptions Services

WITH RSNA SINCE:
September 13, 1991

HILARY GENTILE

If you have a colleague who would like to become an RSNA member, you can download an application at *www.rsna.org/about/membership/memberapps.html*, or contact the RSNA Membership and Subscription Department at (630) 571-7873 or *membersh@ rsna.org.*

PowerRAD 2003: Digital Image Management and Presentation

RSNA is sponsoring this one-day course on May 31, 2003, at RSNA Headquarters in Oak Brook, Ill. Paul J. Chang, M.D., of the University of Pittsburgh Medical Center, will take participants through the process of:

- Converting radiologic images into an electronic format
- Editing images and text using lecture software
- Operating a laptop during a lecture

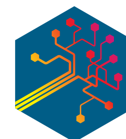
Attendees will get practical hands-on experience and personal instruction. The PowerRAD 2003 course includes printed lecture notes and CD-ROM software. Up to 7.25 AMA category 1 credit hours are available.

Register online at *www.rsna.org/education/shortcourses*

Registration is $199 for RSNA members and $239 for non-members. For more information contact the RSNA Education Center staff at (630) 368-3747 or *ed-ctr@rsna.org.*

BIROW 1 Attracts Key Leaders

About 150 people attended the first Biomedical Imaging Research Opportunities Workshop (BIROW) in Bethesda, January 31–February 1, organized and supported by groups representing radiologists, engineers and physicists. NIH Director Elias Zerhouni, M.D., told the audience that this collaboration presents a unique opportunity to get together and focus on the key issues.



The goal of BIROW is to identify and explore opportunities for basic science research and engineering development in biomedical imaging as well as related diagnosis and therapy. The next workshop in the series of five will be organized by RSNA. It will be held early next year. For more information, go to *www.birow.org.*

Continued on next page

Radiology in Public Focus

Press releases have been sent to the medical news media for the following scientific articles appearing in the March issue of *Radiology* (*radiology.rsnajnls.org*):

"Screening for Lung Cancer with CT: Mayo Clinic Experience"

Low-dose CT is effective in detecting early-stage lung cancers.

Stephen J. Swensen, M.D., from the Department of Radiology at the Mayo Clinic in Rochester, and colleagues prospectively studied more than 1,500 high-risk individuals, aged 50 years or older. Participants underwent three annual low-dose CT scans of the chest and upper abdomen.

Two years after baseline scanning, 40 primary lung cancers were documented. CT alone detected 38 cases, while sputum cytology alone detected two. Of the 38 cases detected by CT, 35 were non-small cell cancers. Among them, 21 (60 percent) were stage IA at diagnosis. In addition, the researchers found 2,832 uncalcified lung nodules in 1,049 (69 percent) participants.

The researchers write, "Our results both raise hope that CT could be an effective tool to decrease mortality from lung cancer and raise concern that false-positive results and potential for over-diagnosis could actually result in more harm than good." (*Radiology* 2003; 226:756-761)

RSNA press releases are available at *www2.rsna.org/pr/pr1.cfm.*

The Iceman: Discovery and Imaging

Twelve years after the discovery of a 5,300-year-old mummy in a snowfield in the Tyrolean Alps, an international team of scientists and radiologists has released its findings on "the iceman."

William A. Murphy Jr., M.D., from the Division of Diagnostic Imaging at the M.D. Anderson Cancer Center in Houston, and colleagues from Austria and Italy supervised and interpreted the images obtained over a 10-year period using conventional radiography, portable computed radiography and conventional and spiral CT.

Among the many findings, the researchers documented healed rib fractures, hairline skull fractures and a compression deformity of the thorax. They also found evidence of degenerative arthritis, frostbite, vascular calcification and adaptation to cultural and geographic influences. An arrowhead lodged between the rib cage and the left scapula was the probable cause of the iceman's death.

The researchers write, "While imaging provided

sensational information regarding the cause or manner of the iceman's death, it just as importantly provided much information about his postmortem mummification, encasement in the glacier, recovery from the ice, anatomy, health and adaptations to culture and environment." (*Radiology* 2003; 226:614-626)

***Editor's Note:** An expanded article on this "Historical Perspective" in* Radiology *will appear in the April issue of* RSNA News.

RSNA:PROGRAM&GRANTANNOUNCEMENTS

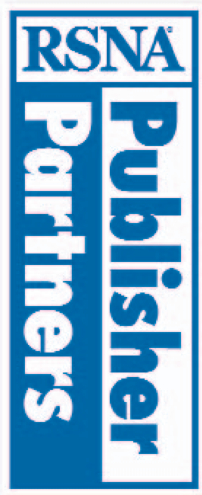
Strategies for Running a Successful Radiology Practice

RSNA is sponsoring a course for current and future academic chairs and leaders of private practice groups, July 11-13, 2003, in Oak Brook, Ill. During this 2½-day course, you will learn about issues relevant to future leaders in radiology, enabling you to navigate the obstacles each leader will face. Attend sessions on financial, quality control, billing, compliance and legal issues as well as general strategies. Didactic morning lectures are followed by split interactive breakout sessions for academic or private practice strategic planning in the afternoon on Friday and Saturday.

Register Online!

Register online at *www.rsna.org/education/shortcourses*

Registration is $695 for RSNA members, $275 for RSNA members-in-training and $795 for non-members. For more information, contact the RSNA Education Center at (630) 368-3747 or *ed-ctr@rsna.org.*



RSNA Publisher Partners

Membership Book Discount Program

The following publishers are pleased to offer discounts of at least 10 percent to RSNA Members on the purchase of popular medical books and products. Specific discounts and direction on obtaining the discount are indicated in the Publisher-Partners section of *RSNA Link* (*www.rsna.org.)*

If your company is interested in becoming a Publisher Partner, contact the RSNA Marketing Department at (630) 571-7844.

The product descriptions have been submitted by the publishers.

Medical Interactive

370 Calle La Montana
Moraga, CA 94549
(925) 284-1024
www.medinter.com/rsna.htm

CD-ROM

Gamuts in Radiology Version 4.0

By Maurice M. Reeder, M.D., with MRI Gamuts by William G. Bradley Jr. and Ultrasound Gamuts by Christopher R. Merritt

The innovative and versatile *Gamuts In Radiology 4.0* contains the entire *Gamuts in Radiology 4th Edition* textbook, plus more than 5,000 radiographic images. *Gamuts 4.0* covers every modality of radiologic imaging, including ultrasound, CT, MRI, mammography, angiography and plain films.

- A 19-member expert editorial board has reviewed, expanded and updated the existing gamuts, including references, and then added over 300 new gamuts (primarily in ultrasound, MRI and CT). *Gamuts 4.0* now has more than 1,700 lists of differential diagnoses!
- Over 4,000 new images have been added. *Gamuts* 4.0 now totals over 5,000 teaching images, making it the ultimate teaching resource for radiologist and resident training, and board review.
- Using its exhaustive database of over 6,500 individual diagnoses and disease entities, *Gamuts 4.0* combines the strengths of artificial and human intelligence. The highly innovative Computer-Assisted Radiological Diagnosis System contained on the CD allows the radiologist to accurately make diagnoses or suggest a very limited differential diagnosis in problem cases. *Gamuts 4.0* is an essential component of any PACS or RIS system for solving complex cases and making diagnoses at the viewbox.

