

SNM and International Initiatives

The annual meeting of the Society of Nuclear Medicine (SNM) is serving increasingly as an arena for collaboration and development among nuclear medicine researchers and practitioners from around the world. One third of the participants and one half of submitted abstracts for the 2000 SNM meeting (June 3–7) in St. Louis, MO, came from outside the United States.

In recognition of the Society's growing profile in world medicine, the SNM Board of Directors announced in St. Louis its intention to propose to host the 2010 annual meeting of the World Federation of Nuclear Medicine and Biology (WFNMB). The World Federation meeting is held every 4 y and has not been hosted by the United States since 1978. In a related move, the Board voted to support the application of Seoul, South Korea, as the site of the 2006 WFNMB meeting. The next meeting of the WFNMB will be held in Santiago, Chile, September 29–October 4, 2002.

The SNM Board also met in St. Louis with leaders of the European Association of Nuclear

Medicine (EANM) to formulate preliminary plans for a joint scientific research project. In addition, the EANM and SNM plan to host scientific sessions at one another's respective annual meetings in Paris (this month) and Toronto (2001). Such sessions for the international exchange of information take on special urgency as nuclear medicine continues to evolve differently in countries with diverse organizational and regulatory structures for medical practice and research. At the 2000 SNM meeting, ALSBIMN, the Latin American international organization, hosted a successful session on general nuclear medicine, and other such sessions are planned for the 2001 SNM meeting in Toronto.

SNM leaders also met in St. Louis with delegations from Italy, Korea, Spain, Germany, Japan, Chile, Thailand, Australia, New Zealand, and Canada. Talks with representatives of the Canadian Society of Nuclear Medicine (CSNM) addressed issues associated with forming a closer relationship between the SNM and CSNM and preparations for the Toronto meeting.

Symposium on Isotope and Radiation Applications in Taiwan

More than 500 physicians and other scientists attended the 2000 Symposium on Isotope and Radiation Applications (SIRA) at the Institute of Nuclear Energy Research (INER) in Lung-Tan, Taiwan, Republic of China (ROC), May 18–19, 2000. This biannual symposium was organized by INER and the Chung Hua Nuclear Society, with the assistance and support of 17 government agencies and private organizations, including the ROC Society of Nuclear Medicine.

The meeting's main theme was "Isotopes and Radiation Advancing Human Health," with 6 focal topics: radioisotope facilities and programs; isotope and radiation therapy; boron neutron capture therapy; radiation applications in agriculture, herbal medicine, and industry; functional imaging applications in medicine and pharmacology; and neuroimaging and



Organizers and invited speakers at the 2000 Symposium on Isotope and Radiation Applications, Lung-Tan, Taiwan, Republic of China, May 18–20, 2000.

applications. The organizing committee invited 16 scientists and physicians from the United States, Canada, Australia, Japan, South Korea,

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Availability of Radioisotopes Produced in North America

A list of all radionuclides produced in North America by the major industrial and government sources of radionuclides (in either radiochemical or radiopharmaceutical form) is presented here, along with the address of each supplier. Of these suppliers, 5 are Department of Energy (DOE) laboratories: Brookhaven National Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory (ORNL), Pacific Northwest National Laboratory, and Sandia National Laboratory. This list was rechecked by multiple contributors for accuracy and submitted on behalf of the Commission on Radiopharmaceuticals of the Society of Nuclear Medicine to inform potential users of the availability of a wide range of radionuclides in the United States and Canada.

The list was tabulated with the assistance of the manufacturers and government agencies whose addresses appear at the end of this article. Calibration sources and standards

are not the subject of this compilation. This detailed list intentionally excludes stable isotopes, for which ORNL or Isoflex Corporation (Moscow, Russia) should be contacted.

I thank Henry Kramer, PhD, and other members of the Council on Radionuclides and Radiopharmaceuticals (CORAR); F.F. Knapp, PhD, John Carty, and Owen Lowe at the DOE; Matthew Sanford and Gary Ehrhardt, PhD, at the Missouri University Research Reactor (Columbia, MO); and Michael Welch, PhD, at the Mallinckrodt Institute of Radiology (St. Louis, MO) for reviews of this list.

Edward B. Silberstein, MD

SNM Commission on Radiopharmaceuticals

Eugene L. and Sue R. Saenger Professor of Radiological Health and Professor of Medicine

