ON THE COVER:
From Wilhelm Roentgen's rudimentary image in 1895 to the high technology of positron emission tomography in the 1990s, radiology has focused its vision on the body's interior, helping physicians to diagnose and to treat disease. And during this time of development, Mallinckrodt Institute of Radiology has been a leader in the field of radiological medicine. The history of radiology and of the Institute's role in its evolution is depicted in this cover reproduction of "Celebrating Radiology," the MIR 60th Anniversary Celebration commemorative poster. William A. Murphy, Jr., M.D., Celebration chairman, and Michaele Gold, director of MIR public relations, wrote and designed the poster (poster text is printed in the right-hand margins of this issue).

IN SEPTEMBER, MIR HELD A GRAND CELEBRATION UNDER THE EXPERT STEWARDSHIP OF WILLIAM A. MURPHY, JR., M.D., CHAIRMAN OF THE 60TH ANNIVERSARY CELEBRATION. MORE THAN 400 ALUMNI AND FRIENDS FROM 30 STATES AND FOUR FOREIGN COUNTRIES ATTENDED THE THREE-DAY PROGRAM. THIS ISSUE OF FOCAL SPOT HONORS THE INSTITUTE'S 60 YEARS OF EXCELLENCE AND COMMEMORATES THE 60TH ANNIVERSARY CELEBRATION.
YEARS OF CELEBRATING RADIOLOGY

THE SCIENTIFIC ADVANCEMENTS DETAILED HERE CELEBRATE RADIOLOGY AND RECOGNIZE MIR’S ROLE THROUGHOUT THE LAST 60 YEARS AS A PIONEER IN MEDICINE.

1895:
WILHELM CONRAD ROENTGEN’S DISCOVERY OF THE X RAY MARKED THE BEGINNING OF A REVOLUTION IN MEDICINE. FOR THE FIRST TIME PHYSICIANS COULD SEE INSIDE THE BODY WITHOUT SURGERY. THE INITIAL HUMAN X-RAY IMAGE PRODUCED BY ROENTGEN WAS OF HIS WIFE’S HAND.

1910:
RECOGNIZING THE IMPORTANCE OF THE X RAY, THE FACULTY AT WASHINGTON UNIVERSITY SCHOOL OF MEDICINE ESTABLISHED AN X-RAY LABORATORY (ACTINOGRAPHIC), AND RUSSELL D. CARMAN, M.D., WAS NAMED ITS DIRECTOR.
SEPTEMBER 5
KICKED OFF
MIR'S 60TH
ANNIVERSARY
CELEBRATION WITH
ZOOBILEE, AN EVENING
OF FUN, FELLOWSHIP,
GOOD FOOD, DIXIE-
LAND JAZZ, AND A FAB-
ULOUS FASHION SHOW
AT ST. LOUIS ZOO’S LIV-
ING WORLD.

Everyone, including Hanna
and Director Ron Evens, had a
chance to have pictures taken
with Fred Bird, the St. Louis
Cardinals team mascot. In addi-
tion to marking MIR’s 60th
Anniversary, 1991 was the 20th
year of Ron Evens’ chairman-
ship of the Department of Radi-
ology and directorship of
Mallinckrodt Institute of Radiol-
ogy. As evidence of the esteem
with which he is held, Encyclo-
pedia Britannica recently
asked Evens to write the history
and overview of radiology for its
annual update issue.

James Patterson (left), a 30-
year veteran of Mallinckrodt
Institute and the administrator
for biological research in Radia-
tion Oncology, and Hsiu-San Lin,
M.D., professor of radiology,
enjoyed chatting with fellow
staffer, Ryuji Higashikubo, Ph.D.
(right). Lin gave a talk called
“Management of Early-Stage
Hodgkin’s Disease” at the Jen-Ai
Hospital, Taipei Medical College,
in Taiwan on January 14. Last
November 16 and 17,
Higashikubo lectured on “Flow
Cytometric Analysis of Heat-
Induced Cell Progression Delay”
at the Seventh Annual Midwest
Regional Meeting for Radiation
Research held in St. Louis.

Kicking up their heels with
Fred Bird are Betty Hayward,
marketing services coordinator
and Zoobilee planning commit-
tee coordinator (left) and Bev-
erly Thompson, director of Total
Quality Management.
Money matters were left behind for the moment while (left to right) Joe Doerhoff and Glen Edelen, administrative assistants in financial affairs, and Don Stone, CPA, FHFMA, MIR’s business manager, enjoyed Zoobilee.