RSNA Member Price: $247.00

CD-ROM

Essentials of Radiology

By Judith Korek Amorosa, M.D.

The *Essentials of Radiology* is designed to teach the basics of current radiology practice. It is useful for medical students (starting at any level), residents of all specialties, clinical colleagues, physician assistants, nurse practitioners, nurses, technologists, hospital administrators, managed care administrators, lawyers and lay support groups. This CD-ROM contains over 330 interactive cases using the well-established teaching methods of Dr. Lucy Squire. In all, there are over 900 questions included in the course and over 2,300 images (including x-ray, CT, HRCT, MRI, nuclear imaging, static ultrasound, real-time ultrasound and real-time fluoroscopy). This is truly a comprehensive overview of the essentials of radiology and represents over 50 hours of radiology instruction for the beginning student.

RSNA Member Price: $125.00

Medical Physics Publishing

(Distributor of AAPM Books and Reports)

4513 Vernon Blvd.
Madison, WI 53705-4964
(800) 442-5778 or (608) 262-4021

BOOK

The Expanding Role of Medical Physics in Diagnostic Imaging

G. Donald Frey and Perry Sprawls, eds.

Provides a broad-based review of the status of radiographic and fluoroscopic imaging and emphasizes the expanding functions that medical physicists are providing in the transition from the traditional imaging environment to the fully digital imaging environment. 583 pp.

RSNA Member Price $60.00

BOOK

Practical Digital Imaging and PACS

Anthony Seibert, Larry Filipow and Katherine Andriole, eds.

Emphasizes the new advances in imaging technology, covering all of the inherently digital imaging modalities such as computed radiography, CT, MRI, ultrasound and nuclear medicine. 577 pp.

RSNA Member Price $50.00

BOOK

General Practice of Radiation Oncology Physics in the 21st Century

Almon Shiu and David Mellenberg, eds.

Includes specifications, performance expectations, quality-assurance testing, works-in-progress/futures and general philosophies and is designed to enable readers to begin the implementation of these technologies at their facilities. 368 pp.

RSNA Member Price $60.00

BOOK

Accreditation Programs and the Medical Physicist

Robert Dixon, Priscilla Butler and Wlad Sobol, eds.

Provides a broad overview of the accreditation programs currently available, as well as some programs in development. Illustrates the physical principles related to an image and what is required to provide acceptable images. 364 pp.

RSNA Member Price $65.00

BOOK

Intravascular Brachytherapy / Fluoroscopically Guided Interventions

Stephen Butler, Rosanna Chan, Thomas Shope, eds.

Explores the techniques involved in the use of fluoroscopic guidance in minimally invasive therapeutic procedures, using intravascular brachytherapy as an example of such a procedure. 930 pp.

RSNA Member Price $95.00

BOOK

Biological & Physical Basis of IMRT & Tomotherapy

Bhudatt Paliwal, et. al., eds.

Presents the current status of the biological, physical/technical and clinical aspects of volume effects on time, dose and fractionation schemes for radiation treatment of cancer patients and the several parametric models (Both explanatory and predictive) of the effects thereof, with regard to optimization of treatment planning. 390 pp.

RSNA Member Price $80.00

Continued on next page

Continued from previous page

BOOK

Recent Developments in Accurate Radiation Dosimetry

Jan Seuntjens and Paul Mobit, eds.

The dramatic advances in absorbed-dose-to-water standards and in Monte Carlo ion chamber response calculations that have been made in the last 10 years and their application in accurate radiation dosimetry are summarized. 365 pp.

RSNA Member Price $70.00

BOOK

Clinical Ultrasound Physics: Workbook for Physicists, Residents, and Students

James Kofler Jr., et. al.

An instructor's manual to assist physicists in teaching ultrasound physics concepts to non-physics personnel (residents, sonographers, graduate students, etc.) 85 pp.

RSNA Member Price $40.00

BOOK

Nuclear Medicine Instrumentation Laboratory Exercises for Radiology Residency Training

R.J. Van Tuinen, et. al.

These exercises provide residents with insight into each instrument, its capabilities and limitations and the value of quality control testing. 88 pp.

RSNA Member Price $30.00

BOOK

Workbook on Dosimetry and Treatment Planning for Radiation Oncology Residents

R.K. Wu, et. al.

Provides a guide for second and third-year residents in radiation oncology for their one-month physics and dosimetry training. 32 pp.

RSNA Member Price $6.00

Oxford University Press

2001 Evans Road
Cary, NC 27513
(800) 451-7556
www.oup-usa.org

OXFORD UNIVERSITY PRESS

BOOK

Bone Dysplasias, 2e (0195214749)

Jurgen Spranger

The long-awaited new edition of this 1974 classic is now available! Perfect to aid in the evaluation of patients with skeletel dysplasias. 600 pp.

RSNA Member Price: $175.00

BOOK

Interventional Radiology

James Byrne

This new book describes a range of imaging techniques used in the region of the head, neck, and spine. 368 pp.

RSNA Member Price: $225.00

BOOK

Radiation Pathology

Luis Felipe Fajardo

Up-to-date coverage of the effects of ionizing radiation on human tissues. 472 pp.

RSNA Member Price: $175.00

BOOK

Imaging in Rheumatology

David Isenberg & Peter Renton

This book provides a unique review of all modalities in imaging that can assist the clinician in diagnosing rheumatological diseases. 560 pp.

RSNA Member Price: $152.50

BOOK

Principles and Practice of Brachytherapy

C.A. Joslin, A. Flynn and E.J. Hall

This highly effective treatment is given complete coverage in this book. 464 pp.

RSNA Member Price: $149.50

BOOK

Practical Radiation Protection in Healthcare

Colin J. Martin and David G. Sutton

Includes general radiation principles, coverage of both ionizing and non-ionizing radiations, and guidance on which methods to follow. 384 pp.

RSNA Member Price: $69.95

Primal Pictures Ltd

2nd Floor Tennyson House
159/165 Great Portland St.
London W1W 5PA
United Kingdom
44 (0)20 7637 1010
www.primalpictures.com

CD-ROM

Interactive Head & Neck

Barry Berkovitz, Claudia Kirsch, Bernard J. Moxham, Ghassan Alusi, Tony Cheeseman

Detailed and labeled 3D model of the head and neck that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by text, MRI, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM

Interactive Spine

Hilali Noordeen, Hazem Elsebaie, Alan Crockard, Robert B. Winter, John Lonstein, Ben Taylor, Roger Soames, Peter Renton, Stewart Tucker, Lester Wilson, Joseph J. Crisco

Detailed and labeled 3D model of the entire spine that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by text, MRI, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM

Interactive Shoulder

Stephen Copeland, Louis U. Bigliani, Roger Emery, Andrew Amis, Andrew Chippindale, David W. Stoller

Detailed and labeled 3D model of the shoulder, forearm and elbow that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by text, MRI, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM

Interactive Hip

Andrew Chippindale, Fares Haddad, Jorge Gallante, Marchi Maheson, Sarah Muirhead-Allwood, Edmund Chao, David W. Stoller

Detailed and labeled 3D model of the hip joint and upper leg that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by text, MRI, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM

Interactive Knee

Paul Aichroth, Vishy Mahadevan, Justin M. Harris, David W. Stoller

Detailed and labeled 3D model of the knee that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by text, MRI, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM

Interactive Foot & Ankle

Vishy Mahadevan, Robert Anderson, Lloyd Williams, Penny Renwick, David W. Stoller

3D model of the foot and ankle that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by text, MRI, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM

Interactive Hand

D.A. McGrouther, Judy C. Colditz, Justin M. Harris, David W. Stoller

3D model of the hand, wrist, forearm and elbow that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by text, MRI, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM

Sports Injuries: The Knee

Paul Aichroth, Roger Wolman, Tracy Maunder, Andrew Amis, Anthony Bull

3D model of the knee that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by sports injuries, rehabilitation and biomechanics text, clinical slides, video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM
Orthopaedics In Action: Primary Hip Arthroplasty
T.W.R. Briggs, M.Ch. (Orth) FRCS, Consultant Orthopaed, S.R. Cannon, J. Skinner

3D model of the hip that can be rotated and layers of anatomy added or stripped away. It covers all aspects required for primary Total Hip Arthroplasty, from patients first visit to outpatients clinic through pre-operative planning phase and the surgical procedure itself, utilizing both lateral and posterior approaches. Descriptive text is supplemented by live surgery video clips and 3D animations.

RSNA Member Price: $250.00

CD-ROM
Interactive Spine Chiropractic Edition
Alexandra Webb, Guy Gosselin, Jonathan Cook, Dana J. Lawrence, Roger Soames

Detailed and labeled 3D model of the entire spine that can be rotated and layers of anatomy added or stripped away. 3D model is supplemented by chiropractic examination, conditions and treatment sections including text, clinical slides, video clips of tests and treatment.

RSNA Member Price: $250.00

ProScan MRI Education Foundation, Inc.

5400 Kennedy Ave.
Cincinnati, Ohio 45213
(513) 281-3400 x197
www.proscan.com

BOOK
MRI of the Foot & Ankle: Pearls, Pitfalls & Pathology
R.J. Rolfes, M.D., S.J. Pomeranz, M.D., and T.W. Kim, M.D.

This 200+ page textbook is broken down into chapters on ligaments, tendons, fractures, arthropathy, coalitions, oesteochondral defects, osteonecrosis, impingement, tarsal tunnel and neural entrapment, achilles, masses, infections, plantar fasciitis and parts & accessories. Fully indexed for ease of use, the hard cover volume is built to assist readily in daily practice and study of this complex and often difficult area. 200+ pp.

RSNA Member Price: $112.50

BOOK
MRI Total Body Atlas Vols. 1-3 Set
Stephen J. Pomeranz, M.D.

Complete set of the definitive, comprehensive anatomic reference not only commonly referenced structures throughout the body, but also spaces, areas between joints and less frequently imaged anatomic locations. 768 pp.

RSNA Member Price: $630.00

BOOK
MRI Total Body Atlas Vol I Neuro
Stephen J. Pomeranz, M.D.

Definitive, comprehensive anatomic reference detailing not only commonly referenced structures in the brain and spine, but also the larynx, neck spaces, and cranial nerves. 229 pp.

RSNA Member Price: $225.00

BOOK
MRI Total Body Atlas Vol II Ortho
Stephen J., Pomeranz, M.D.

Definitive, comprehensive anatomic reference detailing not only commonly referenced structures in the musculoskeletal axis, but also areas between the joints in the extremities. 326 pp.

RSNA Member Price: $225.00

BOOK
MRI Total Body Atlas Vol III Body
Stephen J. Pomeranz, M.D.

Definitive, comprehensive anatomic reference detailing not only commonly referenced structures in the chest, abdomen and pelvis, but also the brachial plexus, uterus and testes. 213 pp.

RSNA Member Price: $225.00

BOOK
Gamuts & Pearls Ortho MRI
Stephen J. Pomeranz, M.D.; contributing authors: Timothy J. Jenkins, N. Judge King III, Mark J. Paluszny and R. Eric Shields

Subdivided into shoulder, elbow, hand & wrist, hip & thigh, knee, foot & ankle, musculoskeletal system and protocols & predicaments chapters, there is a wealth of information here for the busy imager at an extremely affordable price. 396 pp.

RSNA Member Price: $85.50

BOOK
Gamuts & Pearls Neuro MRI
Stephen J. Pomeranz, M.D., and Peter J. Smith

Subdivided into brain, spine, head & neck and protocols & predicaments chapters, there is a wealth of information here for the busy imager at an extremely affordable price. 398 pp.

RSNA Member Price: $85.50

DVD
Cardiac MRI Conference Series: Cardiovascular MRI Techniques
Wojciech Mazur, M.D.

Dr. Mazur addresses such topics as the anatomy of an MRI scanner, how to image the heart, cardiac analysis and spin tagging. The viewer is treated to coverage of stress modalities, rest-stress MR perfusion and spiral CT coronary angiography. Dr. Mazur also discusses the sizing spinal CT coronary angiography.

RSNA Member Price: $135.00

CD-ROM, VHS
Conference Series 23 Lecture Set
Stephen J. Pomeranz, M.D. and John Reeder, M.D.

This video recorded lecture series invites you into our state-of-the-arts theatre for lectures regarding musculoskeletal anatomy and pathology, subdivided into knee, foot & ankle, hip, shoulder, elbow, and hand & wrist.

RSNA Member Price: $2,430.00

Radiology Business Management Association

65 Enterprise
Aliso Viejo, CA 92656
(888) 224-RBMA
www.rbma.org

NEWSLETTER
The RBMA Bulletin

Your premier resource when it comes to radiology education. The RBMA Bulletin includes featured stories written by industry professionals as well as pertinent articles on practice management, compliance issues and legislation, HIPAA and ACR updates. You will also find up-to-date information on RBMA educational seminars, conferences, networking opportunities and products. Published six times per year.

RSNA Member Price: $90.00

BOOK
The HIPAA Workbook for Privacy and Security

The HIPAA Workbook for Privacy and Security: A Radiology Guide to Implementation of the Health Insurance Portability and Accountability Act is a radiology-specific guide to implementing the HIPAA Privacy and Security Standards that includes sample policies and procedures, consent and authorization forms, sample business associate and chain of trust agreements, planning and implementation guidelines, and much more.

RSNA Member Price: $995.00

TOOLKIT
RBMA Compliance Implementation Toolkit™

The RBMA Compliance Implementation Toolkit™ was designed for and written by RBMA members Claudia Murray and Hilary Huebsch Cohen, J.D. Designed as a turnkey Toolkit solution for radiology and radiation oncology practices to customize a compliance plan for their practice.

RSNA Member Price: $895.00

Continued on next page

Continued from previous page

Springer-Verlag, New York, Inc.

175 Fifth Ave.
New York, NY 10010
(800) SPRINGER
www.springer-ny.com

Springer

BOOK

PACS: A Guide to the Digital Revolution

Keith J. Dreyer, Amit Mehta and James Hunter Thrall

With contributions from leaders in the field of PACS, this user-friendly guide addresses the introductory concepts, computing fundamentals, advanced imaging technologies and future opportunities. This text is geared toward radiologists, technologists, administrators and IT professionals wishing to gain a broader understanding of this emerging field. 408 pp., 122 illus.