College of Medicine, University of Cincinnati Medical Center Cincinnati, Ohio

Element	Radioisotope	Source	Element	Radioisotope	Source
Actinium	²²⁵ Ac	ORNL	Curium	²⁴⁴ Cm	ORNL
	²²⁷ Ac	ORNL		²⁴⁸ Cm	ORNL
Aluminum	²⁶ Al	LANL	Dysprosium	¹⁶⁶ Dy	ORNL, MURR
Americium	²⁴¹ Am	LANL	Fluorine	¹⁸ F	III (local synthesis)
	²⁴³ Am	ORNL	Gadolinium	¹⁴⁸ Gd	LANL
Antimony	¹²² Sb	MURR		¹⁵³ Gd	NEN, III, DUP
Arsenic	⁷² As	LANL*	Gallium	⁶⁶ Ga	WUSTL
	⁷³ As	LANL		⁶⁷ Ga	NOR, MAL, DUP, NYC
Barium	¹³³ Ba	NEN, DUP	Germanium	⁶⁸ Ge	NEN, BNL, LANL, DUP
Berkelium	²⁴⁹ Bk	ORNL	Gold	¹⁹⁸ Au	NEN, MURR
Beryllium	⁷ Be	LANL, BNL		¹⁹⁹ Au	BNL
Bismuth	²⁰⁷ Bi	LANL	Holmium	¹⁶⁶ Ho	MURR, ORNL
	²¹⁸ Bi	ORNL		^{166m} Ho	ORNL
Bromine	⁷⁶ Br	WUSTL	Indium	¹¹¹ In	NEN, NOR, NYC, MAL
	⁷⁷ Br	WUSTL		^{114m} In	NEN
	⁸² Br	NEN	Iodine	¹²³ I	NEN, NOR, III, MAL, NYC, SYN
Cadmium	¹⁰⁹ Cd	DUP, NEN, LANL*		¹²⁴ I	WUSTL
	^{115m} Cd	NEN		¹²⁵ I	NEN, NOR, SAN
Calcium	⁴⁵ Ca	NEN		¹²⁹ I	NEN, DUP
Californium	²⁴⁹ Cf	ORNL	¹³¹ I	NEN, NOR	
	²⁵² Cf	ORNL	Iridium	¹⁹² Ir	ORNL, NOR, MURR, III
Carbon	¹⁴ C	NEN, NOR		Iron	⁵² Fe
Cerium	¹⁴¹ Ce	NEN	⁵⁵ Fe		DUP, NEN, ORNL
Chlorine	³⁶ Cl	NEN, NOR	⁵⁹ Fe		NEN
Chromium	⁵¹ Cr	NEN, NOR, MURR	Krypton	⁸⁵ Kr	DUP
Cobalt	⁵⁷ Co	NEN, NOR, III, DUP	Lanthanum	¹⁴⁰ La	MURR
	⁵⁸ Co	NEN	Lead	²⁰³ Pb	NOR
	⁶⁰ Co	NEN, III, ORNL, NOR	Lutetium	¹⁷⁷ Lu	MURR, ORNL
Copper	⁶⁰ Cu	WUSTL	Magnesium	²⁸ Mg	BNL
	⁶¹ Cu	WUSTL	Manganese	⁵² Mn	BNL
	⁶⁴ Cu	NEN, WUSTL, ORNL		⁵⁴ Mn	NEN
	⁶⁷ Cu	MURR, BNL, LANL*			

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Element	Radioisotope	Source	Element	Radioisotope	Source
Molybdenum	⁹⁹ Mo	NOR	Strontium	⁸² Sr	BNL, LANL*, NOR
Nickel	⁶³ Ni	NEN, NOR, DUP, ORNL		⁸⁵ Sr	NEN
Niobium	⁹⁵ Nb	NEN		⁸⁹ Sr	NEN, ORNL
Osmium	¹⁹¹ Os	MURR		⁹⁰ Sr	NEN, PNNL
Palladium	¹⁰³ Pd	NEN, BNL, ORNL, NOR, LANL*	Sulfur	³⁵ S	NEN, MURR
	¹⁰⁹ Pd	MURR, ORNL	Technetium	^{95m} Tc	BNL, LANL*
Phosphorus	³² P	NEN, NOR, MURR		⁹⁶ Tc	BNL
	³³ P	NEN, MURR		⁹⁹ Tc	NEN, ORNL
Platinum	¹⁹¹ Pt	MURR		^{99m} Tc	NOR, DUP
	^{195m} Pt	MURR, ORNL	Tellurium	^{123m} Te	ORNL, MURR
Plutonium	²³⁸ Pu	ORNL		^{125m} Te	MURR
	²³⁹ Pu	ORNL		^{129m} Te	MURR
	²⁴⁰ Pu	ORNL	Terbium	¹⁶⁰ Tb	MURR
	²⁴¹ Pu	ORNL	Thallium	²⁰¹ Tl	NOR, III, DUP, MAL, NYC
	²⁴² Pu	ORNL	Thorium	²²⁸ Th	ORNL
Polonium	²⁰⁹ Po	ORNL		²²⁹ Th	ORNL
Potassium	⁴⁰ K	ORNL		²³⁰ Th	ORNL
	⁴² K	NEN	Tin	¹¹³ Sn	NEN
Promethium	¹⁴⁷ Pm	NEN		^{117m} Sn	NEN, ORNL
	¹⁴⁹ Pm	MURR	Titanium	⁴⁴ Ti	LANL
Radium	²²⁵ Ra	ORNL	Tungsten	¹⁸⁸ W	NEN, ORNL, MURR
Rhenium	¹⁸⁶ Re	MURR, ORNL		¹⁸⁸ W/ ¹⁸⁸ Re	ORNL
	¹⁸⁸ Re	MURR, ORNL	Uranium	²³³ U	ORNL
Rhodium	¹⁰⁵ Rh	MURR		²³⁴ U	ORNL
Rubidium	⁸³ Rb	BNL		²³⁵ U	ORNL
	⁸⁶ Rb	NEN		²³⁶ U	ORNL
Ruthenium	⁹⁷ Ru	BNL		²³⁸ U	ORNL
	¹⁰³ Ru	NEN	Vanadium	⁴⁸ V	LANL
Samarium	¹⁴⁵ Sm	ORNL		⁴⁹ V	LANL
	¹⁵³ Sm	NEN, BNL, ORNL, MURR	Xenon	¹²⁷ Xe	BNL
Scandium	⁴⁶ Sc	NEN, MURR		¹³³ Xe	NOR, DUP, GEC
	⁴⁷ Sc	ORNL	Ytterbium	¹⁶⁹ Yb	MURR
Selenium	⁷² Se	LANL	Yttrium	⁸⁶ Y	WUSTL
	⁷⁵ Se	NEN, MURR, LANL		⁸⁸ Y	LANL
Silicon	³² Si	LANL		⁹⁰ Y	NEN, NOR
Sodium	²² Na	NEN, LANL, DUP, BNL	Zinc	⁶⁵ Zn	NEN, BNL, LANL*
	²⁴ Na	NEN	Zirconium	⁸⁸ Zr	LANL*
				⁹⁵ Zr	NEN

*available from LANL in 2001.