After guests enjoyed hors d’oeuvres and libations under the Zoobilee tent, strolling musicians led the way to the Halls of Live Animals and Ecology at the Living World. Once inside, roving photographers Tom Murry and Michelle Wynn of the MIR photography lab captured on film this group of party animals: (left to right) Michael Kleinhoffer, R.T., interventional radiology research technologist; Dan Cebulski, darkroom technician; Melinda Coiner, radiography student; Darlene Bunevac, R.T., junior technologist; Jane Palazolo, R.T., assistant technical supervisor; Kevin Peterson, R.T., technologist; and Julia Gamble, radiography student. Kleinhoffer is responsible for the grassroots campaign that prompted the introduction of a bill before the Missouri Legislature requiring licensure for radiologic technologists.

And posing for the camera are (left to right) Leon Fridley, R.T., technical supervisor, cardiac catheterization laboratory; Terry Compton, R.T., technical supervisor, neuroradiology; and Gary Brink, R.T., B.S., FASRT, technical administrator.
The undeniable hit of the evening was the MIR star-studded fashion show where models in designer clothes charmed the audience. Shown in their runway finery are (left to right) Barbara Monsees, M.D.; Bruce McClenann, M.D.; Ann Frye, R.T.(T); Humberto Fagundes, M.D.; Dot Gross, clinical aid; Barry Siegel, M.D.; and Marilyn Siegel, M.D. Marilyn Siegel, who recently stepped down after her eight-year tenure as coursemaster for the sophomore radiology course, was appointed in March, 1992, to the Committee on Residency Training for the American College of Radiology Commission on Education.

Seen strutting his stuff in the fashion show was Michael Vannier, M.D., director of Radiology Research and head of the 3-D image processing laboratory, whose modeling abilities were awe-inspiring. Vannier went on to participate in the scientific session on September 13 where he presented “3-D Imaging in Diagnosis,” a subject which has long been a focus of his successful research.

Janice Semenkovich, M.D., was a vision in black, modeling elegant evening wear.

Another popular model was James Purdy, Ph.D., head of the physics section and associate director of the Radiation Oncology Center. Reporting on January 30 and 31 the latest findings of eight years of research in 3-D treatment planning, Purdy gave talks on “Quality Assurance in Radiation Oncology,” “Three-Dimensional Treatment Planning,” and “Update of NCI Research Radiotherapy Tools” at the University of Florida at Gainesville.

Bettye James, R.T., chief technologist in Radiation Oncology, served double duty as a fashion-show model and as a Zoobilee Planning Committee member. On the stairs, waiting to make her entrance is Laurie Oberholtzer, R.T., assistant supervisor in MRI.

Zoobilee, was the brain-child of Virginia Trent (at microphone), senior administrator of marketing, planning, and public relations. Zoobilee Committee members received well-deserved accolades for an outstanding job: (left to right) Michael Ward, R.T., M.Ed., FASRT; Karen Neal; Mickey Clarke, R.T.; Joe O’Malley; Betty Hayward; Norman Hente, R.T., FASRT; Joe Doerhoff; Lisa Simmons; Sue Day; Jane Meyer.
and Patti Mueller. Not shown are Sharon Albertina, R.T., chief technologist, and Bettye James.

Jubilant partygoers (foreground left to right) Sean Cullen, R.T.; Francine Mormino, R.T.; and Bob Aly, film librarian, departed Zoobilee and The Living World with souvenir coffee mugs and Ted Drewes custard to enjoy on the way home.

1924:
Visualization at MIR of a human gall-bladder following injection of a contrast agent established the cholecystogram as the diagnostic test for gallbladder disease.

1927:
Edward Mallinckrodt, Sr., was so impressed with the successful gall-bladder research that he funded the construction of an institute devoted to radiological medicine and, thereby, attracted additional funds from the Rockefeller Foundation.
FIFTY-ONE CURRENT AND FORMER FACULTY MEMBERS GATHERED ON SEPTEMBER 12 AND 13 FOR A MEETING OF THE GREAT MINDS IN RADIOLOGY TO REVIEW THEIR MOST RECENT RESEARCH.

On the first day of diagnostic scientific sessions, William Middleton, M.D., shared his expertise in color Doppler ultrasonography (CDU) when he spoke on CDU of the liver. Another area of Middleton's interest is the application of CDU for the noninvasive diagnosis of varicoceles, one of the major causes of male infertility, which Middleton presented at the 77th Annual Meeting of the Radiological Society of North America (RSNA) in December.

After registration, attendees nourished their bodies with a continental breakfast before they sat in on the diagnostic sessions held in the newly renovated Scarpellino Auditorium. Sampling the "goodies" are James Murphree, M.D., (foreground, back to camera); Irving Weigensberg, M.D.; and Philip Weyman, M.D., (background, facing camera).

Director of the Institute Ronald Evens, who served as moderator for the first quarter's talks, introduced Alexander Margulis, M.D., professor of radiology and associate chancellor at the University of California at San Francisco, who spoke on "The Cutting Edge of Imaging." Margulis, former head of MIR's gastrointestinal radiology (GI) section, is widely known...
for having co-edited *Alimentary Tract Radiology*, the definitive textbook in GI, now in its fourth edition.