RSNA Member Price: $85.50

BOOK

The Internet for Radiology Practice

Amit Mehta

The Internet and related technologies have had a significant impact on the field of radiology, enabling the acceptance, installation and proliferation of adjunct technologies such as picture archiving and communication systems (PACS), teleradiology, voice recognition (VR) and electronic medical records (EMR). This book contains authoritative coverage of the general application of the Internet in medicine, radiology Web sites, teleradiology, EMR and patient care. 208 pp., 40 illus.

RSNA Member Price: $31.50

BOOK & CD-ROM

AJCC Cancer Staging Manual

Frederick L. Greene, David L. Page, Irvin D. Fleming, April Fritz, Charles M. Balch, Daniel G. Haller, Monica Morrow

The *AJCC Cancer Staging Manual*, prepared by the American Joint Committee on Cancer, is used by physicians and health care professionals throughout the world to facilitate the uniform description of neoplastic diseases. The staging information in the AJCC is uniform with the UICC and must be used for all tumors staged as of January 1, 2003. The Manual includes 45 staging forms on CD-ROM for individual or institutional use. 480 pp., 95 illus.

RSNA Member Price: $53.95

BOOK

AJCC Cancer Staging Handbook

From the *AJCC Cancer Staging Manual* prepared by the American Joint Committee on Cancer, the *Cancer Staging Handbook* contains the complete text of the manual, except for the staging forms and CD-ROM, conveniently sized to fit the pocket of a lab coat for complete portability. 408 pp., 37 illus.

RSNA Member Price: $35.95

BOOK

Practical FDG Imaging A Teaching File

Dominique Delbeke, William H. Martin, James A. Patton, Martin P. Sandler

This is a comprehensive reference of cases with FDG images obtained on dedicated PET tomographs and hybrid scintillation gamma cameras. With over 300 FDG images, this book will serve as an excellent stand-alone guide for nuclear medicine physicians, radiologists, oncologists and residents in their practice of clinical PET. 440 pp. 320 illus.

RSNA Member Price: $116.00

BOOK

Positron Emission Tomography Basic Science and Clinical Practice

Peter E. Valk, Dale L. Bailey, David Townsend, Michael N. Maisey

This book covers the basic scientific principles and clinical applications of PET in research and medical practice and contains a final section discussing future directions of PET. It will be an invaluable reference resource to advanced research laboratories, clinicians, graduates and advanced trainees in general nuclear medicine and radiology practices requiring more in-depth knowledge of the principles of PET. 904 pp., 546 illus.

RSNA Member Price: $152.00

BOOK

3D Contrast MR Angiography Third Edition

Martin R. Prince, Thomas M. Grist, Jörg F. Debatin

This new edition addresses all relevant technical aspects, provides imaging protocols and describes tailored imaging strategies for different vascular regions. Basic concepts: pulmonary MRA, thoracic aorta, abdominal aorta, renal arteries, mesenteric arteries, portal vein, peripheral arteries, extracranial carotid arteries and arch vessels, 3D contrast MR venography. 298 pp., 200 illus.

RSNA Member Price: $28.50

BOOK

Normal and Abnormal Swallowing Imaging in Diagnosis and Therapy Second Edition

Bronwyn Jones

This beautifully illustrated volume presents an updated approach to the role of imaging in the diagnosis and treatment of the patient with dysphagia. Centered around the “gold standard” imaging modality, i.e. videofluorography, the text also includes chapters on other modalities such as ultrasound, computed tomography and magnetic resonance imaging. 308 pp., 248 illus.

RSNA Member Price: $143.00

BOOK

Imaging-Guided Interventional Breast Techniques

David Dershaw

This “how to” text features the most up-to-date information on biopsy technology, including the advantages and disadvantages of biopsy probes. It also addresses issues of patient management, and discusses the results of the latest studies on problems in the histopathologic interpretation of tissue obtained during biopsies. 288 pp., 304 illus.

RSNA Member Price: $125.00

BOOK

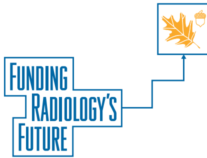
Atlas of Cross-Sectional and Projective MR Cholangio-Pancreatography A Teaching File

Lieven van Hoe, Dirk Vanbeckevoort, Werner van Steenbergen

Magnetic resonance cholangiopancreatography (MRCP) is a novel non invasive technique for diagnosis of pancreatic-biliary disease. This book highlights the advantages, limitations and indications of MRCP, including specific examples that showcase the utility of this technique in a large variety of clinical conditions. 429 pp. 450 illus.

RSNA Member Price: $89.00

PLEASE NOTE: RSNA merely facilitates communication between its members and publishers participating in the program. RSNA has not reviewed and does not recommend or endorse the content of any materials offered for sale by those publishers. RSNA does not participate in any way in the sale of those materials by the publishers. Therefore, RSNA disclaims any responsibility for the content or use of any materials purchased through the Publisher Partners program.



Research and Education Foundation Donors

The Board of Trustees of the RSNA Research and Education Foundation and its recipients of research and educational grant support gratefully acknowledge the contributions made to the Foundation between **December 30, 2002** and **January 30, 2003.**

Shimadzu Medical Systems

$10,000

Vanguard Company since 1999

RUBY ($5,000 - $9,999)

Sanjay Saini, M.D.

PLATINUM ($1,000 - $4,999)

William C. Black, M.D.
Luther W. Brady Jr., M.D.
Donald R. Logan, M.D.
Harvey Picker (Branta Foundation)

GOLD ($500 - $999)

Susan M. Ascher, M.D.
Christopher J. Hanna, M.Sc., Ph.D.

SILVER ($200 - $499)