BNL = Brookhaven National Laboratory
Medical Department
Radionuclide and Radiopharmaceutical
Research Group
Building 801
PO Box 5000
Upton, NY 11973-5000

DUP = DuPont Corp.
Medical Imaging Division
331 Treble Cove Road
N. Billerica, MA 01862-2897

GEC = General Electric Corporation
6705 Vallecitos Road
Sunol, CA 94586

III = International Isotopes, Inc.
3100 Jim Christal Road
Denton, TX 76207

LANL = Los Alamos National Laboratory
Chemical Science and Technology Division
Medical Radioisotopes Program
PO Box 1663, Mail Stop J514
Los Alamos, NM 87545

MAL = Mallinckrodt Inc.
Imaging Group
675 McDonnell Blvd.
St. Louis, MO 63134

MURR = Missouri University Research Reactor
Reactor Research Center
Research Park
Columbia, MO 65211

NEN = NEN™ Life Science Products
549 Albany Street
Boston, MA 02188-2512

NOR = MDS Nordion
447 March Road
Kanata, Ontario
CANADA, K2K 1X8

NYC = Nycomed-Amersham Corp.
101 Carnegie Center
Princeton, NJ 08540

ORNL = Oak Ridge National Laboratory
Isotope Distribution Office
PO Box 2009
Oak Ridge, TN 37831-6385
PNNL = Pacific Northwest National Laboratory
902 Battelle Boulevard
Richland, WA 99352

SAN = Sandia National Laboratories
PO Box 5800
Albuquerque, NM 87185-1145

SYN = Syncor Pharmaceuticals Inc.
1313 Washington Avenue
Golden, CO 80401

WUSTL = Washington University
Mallinckrodt Institute of Radiology
510 South Kingshighway
MIR Box 10
St. Louis, MO 63110

A Personal Interest in the Future

Four years ago, Abass Alavi, MD (University of Pennsylvania, Philadelphia, PA), and former trainee Gerald Mandell, MD (DuPont Institute, Wilmington, DE), recognized the need to encourage younger members of the nuclear medicine profession. At the same time, they hoped to memorialize their own fathers, Mohsen Alavi and Samuel Mandell, who had been interested in medicine but because of difficult circumstances were unable to pursue higher education in a medically related field. "We decided to honor both of these highly talented individuals by helping young men and women in the early stages of their careers to work toward prominent positions in academic life," says Alavi. "We wanted to do this by recognizing contributions to the field from young authors published in *The Journal of Nuclear Medicine* [JNM]."

Both Alavi and Mandell were aware that their plan was consonant with the mission of the Society of Nuclear Medicine (SNM) Education and Research Foundation (ERF): to improve health care through the support of education and research in the medical uses of radioisotopes. "The awards and scholarships we present are a part of our efforts to encourage talented people by recognizing their contributions and worth," says Kenneth McKusick, MD, president of the ERF. "We believe that the future of nuclear medicine rides on the potential of those who are just now entering or are about to enter the profession."

The Alavi-Mandell Awards were presented for the first time at the SNM meeting in 1999. Awardees are selected from among all those in a given year who were trainees at the time their names appeared as first authors of papers in *JNM*.

"This has been one of the most rewarding experiences of my academic life as a teacher and as an educator," says Alavi. "Letters from mentors and students who have received the award have been most heartening. Clearly, we need to recognize our young talents by similar acts."

The 2000 Alavi-Mandell Awards were presented to:

François Benard (Hospital of the University of Pennsylvania, Philadelphia, PA) for "Clinical Evaluation of Processing Technique for Attenuation Correction with ^{137}Cs in Whole-Body PET" (*JNM* 1999;40:1257–1263) and "The Prognostic Value of FDG-PET Imaging in Malignant Pleural Mesothelioma" (*JNM* 1999;40:1241–1245).

Didier Blocklet (Hopital Universitaire Erasme, Brussels, Belgium) for "Maximum-Likelihood Reconstruction with Ordered Subsets in Bone SPECT" (*JNM* 1999;40:1978–1984).

Eduardo Cwajg (University of Rio de Janeiro, Capes, Brazil) for "Gated Myocardial Perfusion Tomography for the Assessment of Left Ventricular Function and Volumes" (*JNM* 1999;40:1857–1865).

Satomi Fujiwara (Yamagata University School of Medicine, Yamagata, Japan) for "Fatty Acid Imaging with ^{123}I -15

(p-Iodophenyl)-9-R,S-Methylpentadecanoic Acid in Acute Coronary Syndrome" (*JNM* 1999;40:1999–2006).

Roland Hustinx (University Hospital of Liege, Liege, Belgium) for "Potential Applications of PET Imaging in Developing Novel Cancer Therapies" (*JNM* 1999;40:995–1003).

Eui-Hyo Hwang (Fukui Prefectural Hospital, Fukui, Japan) for "Preoperative Assessment of Residual Hepatic Functional Reserve Using $^{99\text{m}}\text{Tc}$ -DTPA Galactosyl-Human Serum Albumin Dynamic SPECT" (*JNM* 1999;40:1644–1651).

Hisataka Kobayashi (National Institutes of Health, Bethesda, MD) for "Methods to Avoid the Adverse Effects of Circulating Antigen on Biodistribution of ^{125}I -Labeled Anti-Tac dsFv" (*JNM* 1999;40:1381–1391).

Myriam Monsieurs (University Hospital of Gent, Gent, Belgium) for "Adaptive Response in Patients Treated with ^{131}I " (*JNM* 2000;41:17–22).