At the parallel radiation oncology session, Bahman Emami, M.D., chief of the hyperthermia section in the Radiation Oncology Center, discussed his latest work on the clinical applications of 3-D treatment planning. As part of MIR's national collaborative research in the development of 3-D cancer treatment planning, the Institute is opening a comprehensive 3-D treatment planning center in July of 1992. Emami, who will be clinical chief of the new center, presented “3-D Static Conformal Radiotherapy: Preliminary Results of a Prospective Clinical Trial” in November at the 33rd Annual Scientific Meeting of the American Society of Therapeutic Radiology and Oncology (ASTRO).

Joseph Roti Roti, Ph.D., associate director of the Radiation Oncology Center and chief of MIR's cancer biology section, presented “DNA Topology and Radiosensitivity” at the Celebration scientific sessions on Thursday, September 12. In March, he was chairperson for a symposium called “The Molecular Basis for Radiation Effects on Cell Progression Through the Cell Cycle” at the 40th Annual Meeting of the Radiation Research Society. Roti Roti's symposium was dedicated to the memory of Leonard J. Tolmach, Ph.D., a renowned cancer biologist who died last November after a long illness.

1928: 
AFTER HIS FATHER DIED, EDWARD MALLINCKRODT, JR., SUSTAINED HIS FATHER'S COMMITMENT BY PROVIDING ADDITIONAL FUNDS TO CONTINUE CONSTRUCTION OF THE INSTITUTE.

1930: 
THE CORNERSTONE FOR THE EDWARD MALLINCKRODT INSTITUTE OF RADIOL OGY WAS LAID ON OCTOBER 2; ROUTINE RADIOGRAPHY BEGAN IN AUGUST, 1931.

1936: 
JEAN KIEFFER, A SELF-TAUGHT RADIOGRAPHER DESIGNED THE FIRST LAMINAGRAPh FOR IMAGING SECTIONS OF THE HUMAN BODY. THIS INSTRUMENT, CONSTRUCTED AT MIR, WAS THE FORERUNNER OF COMPUTED TOMOGRAPHY AND MAGNETIC RESONANCE IMAGING.

Continued
Barry Siegel, M.D., director of Nuclear Medicine, served as moderator for Thursday's session on the diagnosis and treatment of diseases of the breast. In the first edition of The Best Doctors in America, Siegel was one of four MIR faculty included in the listings. The book, published in February, names him one of the top doctors in the field of general nuclear medicine. Siegel also was appointed in February, 1992, to the Radiological Devices Panel of the Medical Devices Advisory Committee for the U.S. Department of Health and Human Services' Food and Drug Administration.

Todd Wasserman, M.D., chief of the Radiation Oncology Center's lymphoma service and clinical chief of radiation oncology at Jewish Hospital, lectured on "Stereotactic Radiotherapy." Wasserman was instrumental in introducing the concept of stereotactic radiotherapy of brain tumors to the St. Louis region.

At Friday's scientific session, R. Gilbert Jost, M.D., chief of Diagnostic Radiology, spoke on "Picture Archiving and Communication Systems (PACS)," a technology that was developed...
in collaboration with Siemens Medical Systems to electronically review and archive images. Jost is well-known for his contributions to the development of electronic radiology and was asked to organize and chair Medical Imaging VI, the annual SPIE meeting on electronic radiology held in February.

Louis Gilula, M.D., codirector of the musculoskeletal section, (right) served as moderator for the first segment of Friday’s scientific session where Heber MacMahon, M.D., spoke on “Digital Imaging of the Chest.”

Michael Welch, Ph.D., director of the Division of Radiation Sciences, talked on “Chemistry in Radiology.” Welch, a past recipient of the prestigious Paul C. Aebersold Award and two-time winner of the Berson-Yallow Award, is one of the first researchers to apply modern organic chemistry to the preparation of radiopharmaceuticals used in medical imaging.

Celebration Chairman William A. Murphy, Jr., M.D., wore many hats during the three-day event. On Friday, September 13, he served as moderator for the second segment of the scientific session.

1949:

1949:
HUGH M. WILSON, M.D., THE INSTITUTE’S SECOND DIRECTOR, ESTABLISHED RADIOLOGICAL SUBSPECIALTIES AND EMPHASIZED EDUCATION.
SCIENTISTS AT MALLINCKRODT INSTITUTE OF RADIOLOGY WERE PIONEERS IN THE INTEGRATION OF COMPUTED TOMOGRAPHY (CT) AND MAGNETIC RESONANCE (MR) SCANS WITH THREE-DIMENSIONAL TECHNOLOGY TO PRODUCE A METHOD FOR THE IMPROVED DIAGNOSIS OF DISEASE.