Michael V.U. Azodo, M.D.
John H. Bair, M.D.
David J. Balison, M.D.
Donald G. Ball, M.D.
Paul E. Bauer, D.O.
Meenakshi Bellapravalu, M.D.
John M. Benson, M.D.
Shailesh M. Bhatt, M.D.
Royce J. Biddle, M.D.
Thomas J. Black, M.D.
James J. Branscom, M.D.
Steven H. Brick, M.D.
Charles R. Brite, M.D.
Alan S. Brody, M.D.
Donald C. Buehner, M.D.
Rodolfo G. Burgos, M.D.
Donald R. Buxton Jr., M.D.
Vernon D. Byrd, M.D.
Christopher L. Chong, M.D.
Kim L. Coleman, M.D.
Eric J. Crotty, M.B.B.Ch.
Edwin Danzer, M.D.
Larry B. Dixon, M.D.
Anne S. & Garth Drewry, M.D.
Henry J. Duffrin, M.D.
Thomas L. Dumler, M.D.
Jacob S. Ecanow, M.D.
Svein-Dag Eggesbo, M.D.
Jorge V. Esguerra, M.D.
W. Dennis Foley, M.D.
David G. Frankel, M.D.
Maija G. Freimanis, M.D.
Michael W. Fries, M.D.
Thomas E. Gallant, M.D.
Ajax E. George, M.D.
Raphael C. Giobbe, M.D.
Albert G. Grabb, M.D.
Richard T. Granaghan, M.D.
Joel E. Gray, Ph.D.
Brent M. Greenberg, M.D.
Bennett S. Greenspan, M.D.
Steven C. Gross, M.D.
Richard F. Grzybowski, D.O.
Victoria M. Gylys-Morin, M.D.
Lars Hannerz, M.D.
William C. Harrison, M.D.
James B. Haswell, M.D.
Poppy & H. Hugh Hawkins, M.D.
David F. Hayes, M.D.
Richard P. Hays, M.D.
William O. Henry, M.D.
Beverly & Michael S. Huckman, M.D.
David W. Hunter, M.D.
Subbarao Inampudi, M.D.
Subbia G. Jagannathan, M.D.
Diego Jaramillo, M.D.
Sharada Jayagopal, M.D.
James R. Johnston, M.D.
Joseph C. Jones, M.D.
Ahmad Judar, M.D.
Jonathan Kahn, M.D.
Masayuki Kanematsu, M.D.
Takihiro Kinoshita, M.D.
Hiroko Kitaoka, M.D., Ph.D.
Robert M. Knight, M.D.
Ravi P. Kodali, M.D.
Karsten F. Konerding, M.D.
Herbert Y. Kressel, M.D.
Mark R. Laussade, M.D.
Michael J. Levitt, M.D.
Zhongxing Liao, M.D.
John A. Loewy, M.D.
Thomas J. Maginot, M.D.
C. Edwin Martin Jr., M.D.
Janine R. Martyn, M.D.
Gordon McLennan, M.D.
Ajay C. Mehta M.D.
John R. Mernagh, M.D.
John M. Milbourn, M.D.
Charles J. Miller Jr., M.D.
Joel Mollin, M.D.
Terry L. Montague, M.D.
Jeanette M. Moulthrop, M.D.
Koji Nakamura, D.D.S., Ph.D.
Levon N. Nazarian, M.D.
Binh T. Nguyen, M.D.
Mathew L. Nickels, M.D.
Luis C. Niemtschik, M.D.
Steven R. Nokes, M.D.
Andrew S. Novick, M.D.
Diego B. Nunez Jr., M.D., M.P.H.
Ryosuke Okumura, M.D., Ph.D.
Robert H. Paley, M.D.
Sai C. Park, M.D.
Barry M. Parker, M.D.
Steven H. Peck, M.D.
William O. Pischnotte, M.D.
Donald A. Podoloff, M.D.
Stuart H. Prather Jr., M.D.
Yagnesh R. Raval, M.D.
William L. Redlin, M.D.
Michael D. Redwine, M.D.
Deborah L. Reede, M.D.
Bradford F. Reeves, M.D.
William J. Romano, M.D.
Kenneth A. Rule, M.D.
Tony J. Ryals, M.D.
Linda M. Sanders, M.D.
Nabih W. Sawaf, M.D.
Mark S. Schechter, M.D.
George C. Scott, M.D.
Carlton C. Sexton, M.D.
Kundan B. Shah, M.B.B.S.
Alfred Shaplin, M.D.
Usha Sharma, M.D.
Leo Sheiner, D.O.
Sadashiv S. Shenoy, M.D.
Edward Q. Shepherd, M.D.
Wan S. Shim, M.D.
Arnold A. Shkolnik, M.D.
Lester D. Shook, M.D.
Gary T. Smith, M.D.
Julius Smith, M.D.
Robert M. Snow, M.D.
Janet L. Strife, M.D.
Bradley S. Strimling, M.D.
Kyung-Jin Suh, M.D., Ph.D.
Jeffrey L. Sunshine, M.D., Ph.D.
James A. Tagle, M.D.
Gill M. Taylor-Tyree Sr., M.D.
Ruedi F. Thoeni, M.D.
Anita J. Thomas, M.D.
Matthias Tischendorf, M.D.
Kaori Togashi, M.D.
Duc D. Tran, M.D.
John C. Treanor, M.D.
Eugene C. Tsai, M.D.
Catherine M. Tuite, M.D.
Mary C. Tyrrell, M.D.
Manuel S. Verzosa, M.D.
Mark R. Walters, M.D.
Scott A. Weaver, M.D.
Susan M. Weeks, M.D.
Margery P. & Irwin D. Weisman, M.D.
Richard D. White, M.D.
Corinne B. Winston, M.D.
Michael J. Wolf, M.D.
Sally & James E. Youker, M.D.
Mark S. Yuhasz, M.D.
Joseph M. Zeigler, M.D.
Jerahmie L. Zelovitzky, M.D.
Robert D. Zimmerman, M.D.
Edith & Carl J. Zylak, M.D.

RSNA PRESIDENT'S CIRCLE MEMBERS

$1,500 per year

Laurita & Gary T. Barnes, Ph.D.
Chandra & Shantilal Lunia, M.D.
Jose T. Medina, M.D.
Barbara Carter, M.D. & Jeffrey P. Moore, M.D.
Faith B. & Theodore A. Tristan, M.D.

BRONZE ($1 - $199)

Shahrokh Abiri, M.D.
Mitchell D. Achee, M.D.
Richard A. Ahlstrand, M.D.
Ralph J. Alfidi, M.D.
Hannan S. Al-Jehairan, M.B.B.S.
John G. Alley Jr., M.D.
Michael D. Ames, M.D.