Walter Pirker (University of Vienna, Vienna, Austria) for "Imaging Serotonin and Dopamine Transporters with ^{123}I - β -CIT SPECT" (*JNM* 2000;41:36–44).

The success of this program led Alavi and his wife, Dr. Jane Bradley Alavi, to establish a second honor, the Bradley-Alavi award. This award honors Stanley Bradley, MD, who at his death in 1999 was a professor emeritus of medicine and past chair of the Department of Medicine at the Columbia Presbyterian School of Medicine in New York, NY. Bradley had served as editor-in-chief of *The Journal of Clinical Investigation* and trained hundreds of medical students, residents, and fellows during his long career. This award will be given to the top students selected by the ERF for the annual student fellowship recognition. The first Bradley-Alavi awards will be presented in 2001.

Alavi is passionate about the need for personal involvement by established nuclear medicine practitioners in the recognition of young scientists. "At no time has the future of nuclear medicine looked so bright," he says. "Molecular biology-based imaging, sophisticated therapy approaches, and fantastic instrumentation all combine to make our discipline one of the most exciting specialties in medicine. Yet very few young individuals are adventuring into these untapped fronts. My hope is that by these simple steps that Dr. Mandell and my family have taken, we will help to enhance our image as a discipline worthy of consideration." Alavi encourages his colleagues in nuclear medicine, especially those in academic institutions, to do their best to introduce talented individuals into the specialty. "It is clear," he says, "that the future of a very rapidly changing specialty like nuclear medicine lies in the hands of today's students."

Blahds Recognized for Efforts in Support of ERF



The Blahds (left) at the award presentation with fellow honorees Sally DeNardo, MD, and Gerald DeNardo, MD, and with Conrad Nagle, MD, then ERF president.

“Both the Blahds see their efforts with the ERF as having long-lasting dividends for all of nuclear medicine...”

William H. Blahd, MD, and Mitzi Blahd were presented with the Society of Nuclear Medicine (SNM) President’s Distinguished Service Award at a ceremony on June 3 at the SNM annual meeting in St. Louis, MO. In presenting the award, then SNM president Robert F. Carretta, MD, noted their extraordinary efforts in taking the SNM Education and Research Foundation (ERF) from a promising concept to a fully functioning entity that enriches both the present and future of the specialty.

The couple has been actively involved with the ERF since 1978, when Dr. Blahd became president of the SNM. At that time, the ERF was only a few years old and had neither funds nor a firm direction for future development. “This was the 25th anniversary of the SNM,” says Dr. Blahd. “And it seemed an appropriate time for the Society to work toward enhancing its image with both the public and within the medical community. I asked my wife if she would apply her unique organizational skills to bring life and interest into the ERF.”

Mrs. Blahd’s first effort was both unconventional in organized medicine and remarkably successful. Enlisting the input of all 16 SNM chapters, she organized and wrote *Scintillating Cookery*, a silver-covered cookbook marking the

anniversary of the Society. The Blahds funded the printing, and the book quickly sold out more than 2000 copies. Mrs. Blahd, who for more than 29 years has attended SNM meetings with her husband, notes that “People still come up to me and tell me they use the book on a regular basis. It was a real hit and provided seed money for the ERF at the same time that it made people more aware of the Foundation and its goals.” Her next project was a wildly popular run of nuclear medicine-themed T-shirts, with phrases such as “I’m so scintillating!” and “Some like it hot!” “We also began staffing a booth for the ERF at SNM meetings,” Mrs. Blahd reports. “These items continued to spark interest in the Foundation.” By the early 1980s, the SNM included a check-off for donations to the ERF on forms for annual dues payments. The Blahd’s efforts to raise awareness of the Foundation had clearly worked: the first year this check-off option was available, more than \$70,000 was pledged by SNM members.

Mrs. Blahd was instrumental in establishing the Cassen Prize in Nuclear Medicine, the largest and most prestigious honor in the field. Both the Blahds were close friends with nuclear medicine pioneer Benedict Cassen and his wife, Mary Wylie Cassen. After Ben’s death in 1972, the

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2000 Tetalman Award Goes to Jadvar



**Hossein Jadvar,
MD, PhD**

Hossein Jadvar, MD, PhD, is the recipient of the 2000 MarcTetalman Award of the Society of Nuclear Medicine (SNM) Education and Research Foundation (ERF). The award recognizes outstanding achievement among young investigators in nuclear medicine and is named after a young nuclear medicine physician whose death ended a promising career. Dr. Jadvar is Assistant Professor of Radiology in the

Division of Nuclear Medicine, Keck School of Medicine, University of Southern California (USC), Los Angeles, CA.

Jadvar combined his medical training with a strong background in chemical engineering, bioengineering, and computer sciences. As a child in Iran, he enjoyed building electrical circuits and looking through microscopes. After coming to the United States to attend Iowa State University, he continued his dual interest in engineering and medicine, earning MS degrees in bioengineering (University of Wisconsin-Madison) and computer engineering (University of Michigan, 1986), a PhD in bioengineering (University of Michigan, 1988), and an MD (University of Chicago, 1993). During doctoral research on computer analysis of electrocardiograms, he first became interested in nuclear cardiology procedures. His choice of nuclear medicine as a specialty reflected his desire to work in a field in which the various elements of his training could come together. "My background in biomedical and computer engineering has definitely helped me to better understand imaging technology, including its limitations and capabilities," Jadvar says. "I am more able to focus on the source of technical errors and the ways in which a procedure may be improved by computer data manipulation, either at the time of image acquisition or image processing."