BRONZE ($1 - $199), CONTINUED

Jin Kyung An
Laurence Annet, M.D.
Jose C. Arduan, M.D., Ph.D.
Adel A. Assaf, M.D.
David E. Avrin, M.D., Ph.D.
Paul N. Backas, M.D.
Won C. Baek, M.D.
Seung-Jung Baik, M.D.
Bruce S. Baker, M.D.
Craig M. Banull, M.D.
Matthew A. Barish, M.D.
Douglas J. Bate, M.D.
George R. Baumgardner, M.D.
Carlos Bekerman, M.D.
Richard M. Berger, M.D.
Richard T. Bergeron, M.D.
Michael H. Bleshman, M.D.
Jeffrey C. Blum, M.D.
Marie Paule C. Boncoeur-Martel, M.D.
Mitra B. Boodram, M.D.
Abdullah Bostan, M.D.
John H. Bowen, M.D.
Charles W. Bower, M.D.
David Brake, M.D.
Fred R. Brandon, D.O.
Guy Brassard, M.D.
Darren D. Brennan, M.B.B.Ch.
Leonard J. Bristol, M.D.
Joan B. Bub, M.D.
David R. Buck, M.D.
M. Paula Campos, M.D.
Balasundaram Chandra-Sekar, M.D.
Ji-Hun Cheong, M.D.
Chin-Wei Chien, M.D.
Mervyn D. Cohen, M.B.Ch.B.
David H. Cohn, M.D.
Anne M. Curtis, M.D.
Robert H. Dann, M.D.
Rafal A. Darecki, M.D.
Raul S. de la Vega, M.D.
Debbie A. Desilet-Dobbs, M.D.
Gordon G. Dhanda, M.D.
Richard DiDonato, M.D.
P. Laurence Doeblin, M.D.
Maria Thea V. Dolar, M.D.
Rene-Jean Douzal, M.D.
Jimmie L. Eller, M.D.
Le Roy M. Erickson, M.D.
Brian M. Fagan, M.D.
David S. Feigin, M.D.
Richard G. Fisher, M.D.
Timothy T. Flaherty, M.D.
David B. Freiman, M.D.
Mikihiko Fujimura, M.D.
Wing-tak Fung, M.B.B.S.
Mary S. Gardner, M.D.
J.T. Giuffrida, M.D.
Richard L. Goldwin, M.D.
Luis V. Gonzalez, M.D.
Srikumar Gopalan, M.D.
Robert A. Goren, M.D.
Munetaka Haida, M.D., Ph.D.
Pierre Vahe Haig, M.D.
Joseph D. Hall, M.D.
Howard D. Harper, M.D.
Kelly Z. Hart, M.D.
David S. Hartman, M.D.
Helge P. Hausberger, M.D.
Mary L. Hess, M.D.
Richard J. Hicks, M.D.
Roy A. Holliday, M.D.
Sok-Ki Hong, M.D.
Dennis Huang, M.D.
Satoru Iwasaki, M.D.
Thomas M. Jamison, M.D.
Jeffrey G. Jarvik, M.D., M.P.H.
Dragan V. Jezic, M.D.
Blaise V. Jones, M.D.
Andrew R. Kalinsky, M.D.
Andrew J. Kalnin, M.D.
Shelby N. Katz, M.D.
Gregory A. Kaufmann, M.D.
Satomi Kawamoto, M.D.
John C. Kelly, M.D.
Ajit K. Khanuja, M.D.
Sung-Gyu Kim, M.D.
Sheldon A. Kleiman, M.D.
Gerald M. Klein, M.D.
Laura C. Knight, M.D.
Ehiichi Kohda, M.D.
Kanji Kojima, M.D.
Jay L. Korach, M.D.
Kadriye Koral, M.D.
Paul C. Koutras, M.D.
Masamichi Koyama, M.D., Ph.D.
Yoshio Kuniyasu, M.D.
San-Hee Lee, M.D.
David R. Lehnherr, M.D.
Henri E.A.S.J. Lemmers, M.D.
Howard E. Leventhal, M.D.
F. Chaney Li, M.D.
Herman I. Libshitz, M.D.
Chung W. Lim, M.D.
Kian S. Lim, M.B.
Robert L. Lindsay, D.D.S., M.D.
Otha W. Linton, M.S.
John H. Lohnes, M.D.
Eddy D. Lucas, M.D.
Denton E. MacCarty, M.D.
David C. Madoff, M.D.
Satkurunathan Maheshwaran, M.D.
Francis J. Mangiacapra, M.D.
David E. March, M.D.
Shelley R. Marder, M.D.
Edward R. May, M.D.
William J. McGroarty, M.D.
Charles W. McGuire, M.D.
Jane A. McMillan, M.D.
Bruce A. Merwin, M.D.
Robert M. Miller, M.D.
Richard A. Mintzer, M.D.
Rosa L. Molina, M.D.
Spencer Moore
Carol & Richard Morin, Ph.D.
John R. Muhm, M.D.
Arthur L. Mulick, M.D.
Luceil B. North, M.D.
Motoomi Ohkawa, M.D., Ph.D.
George A. Oliff, M.D.
Len M. Ouzts, M.D.
Jose K. Palma, M.D.
Jin-Gyoon Park, M.D.
Carolyn E. Parry, M.D.
Michael C. Peters, M.D.
Miriam & Michael Petruschak Jr., M.D.
Krishna R. Pillai, M.D.
Andrew G. Poulos, M.D.
David D. Reed, M.D.
James C. Reed, M.D.
Sarah E. Reimer, M.D.
Carlos Santiago Restrepo, M.D.
Clarissa F. Rhode, M.D.
Steve N. Rindsberg, M.D.
Grant P. Rine, Ph.D., M.D.
David Ritter
Barbara G. Robins, M.D.
Robert H. Rosenberg, M.D.
Glenn S. Roush, M.D.
Henry Ruiz, M.D.
Calvin L. Rumbaugh, M.D.
Frank S. Sabatelli, M.D.
Yoko Saito, M.D.
Sergio De Los Santos Sanchez, M.D.
Katharine A. Scharer, M.D.
Mark S. Schiffer, M.D.
Karl J. Schnabel, M.D.
Robert A. Scott, M.D.
Hassan B. Semaan, M.D.
Walter P. Seyferth, M.D.
Albert B. Shackman, M.D.
Chunilal P. Shah, M.D.
Michael J. Shortsleeve, M.D.
Phillip J. Silberberg, M.D.
Joel C. Sim, M.D.
Julian T. Simmons, M.D.
Beth M. Siroty-Smith, M.D.
Rafael Manzanares Soler, M.D.
Jean-Marc Starc, M.D.
Harry H. Steinmeyer Jr., M.D.
Alfred E. Stockum, M.D.
Daniel M. Stovell, M.D.
Robert D. Tarver, M.D.
Richard L. Taylor, M.D.
Thomas N.Thompson, M.D.
John R. Thompson Jr., M.D.
William E.C. Tiemann, M.D.
W. Phillips Tinkler, M.D.
Stanford B. Trachtenberg, M.D.
Glenn A. Tuckman, M.D.
Bradford R. Uricchio, M.D.
Steven M. Urman, M.D.
Marnix T. Van Holsbeeck, M.D.
Joseph E. Wagner, M.D.
George E. Wesbey III, M.D.
Keith S. White, M.D.
Anthony R. Whittemore, M.D.
Alan L. Williams, M.D.
Ken Wilson & Stephanie R. Wilson, M.D.
Holger H. Woerner, M.D.
Ellen L. Wolf, M.D.
Ernest M. Yuen, M.D.
Michael B. Zlatkin, M.D.
Salvina Zrinzo, M.D.
Karel J. Zuiderveld, Ph.D.

Online donations can be made at *www.rsna.org/research/foundation/donation.*

COMMEMORATIVE GIFTS

John J. Alcini Jr, M.D.
In memory of Gerald L. Alcini
Osarugue Aideyan, M.D. & Uwa Aideyan, M.D.
In memory of Grace & Peter Aideyan
Nancy & Robert E. Campbell, M.D.
In honor of Mrs. Alice C. Ferris
Sergio L. Heredia, M.D.
In honor of Mrs. Perla L. Heredia
Albert E. Hesker, M.D.
In memory of Juan A. Taveras, M.D.
Thomas R. Jones, M.D.
In honor of C. Douglas Maynard, M.D.
Kishore V. Kamath, M.D.
In memory of Mr. & Mrs. V.N. Kamath
Jeffrey A. Kugel, M.D.
In memory of J. Dennis Kugel, M.D.
Felipe N. Lim, M.D.
In memory of Mr. & Mrs. Lim-Eng Kiam
Chandra & Shanti Lunia, M.D.
In memory of our parents
Lawrence R. Nickell, M.D.
In memory of Robert Cooley, M.D.
William R. Poller, M.D.
In honor of Robert Bernstein, M.D.
Karen & Michael A. Sullivan, M.D.
In memory of Charles M. Nice Jr., M.D.
Gertraud Wollschlaeger, M.D., Ph.D.
In memory of Paul B. Wollschlaeger, M.D., Ph.D.

News about RSNA 2003

Abstracts for RSNA 2003

Scientific abstracts for RSNA 2003 must be received by April 15, 2003, to be considered for the 89th Scientific Assembly and Annual Meeting, November 30–December 5, at McCormick Place in Chicago. All abstracts must be submitted online at *RSNA Link* (*www.rsna.org*).