The focus of his work was sharpened by a fellowship in PET and oncologic and pediatric nuclear medicine at the Harvard Medical School Joint Program in Nuclear Medicine, where he worked with S. James Adelstein, MD, PhD, S. Ted Treves, MD, and Alan Fischman, MD, PhD. Jadvar had previously worked with clinical applications of PET at Stanford University, under the guidance of H. William Strauss, MD, George Segall, MD, and I. Ross McDougall, MD, PhD. At USC, he continues research on clinical PET and has added a focus on basic science applications of PET in molecular imaging, in close collaboration with the USC PET Imaging Science Center, directed by Peter Conti, MD, PhD.

The Tetalman Award is one of many received by Jadvar in his multifaceted scientific career. His research efforts have been recognized by 6 patents and by awards from the University of Chicago (1993), the National Institutes of Health (1994), the Radiological Society of North America (1997), and the American College of Nuclear Physicians (1998). In 1999 he received 2 research grants for projects in nuclear cardiology (SNM) and PET (American Cancer Society). "The Tetalman Award is beyond a tremendous honor, because it validates my choice of an academic career in nuclear medicine," he says. "I am humbled and honored, and want to thank my parents, who instilled in me the satisfaction and joy of learning, and all my mentors who taught me along my journey."

His academic work is evident in other interests. Another area of research has been imaging assessment of physiologic changes induced by microgravity, combining a serious amateur interest in astronomy and cosmology with medical imaging. He is an accomplished photographer with a number of published images to his credit, including photographs in the pages of *The New England Journal of Medicine* and *The American Journal of Roentgenology*.

Jadvar sees special challenges for the young nuclear physician in this period of rapid technological and organizational change in medicine. "With the advent of coincidence imaging and PET, nuclear medicine physicians must have a thorough understanding of cross-sectional anatomy," he says. "Interpretation of nuclear studies in a vacuum, without appropriate correlation with anatomic imaging studies, can often lead to inconclusive and suboptimal results." He believes that incorporation of a 6-mo rotation in diagnostic radiology (2 mo bone and chest radiography, 2 mo CT, 1 mo MRI, and 1 mo ultrasound) as part of the the American Board of Nuclear Medicine's required 2-y postinternship training would be most helpful to trainees in the field.

Jadvar's enthusiasm for all aspects of nuclear medicine is evident in his assessment of future prospects for growth and discovery. "Nuclear imaging will be a major contributor to our basic understanding of health and disease states of all organ systems. As a relatively young field, nuclear medicine is one of the most exciting ventures in medical sciences, combining the art and practice of medicine with the major basic sciences of biology, chemistry, and physics. Who can ask for more?!" In presenting the Tetalman Award, the SNM ERF recognized Jadvar for his varied and remarkable accomplishments and noted the promise these hold for future advancements and discovery.

SNM-TS Sponsors Public Forum on Women's Health

The Society of Nuclear Medicine Technologist Section (SNM-TS) realized a major goal at this year's annual meeting in St. Louis, MO. On June 3, at the Edison Theatre on the campus of Washington University, the SNM-TS Scientific and Teaching Committee presented "Hot Topics in Women's Health." This well-attended outreach seminar was open to the public and covered 3 major areas in which nuclear medicine plays a key diagnostic role in women's health: breast cancer, heart disease, and osteoporosis.

The program was developed within the committee as a result of longstanding concerns about both public perceptions of nuclear medicine and the need to supply women with a range of useful and important medical information. The group realized early on that the goal should be larger than simply encouraging women to have regular check-ups, mammograms, and other screening. Well before the St. Louis meeting, the committee opted for a broader approach, hoping to enable women to be more active in their own health care decisions with information about diagnostic and preventative options provided by nuclear medicine professionals who are women.

In St. Louis, Barbara Sterkel, MD, from Washington University and a founder of the St. Louis Osteoporosis Foundation, addressed many of the issues faced by women with osteoporosis. Attendees learned about preventative

measures and about a variety of diagnostic tests. Dr. Sterkel emphasized that, although osteoporosis is a progressive disease, steps can be taken to slow its progress and reduce its effects.

Erica Upstrom, MD, a St. Louis cardiologist in private practice, fielded questions from attendees on diagnosis and prevention of heart disease in women. Answers to questions from attendees addressed the age at which more in-depth tests for cardiac disease should begin and ways physicians should be approached with questions about diagnosing such disease.

A highlight of the program was the talk by Lillie Shockney, RN, an oncology nurse from Johns Hopkins Medical Center in Baltimore, MD. Her sometimes humorous stories provided keen insights into the human side of this devastating disease.

The program was the result of months of planning, organization, and assistance by a number of individuals. Lisa Ann Trembath, CNMT, and Mickey Clarke, CNMT, FSNMTS, worked tirelessly on all aspects and helped secure support from DuPont and Mallinckrodt. The SNM-TS is grateful to these 2 companies for their support and to all the people who participated in this public outreach program.

The SNM-TS plans to follow up on this successful event with another seminar at the SNM meeting in Toronto, Canada, in 2001.

Nuclear Medicine Technician Receives Federal Recognition



Sandra Grant, CNMT

Sandra Grant, Chief Nuclear Medicine Technician at the Veterans Affairs (VA) Medical Center in Atlanta, GA, was presented with 2 awards at the Employee of the Year program of the Atlanta Federal Executive Board on May 3, 2000. She was named both the Outstanding Supervisor and Outstanding Technician among hundreds of nominees from across the spectrum of federal government employment in the Atlanta area.

In nominating her for the award, Naomi P. Alazraki, MD, Chief of Nuclear Medicine at the VA, noted not only Grant's extraordinary organizational capabilities but her attention to the needs of patients and their families. "Sandi has taught us all the art of compassionate attention," says Alazraki. "She has a talent for lifting patients' spirits when needed and calming their anxieties."

In her 10 years at the VA, Grant has helped to bring a true patient focus to the nuclear medicine department. She makes sure that every patient receives a pre-appointment phone call, so that details of their upcoming procedures can

be explained and questions answered. She supervises 4 technologists and ensures that department technology staff stays well informed through weekly update meetings. She also undertook supervision of reception, clerical, transcription, and program staff, so that department activities could run more smoothly with central management.

Grant maintains an active publication and research schedule, as a frequent speaker, author, and co-investigator. Her poster entitled "Breast Cancer Sentinel Lymph Node Lymphoscintigraphy: Optimizing Methodologies for Detecting Sentinel Lymph Nodes in Breast Cancer" won a first prize for technologists at the 2000 Society of Nuclear Medicine meeting in St. Louis.

Outside the hospital, Grant remains committed to the needs of others. She is active in community causes that raise awareness of breast cancer. In October 1999 she participated in the Avon-in-Atlanta 52-mile walk to raise funds for support of breast cancer education and research. She has also served as a tutor in adult literacy programs in the Atlanta area.

Grant was surprised and delighted by the awards. "I'm honored to have received such high recognition for my work in a profession I truly love," she said.



PUBLIC AFFAIRS UPDATE

Over the past several years we have had numerous inquiries about 2 issues: the current rules on the level of physician supervision for diagnostic procedures and the “legality” of radiographing patients after a bone scan or lung scan without a written order from the referring physician. Finally, after repeated inquiries to the Health Care Financing Administration, we received a letter on July 27, 2000, that contained some answers. In the hospital, “direct supervision” is assumed to be present; but a physician must be “immediately available” in a hospital-based freestanding facility or independent

diagnostic testing facility (IDTF). The requirements for orders also differ slightly between hospital-based and hospital freestanding facilities and IDTFs. Standing orders for additional views or x-ray images are acceptable only in the hospital.

We suggest that you alert your local Carrier Advisory Committee to this communication.

–William R. Uffelman
General Counsel

Director of Public Affairs

–Amanda Sullivan
Project Manager, Health Care Policy



DEPARTMENT OF HEALTH & HUMAN SERVICES

Health Care Financing Administration

7500 SECURITY BOULEVARD
BALTIMORE MD 21244-1850

William R. Uffelman
Director of Public Affairs
and General Counsel
Society of Nuclear Medicine
1850 Samuel Morse Drive
Reston, VA 20190-53 16

Dear Mr. Uffelman:

This is to respond to your letter regarding physician supervision of diagnostic tests.

In the hospital inpatient and outpatient settings, we assume that direct supervision of diagnostic services exists, which means that a physician is immediately available in the setting. In a hospital-based freestanding facility and in an IDTF, direct supervision means that a physician is immediately available in the facility.

In the hospital inpatient and outpatient settings, we defer to internal hospital policies and JCACHO guidelines regarding the use of “standing orders.” However, when a service is rendered pursuant to a “standing order,” the service still must meet all other Medicare rules, such as medical necessity, to be payable. As we stated in the preamble to the regulations, in a hospital-based freestanding facility and in an IDTF, the use of “standing orders” is unacceptable. The treating physician should order any and all additional tests.

We realize, however, that certain situations may permit furnishing a notice to the treating doctor instead. For example, if the physician clearly erred in ordering an image of the left leg instead of the right leg, the order maybe changed through a faxed notice or phone message to the physician if the physician cannot be reached. Likewise, if an image with contrast media demonstrates a medical need for an additional image and the physician cannot be reached, the additional image may be taken after a faxed notice or phone message to the doctor to spare the patient from returning to the testing center and reingesting the contrast agent. Overall, the rule requiring only the treating physician to amend or order additional tests attempts to preclude the routine practice by the testing center to furnish additional diagnostic services.

I hope that this addresses your concerns.

Sincerely,
Terrence L. Kay
Director
Division of Practitioner and Ambulatory Care
Purchasing Policy Group
Center for Health Plans and Providers

Blahds (Continued from page 17N)

Blahds helped to care for Mrs. Cassen during years of declining health. It was at Mrs. Blahd's suggestion that Mrs. Cassen bequeathed substantial funding for the prize. The prize recognizes significant achievement in nuclear medicine science and is awarded to a living scientist or physician-scientist whose work has led to a major advance in basic or clinical nuclear medicine science. The Cassen Prize is awarded every other year and was presented for the fourth time in 2000, when the dual recipients were Sally DeNardo, MD, and Gerald DeNardo, MD (Sacramento, CA). In addition to the Cassen Prize, the Cassen estate also established a postdoctoral fellowship. This special award provides an opportunity for recent doctoral degree recipients who have demonstrated exceptional ability to broaden their experience by participating in research activities at an institution other than their degree-granting institution.

Both the Blahds see their efforts with the ERF as having long-lasting dividends for all of nuclear medicine. "The ERF expands the possibilities for the field by supporting research fellows, at the same time that it recognizes remarkable

achievements by those who have been in nuclear medicine for some time," says Dr. Blahd. "Perhaps its most significant contribution is that the Foundation encourages talented young people to choose nuclear medicine for their medical careers." Among the now numerous awards presented by the ERF are the Tetelman Award, Pilot Research Grants, Student Fellowships, the Alavi-Mandell Prizes, Paul Cole Scholarship, and the Associate Degree Student Awards. Mrs. Blahd sees the efforts of the ERF reaching beyond the confines of the medical community: "The ERF can educate the public," she says. "I'm constantly amazed at the number of people who still don't know what nuclear medicine is or the contributions that it makes to the most innovative aspects of health care and well being."

Dr. Blahd is Director of Nuclear Programs at the Department of Veterans Affairs Greater Los Angeles Healthcare System (Los Angeles, CA) and Professor of Medicine at the University of California at Los Angeles. Mrs. Blahd remains an organizer *par excellence*, having recently overseen a successful effort by the Pacific Palisades Library Association to raise funds for a new library facility.