Complete abstract submission instructions are available in the back section of the printed March 2003 issue of *Radiology* and the January–February 2003 issue of *RadioGraphics.*

RSNA'03

COMMUNICATION FOR BETTER PATIENT CARE

November 30–December 5
McCormick Place, Chicago

Abstracts are required for Scientific Papers, Scientific Posters, Education Exhibits and *info*RAD Exhibits.

SCIENTIFIC PRESENTATIONS can be presented in either an oral or poster format. Oral presentations will be delivered at an assigned time and date and will be limited to six minutes in length followed by three minutes for discussion. Oral presentations are awarded category 1 CME credit. Posters will be assigned to a one-hour scientific session with the author present during the session to discuss the poster with the audience. Posters will be on display for review by the meeting attendees throughout the week on either one or two 1.25 × 1.25 meter (4′ × 4′) surface(s). Poster presentations will be awarded category 1 CME credit during the assigned one-hour scientific presentation.

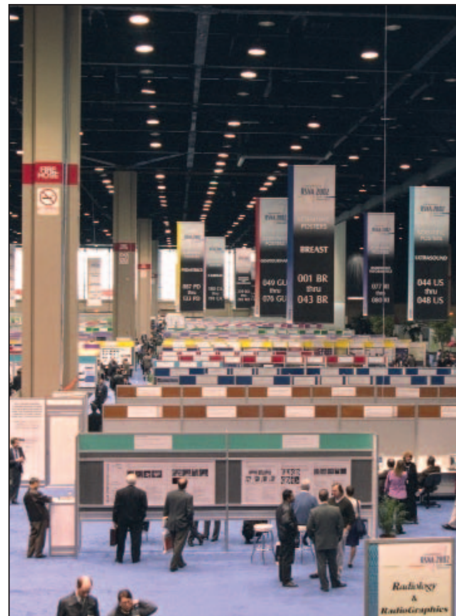
SCIENTIFIC PAPERS AND POSTERS will address completed hypothesis-driven research with a comprehensive report: a work-in-progress report of research under way concerning emerging ideas and techniques and containing initial yet defined results; or a brief, pertinent report of a particular new aspect or understanding of clinical radiology.

RESEARCH TRAINEE PRIZE(S) are $1,000 and a certificate to each winning resident and fellow. Only residents/fellows and physics trainees from North America are eligible. Abstracts submitted by residents, fellows and trainees will undergo the usual peer-review process, and if accepted for presentation, the authors will receive a letter of invitation to submit a 2,000-word abstract for consideration for the Research Trainee Prize.

EDUCATION EXHIBITS should be designed to teach or review radiologic signs, pathologic correlations, procedures, techniques, treatments and interventions or other aspects related to the practice of imaging.

ELECTRONIC EDUCATION EXHIBITS in the *info*RAD demonstration area showcase computer applications in radiologic education and information management. These are non-proprietary demonstrations of the management and communication of images and data for patient care and professional education.

■ **All abstracts must be received by April 15, 2003.**



Nearly 500 scientific posters were available for attendees at RSNA 2002. Positive feedback about the new, moderated poster sessions will ensure the format continues at RSNA 2003.

Important Dates for RSNA 2003

Date	Event
April 15	Deadline for abstract submission
April 28	RSNA and AAPM member registration/housing opens
May 27	**NEW** Non-member registration/housing opens
June 23	Refresher course enrollment opens
Oct. 10	Registration deadline for Non-North American participants to have badge wallet mailed
Oct. 31	Final advance registration deadline
Nov. 30–Dec. 5	RSNA 89th Scientific Assembly and Annual Meeting

News about RSNA 2003

NEW!

Electronic Only Advance Registration and Housing Brochure

New for RSNA 2003, advance registration and housing information will be available only through the Internet and by fax-on-demand. No brochures will be issued. Advance registration and housing information will be posted on *RSNA Link* (*www.rsna.org*) from April 28 through June 22. RSNA will mail access instructions the week of April 21.

Advance registration for RSNA 2003 opens April 28 for members of RSNA and AAPM. General registration opens May 27.

A hard copy of the Refresher Course Enrollment brochure will be mailed. An electronic version will also be available by download or fax. Refresher Course enrollment begins June 23.

For more information about registration at RSNA 2003, call (630) 571-7862 or e-mail *reginfo@rsna.org.*

Registration Fees

BY 10/31	ONSITE	
$0	$100	RSNA Member, AAPM Member
$0	$0	RSNA Member-in-Training and RSNA Student Member
$0	$0	Non-Member Refresher Course Instructor, Paper Presenter, Poster Presenter, Education or Electronic (*info*RAD) Demonstrator
$110	$210	Non-Member Resident/Trainee
$110	$210	Radiology Support Personnel
$520	$620	Nonmember Radiologist, Physicist or Physician
$520	$620	Hospital Executive, Research and Development Personnel, Medical Service Organization, Healthcare Consultant
$300	$300	One day registration to view the Technical Exhibits area.

For more information about registration at RSNA 2003, visit *www.rsna.org,* call (630) 571-7862 or e-mail *reginfo@rsna.org.*

RSNA 2002 Attendance

The official total registration for RSNA 2002 was 59,538, up 12 percent from RSNA 2001 and comparable to RSNA 2000.

	RSNA 2000	RSNA 2001	RSNA 2002
Total Attendance	59,794	53,033	59,538
Healthcare Professionals (Total)	24,412	20,788	24,241
Non-North American Professionals	7,743	5,092	7,191
Exhibitors	30,089	27,165	29,258
Press	236	195	201

RSNA 2003 Exhibitor News

Exhibitor Prospectus

The RSNA 2003 Exhibitor Prospectus will be mailed at the end of this month. To achieve maximum available space and assignment points, your completed application must be received at RSNA Headquarters by **April 7**, 2003. The first-round space assignment deadline is May 5, 2003.

Advertising at RSNA 2003

Many opportunities exist for promoting your exhibit at RSNA 2003—the world's largest annual medical meeting. For more information, see *www.rsna.org/advertising/index.html* or contact:

Jim Drew
Director of Advertising
(630) 571-7819
jdrew@rsna.org

Judy Kapicak
Advertising Manager
(630) 571-7818
jkapicak@rsna.org

For more information, contact RSNA Technical Exhibits at (630) 571-7851 or e-mail: *exhibits@rsna.org.* For up-to-date information about technical exhibits at RSNA 2003, go to *www.rsna.org/rsna/te/index.html.*

Important Exhibitor Dates for RSNA 2003

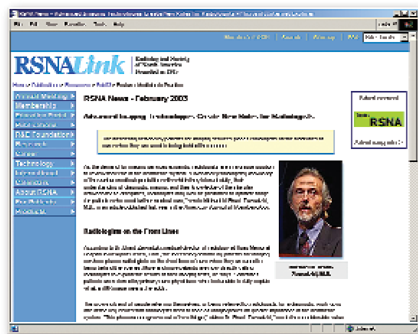
March 31	Exhibitor Prospectus mails
May 5	First-round space assignment deadline
June 24	Exhibitor Planning/Booth Assignment Meeting
July 3	Technical Exhibitor Service Kit mails
Nov. 30–Dec. 5	RSNA 89th Scientific Assembly and Annual Meeting

www.rsna.org

NEW!

Membership Candidates

The names of all applicants for RSNA membership are now posted monthly on *RSNA Link.* To view the list, go to *www.rsna.org/about/whoswho/candidates.html.* North American candidates are listed by country, then by state or province under the name of the state counselor(s). Corresponding member candidates are listed at the bottom of the page.



Advanced Imaging Technologies: Online-Only Article

An article from the February issue of *RSNA News* appears online only. The article, "Advanced Imaging Technologies Create New Roles for Radiologists," features interviews with Michael N. Brant-Zawadzki, M.D., and David E. Tubman, M.D. To read the article, go to *rsnanews.org,* click on February 2003, and then scroll down until you see the article title.

Call For Abstracts

Abstract submissions for RSNA 2003 are due April 15. The call for abstracts is posted at *www.rsna.org/rsna/abstracts.* Abstracts must be submitted online.

More than 200 computer terminals were available at McCormick Place for attendees to check their e-mail or view the Scientific Program.

PDA Downloads of Scientific Program

PDA downloads of the RSNA Scientific Program will likely be offered at RSNA 2003 because of the positive response at RSNA 2002.

Attendees used the newly expanded feature of *RSNA Link Onsite* to help organize their time at the annual meeting. They were able to use Web browsers before the meeting or use nine touchscreen stations at McCormick Place to download either a condensed version of the Scientific Program (the program minus abstracts) or their self-created personal schedule.

The PocketPC condensed version of the Scientific Program was downloaded 518 times; the Palm condensed version, 907 times. There was a total of 1,355 Web downloads (program and Virtual Briefcase downloads, along with updates and Excel downloads) to both PDA platforms. For the entire meeting, there was a total of 2,412 downloads (Web and onsite).

Other Web News

A new Pew Internet and American Life Project report, "Counting on the Internet," shows just how important the Internet is to Americans. The report says that more than 60 percent of Americans have access to the Internet, and most of the Internet users look to the Web for information on healthcare, government agencies, news and shopping.

To view the report, go to *www.pewinternet.org/reports/toc.asp?Report=80.*

econnections Your online links to RSNA

RSNA Link
www.rsna.org

***Radiology* Online**
radiology.rsnajnls.org

***Radiology* Manuscript Central**
radiology.manuscriptcentral.com

***RadioGraphics* Online**
radiographics.rsnajnls.org

RSNA Virtual Journal Club
vjc.rsna.org

Education Portal
www.rsna.org/education/etoc.html

CME Credit Repository
www.rsna.org/cme

RSNA Index to Imaging Literature
rsnaindex.rsnajnls.org

***RadiologyInfo*™**
RSNA-ACR public information Web site
www.radiologyinfo.org

RSNA Online Products and Services
www.rsna.org/memberservices

RSNA Research & Education Foundation Make a Donation
www.rsna.org/research/foundation/donation

Medical Meetings April – June 2003

APRIL 5–9
American Association for Cancer Research, 94th Annual Meeting, Metro Toronto Convention Centre, Toronto, Ontario • *www.aacr.org*

APRIL 9-13
Society of Chairmen of Academic Radiology Departments (SCARD), Fontainebleau Hilton, Miami • *www.scard.org*

APRIL 9–13
Association of University Radiologists (AUR), 51st Annual Meeting, Fontainebleau Hilton, Miami • *www.aur.org*

APRIL 9–13
American Association of Academic Chief Residents in Radiology (A^3CR^2), Fontainebleau Hilton, Miami • *www.a3cr2.com*

APRIL 9–13
Association of Program Directors in Radiology (APDR), Fontainebleau Hilton, Miami • *www.apdr.org*

APRIL 11–13
Japan Radiological Society (JRS), 62nd Annual Meeting, Yokohama, Japan • *www.radiology.or.jp/english/index.htm*

APRIL 12–15
Society of Breast Imaging (SBI), 6th SBI Postgraduate Course, Westin Diplomat Resort and Country Club, Hollywood, Fla. • *www.sbi-online.org*

APRIL 24–27
Radiation Research Society (RRS), 51st Annual Meeting, Adams Mark Hotel, St. Louis • *www.radres.org/*

APRIL 26–30
American Radium Society (ARS), 85th Annual Meeting, Hotel Inter-Continental, Paris, France • *www.americanradiumsociety.org*

APRIL 27–MAY 2
American Society of Neuroradiology (ASNR), 41st Annual Meeting, Washington, D.C. • *www.asnr.org*

MAY 4–9
American Roentgen Ray Society (ARRS), 103rd Annual Meeting, San Diego Convention Center, San Diego • *www.arrs.org/meeting/*

MAY 7–10
Society for Pediatric Radiology (SPR), Annual Meeting, Fairmont Hotel, San Francisco • *www.pedrad.org*

MAY 10
Molecular Imaging, ASTRO/ACR Symposium, Washington Hilton, Washington, D.C. • *www.astro.org*

MAY 10–13
Australian and New Zealand Society of Nuclear Medicine (ANZSNM), 33rd Annual Scientific Meeting, Sheraton on the Park, Sydney, Australia • *www.anzsnm.org.au*

MAY 10–15
ACR Annual Meeting & Chapter Leadership Conference, Washington Hilton, Washington, D.C. • (703) 716–7545

MAY 10–15
American College of Medical Physics (ACMP), Annual Meeting, Sagamore Inn, Lake George, N.Y. • *www.acmp.org*

MAY 10–16
International Society for Magnetic Resonance in Medicine (ISMRM), 11th Scientific Meeting and Exhibition, Metro Toronto Convention Center, Toronto, Ontario • *www.ismrm.org/03/*

MAY 11–18
Radiology in Italy, Medical College of Wisconsin & the Universities of Brescia and Parma, Parma and Stresa, Italy • *www.radiologyintl.com*

MAY 18–21
Radiology Business Management Association (RBMA), Radiology Summit, Hyatt Regency San Antonio • *www.rbma.org*

MAY 31
PowerRAD 2003: Digital Image Management and Presentation, RSNA Headquarters, Oak Brook, Ill. • (630) 368-3747 or *ed-ctr@rsna.org*

JUNE 1–4
10th Congress of the World Federation for Ultrasound in Medicine and Biology (WFUMB), Montreal Convention Center, Quebec • (800) 638-5352 or *www.aium.org*

JUNE 1–4
American Board of Radiology (ABR), Oral Exams for Diagnostic Radiology, Radiologic Physics, Radiation Oncology, Louisville, Ky. • *www.theabr.org*

JUNE 2–6
European Society of Pediatric Radiology (ESPR), Annual Meeting, Magazzini del Cotone-Porto Antico, Genoa, Italy • *www.espr2003genoa.org*

JUNE 6–7
Advanced Course in Grant Writing, RSNA Department of Research, RSNA Headquarters, Oak Brook, Ill. • (630) 368-3758 or *dor@rsna.org*

JUNE 7–10
Society for Computer Applications in Radiology (SCAR), 20th Symposium for Computer Applications in Radiology, Hynes Convention Center, Boston Sheraton Hotel, Boston • (703) 757-0054

NOVEMBER 30–DECEMBER 5
RSNA 2003, 89th Scientific Assembly and Annual Meeting, McCormick Place, Chicago • *www.rsna.org*