Taiwan (Continued from page 9N)

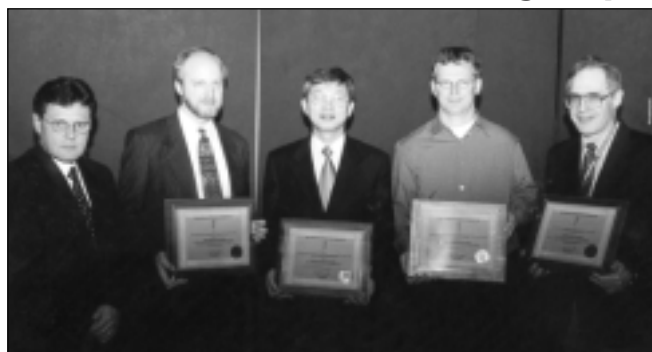
Netherlands, Sweden, and the United Kingdom to present talks and participate in panel discussions on key technical issues, trends, and challenges in the development and applications of isotopes and radiation technology in the new millennium. The symposium included 3 plenary sessions (18 special lectures), 8 parallel sessions (34 oral presentations), and 4 poster sessions (50 posters).

A joint symposium titled "Prospects of Neuroimaging in the New Millennium" also was held at INER on May 20, 2000,

and was organized by the ROC Society of Nuclear Medicine and the Chung Hua Nuclear Society to discuss research, development, and clinical applications of PET and SPECT brain contrast materials.

*Joseph C. Hung, PhD
Director, Nuclear Pharmacy and PET
Radiochemistry/Cyclotron Facility
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Mayo Clinic
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JNM Outstanding Paper Awards Presented



Plaques recognizing four outstanding articles in *The Journal of Nuclear Medicine (JNM)* in 1999 were presented to authors on June 6, 2000, at the annual meeting of the Society of Nuclear Medicine. The honors were presented by *JNM* editor-in-chief Martin P. Sandler, MD. Each author represented his coauthors in accepting the award. Pictured, from left to right, are Sandler, Daniel J. de Vries, PhD (Brigham & Women's Hospital, Boston, MA), June-Key Chung, MD, PhD (Seoul National University Hospital, Seoul, Korea), Otto C. Boerman, PhD (University Hospital Nijmegen, The Netherlands), and James C. Reynolds, MD (National Institutes of Health, Bethesda, MD).

IAEA Threatened with Forced Cuts

In a front-page story on August 8, 2000, *The Washington Post* reported that the International Atomic Energy Agency (IAEA) is facing a financial crisis and may have to shut down key operations because of the failure of the United States and other countries to pay their United Nations bills on time. Agency spokespersons noted that programs in nuclear medicine and agriculture have already been pared.

According to the report, the IAEA is facing the most severe financial crisis in its history, with the agency's function as the world's nuclear watchdog imperiled. With more than \$1 million in travel bills overdue last month, the agency may be forced to ask its nuclear inspectors to work at their own expense. If funds owed by the United States and other countries do not arrive to offset agency expenses, the IAEA may begin layoffs among its 2100 full-time employees. *The Post* quoted IAEA Director General Mohammed Baradei as saying, "If this perilous situation continues, it could undermine critical safeguard operations that verify the safe uses of nuclear energy."

Body Sets Off Alarms in New York

The body of a homeless man found on the East Side of Manhattan in New York City on July 15 set off a radioactive alarm in the city morgue, *The Philadelphia Daily News* reported. Doctors at the morgue issued statements that they believed the man had "undergone tests using radioactive material shortly before his death." "He had some testing done which involved nuclear medicine, the injection of radioactive material," said Ellen Borakove, a spokesperson for the medical examiner's office. "That's why the sensor in the office picked up the radioactive levels." She added, "He's not a public health hazard; there's no radioactive activity on the outside of his body whatsoever."

The unidentified man's body was found at Third Avenue and East 25th

Street. The cause of death was not immediately determined, Borakove said, because the body had been placed in an isolated area. An autopsy would be performed "as soon as it was safe." The medical examiner's office had no additional information on the deceased man when contacted by Newsline in August.

Nuclear medicine rarely finds itself in daily news reports, and this story raises interesting questions for those in the field. How many morgues (both municipal and hospital) are equipped with always-on radiation detectors? How do nuclear medicine departments follow-up after injection of radioactive tracers in patients who have no fixed addresses? In preparation for a future feature, the Newsline editor welcomes information on such questions from readers.

HOPPS/APC Strategies Outlined

Writing for AuntMinnie.com, Robert Maier, president and CEO of Regents Health Resources, a medical imaging consulting and development firm, outlined a number of strategies for coping with the Health Care Financing Administration's (HCFA's) new hospital outpatient prospective payment system (HOPPS) for Medicare reimbursement.

Writing for the AuntMinnie site on July 29, 2000, Maier noted that the new system is sure to have significant impacts on contributions made by imaging departments to hospital profit margins. Hospitals, he maintained, have historically had little appreciation for the 40%–60% profit margins generated by outpatient imaging services. However, HCFA's new ambulatory payment classification (APC) rates for radiology will cause significant reductions in reimbursement, depending on how deeply co-insurance will be discounted to patients.

Maier offered an example of a 120-bed hospital in the Midwest with 50% Medicare patients. The hospital performed 19,000 outpatient Medicare exams in 1999 and generated net revenues from Medicare services of \$2.5

million. Outpatient modalities included diagnostic radiology, ultrasound, CT, MRI, and nuclear medicine. Applying the new APC rates with maximum co-insurance, the hospital's revenues would fall to \$1.8 million, a drop of \$622,000. If the hospital is forced or chooses to discount the patient's share of payment to the minimum co-insurance, net revenue could decrease to as little as \$1 million, or a reduction of \$1.5 million in net revenues compared with pre-APC levels. At maximum co-insurance, the loss of Medicare revenue would be 25%, whereas at minimum co-insurance the loss could be as much as 60%.

Maier stressed that strategic analysis, not panicked cost cutting, is the answer to the challenges posed by the new rules. Hospitals that apply knee-jerk reactions to decreased reimbursement will end up with diminished customer service, loss of outpatients, increased unit costs, and declining margins. Departments that plan their strategies based on solid analysis can experience continued growth and profitability.

Maier is among a growing number of consultants across the United States who offer advice, strategies, and specific mechanisms to cope with the effects of the HCFA changes. He recommended several steps as part of the strategic analysis to plan for these changes, including:

1. Obtain a clear understanding of the department's current financial situation. Analyze cost per modality and the revenue and margins on both existing Medicare and non-Medicare patients. Although other payors may follow Medicare's lead in this matter, the opportunity for increased volume and margins might still make up some of the expected loss.

2. Perform an APC impact analysis to know how procedures and services will be affected. Every hospital will be different, depending on patient mix, procedural volumes, existing reimbursement, and the 1996 cost report and wage index. Evaluate current
(Continued on page 31N)

(Continued from page 26N)

revenue and costs against expected Medicare and non-Medicare reimbursement.

3. Compare APC reimbursement to other payors and to the Medicare Physician Fee Schedule (MPFS) reimbursement for non-provider-based services. In the previous example, the 1999 hospital reimbursement was \$406 and APC reimbursement at maximum co-insurance dropped to \$384. (MPFS technical reimbursement for MR imaging was \$486 on average.)

4. Develop appropriate strategies to minimize the impact of HOPPS. Depending on volume, a freestanding or joint-ventured MR scanner might make sense when reimbursement would be \$100 more per procedure under MPFS than under APCs. (Joint-ventured services are not reimbursed under APCs.) Depending on cost structure, the decision could be made to discount co-insurance on selected APCs to market directly to patients, while maintaining other services at the higher rates. (Maier advises care here, however, because applying discounts to co-insurance is subject to advance reporting requirements and specific rules and may require discounting to other payors as well.)

5. Be ready for APC implementation. This includes reviewing the charge-master, analyzing the billing and coding process for compliance, and ensuring that coding is taking advantage of all possible APC codes and modifiers. An audit of the entire process for the hospital should be undertaken as soon as possible.

—AuntMinnie.com

Future Market Strong for Radiopharmaceuticals

The radiopharmaceutical market may double by 2006, according to a report by the market research firm of Frost

& Sullivan (San Jose, CA). The U.S. radiopharmaceutical market generated \$883 million in revenues in 1999, and, with steady growth expected in the coming years, revenues totaling \$1.6 billion are expected by 2006.

The report tempered this positive news with warnings about the limited supply of isotopes for research and the fact that the majority of such isotopes are produced outside the country.

Frost & Sullivan concluded their report by noting the expanded uses of radiopharmaceuticals in diagnosis, treatment, microbiology, and basic research. These applications are expected to continue to grow, contributing to the likelihood of a rapidly expanding market for radiopharmaceuticals.

—AuntMinnie.com

NCI Small Animal Imaging Grants

The National Cancer Institute (NCI) announced on July 31 that it is accepting applications from extramural and intramural investigators for Small Animal Imaging Resource Programs (SAIRPs). Grants under these programs will support (1) shared imaging research resources to be used by cancer investigators, (2) research related to small animal imaging technology, and (3) training of both professional and technical support personnel interested in the science and techniques of small animal imaging. SAIRPs will enhance capabilities for conducting basic, clinical, and translational cancer research relevant to the mission of the NCI. The major goals of the initiative are to increase efficiency, synergy, and innovation of such research and to foster research interactions that cross disciplines, approaches, and levels of analysis. Building and strengthening such links holds great potential for better understanding cancer and, ultimately, for better treatment and prevention. Applications should be submitted by November 28, 2000. Additional information on this request for applications can be found at <http://grants.nih.gov/grants/guide/rfa-files/RFA-CA-01-012.html>.

Edward B. Best, MD, 1926–2000

Edward B. Best, MD, longtime staff radiologist at the Scott & White Clinic in Temple, TX, died on May 18 after a protracted illness. Dr. Best headed the radioisotope laboratory at the Scott and White Memorial Hospital from 1962 to 1968 and initiated a school of nuclear medicine technology there that ran from the 1960s to 1984. He was certified in nuclear medicine in 1972, the first year the American Board of Nuclear Medicine offered examinations. At the Scott & White Clinic he directed angiography services for almost 2 decades (1968–1987). He also served on the staff of the Santa Fe Memorial Hospital and as an Associate Professor of Radiology at the Texas A&M University College of Medicine.

MURR-Produced Isotope Promising in Multiple Myeloma

Staff at the University of Missouri-Columbia research reactor (MURR) commented last month on reports of positive results in clinical trials of ¹⁶⁶Ho in skeletal-targeted radiotherapy of multiple myeloma. In a study conducted under the auspices of the NeoRx Corporation and reported at the annual meeting of the American Society of Clinical Oncology, 18 of 40 patients achieved complete remissions.

The MURR is the only facility that currently produces this isotope for clinical trials and is the largest university-owned reactor in the world. “We are very excited and enthusiastic about the results of this study,” said Ed Deutsch, MURR director. He noted that MURR researchers enable physicians, scientists, and enterprises to find new ways to diagnose, cure, and prevent disease. He added, “while taking part in this research, MURR is able to provide educational opportunities for our students and post-doctoral researchers that can lead to the development of radiopharmaceuticals such as these.”