CANCER TREATMENT PLANNING IS THE LATEST STEP IN THE DEVELOPMENT OF THIS TECHNOLOGY.

Eight years of research and planning will come to fruition in July when the Radiation Oncology Center opens the St. Louis area’s first three-dimensional treatment planning center for cancer. The 3-D Treatment Planning Suite enables the radiation oncologist and physicist to specifically tailor radiation dosage for each individual type of tumor.

Using an existing CT scanner equipped with a special laser marking system and connected to a 3-D treatment-planning computer, this system shows great promise for the development of improved treatment techniques. Novel (non-coplanar) beam arrangements deliver higher doses to the tumor while sparing healthy, critical structures, such as the heart or the bladder. Advantages over conventional radiation therapy planning methods include more accurate definition of the target volume (cancer-bearing volume), more accurate computation of the dose of radiation delivered in relation to the volume of interest, and more sophisticated treatment delivery and monitoring techniques that translate improved treatment planning into more effective radiation treatment in patients.

Carlos A. Perez, M.D., director of the Radiation Oncology Center, says, “The investment upfront for three-dimensional treatment more than pays for itself with the potential for improved survival and quality of life for patients as well as improved quality of life for patients’ families. With standard treatment techniques, the cost of treating a patient who fails is three times that of a patient who is cured.”

Heading up the 3-D Treatment Planning Program is James A. Purdy, Ph.D., assisted by physicists John Matthews, D.Sc.; Robert Drzymala, Ph.D.; and William Harms, B.S. who have been involved in the project since 1986. Purdy was MIR’s...
Imaging Frontiers

Left: Three-dimensional magnetic resonance images produce “road maps” of the brain’s surface, a previously unexplored area. Brain mapping not only provides the researcher with information that promises to improve the diagnosis of mental disorders but may help to explain the correlation between variations in the surface structure and the functioning or malfunctioning of the brain.

Right: Three-dimensional spiral computed tomography (CT) is being used in neuroradiology to improve the diagnosis of neurologic diseases. An advantage of 3-D spiral CT over conventional CT is a significant reduction in scanning time while providing defined volume of tissue for better reconstruction.

principal investigator for two initial research contracts funded by the National Cancer Institute (NCI) to evaluate the potential of 3-D radiation treatment planning for several hard-to-treat cancers. The MIR team is now in the third year of a five-year contract in which information gained from previous MIR research will be formulated and then tailored for use at the community-hospital level.

According to Purdy, “A decade from now, conventional simulation will be obsolete. Three-dimensional planning on a computer workstation, or virtual simulation, will be the standard, and Mallinckrodt Institute of Radiology will have played a key role in setting that standard.”

Bahman Emami, M.D., clinical director for the 3-D program, is particularly interested in the benefits to his patients of 3-D conformal radiotherapy. “Three-dimensional conformal radiotherapy uses external beams in which the prescribed dose or treatment volume is made to conform closely to the target volume,” he says. The new computer programs will control the radiation beam’s direction and shape, allowing it to follow a patient’s individual contours.

Preliminary results of Emami’s prospective clinical trial on 3-D static conformal radiotherapy, involving 10 patients with prostate cancer, showed consistent improvement for those prostate cancer patients by lowering radiation doses to the bladder and the rectum while maintaining excellent target volume coverage. □
Celebration
ART AND ACQUAINTANCESHIP

ON THURSDAY EVENING, SEPTEMBER 12, MIR FACULTY, STAFF, ALUMNI, AND FRIENDS MINGLED AMIDST SHIMMERY DECORATIONS OF GOLD TREES, GLITTERY TABLES, AND SPARKLING LIGHTS IN THE SCULPTURE HALL OF THE ST. LOUIS ART MUSEUM, THE PERFECT SETTING FOR RENEWING OLD ACQUAINTANCESHIPS.

Larry Schertz, M.D., (left) cochief resident from 1989 to 1990 and former leader of the Medical Center’s renowned band The Hot Docs, is now in his last year of a two-year fellowship in neuroradiology at Johns Hopkins Hospital in Baltimore. Schertz schmoozed with James Newman, a former MIR classmate and a Johns Hopkins colleague.

Ann and Michel Ter-Pogossian, Ph.D., were among the guests at the Art Museum. Because of his groundbreaking work as leader of the research team that developed positron emission tomography (PET) in the early 1970s, Ter-Pogossian is affectionately known as the father of PET. MIR’s PET research team, headed by Ter-Pogossian, is funded by a nearly $7 million grant from the National Heart, Lung, and Blood Institute. The grant, now in its 29th year, is one of the longest running grants at Washington University. He was twice named the John H. and Amy Bowles Lawrence Distinguished Scientist in Research Medicine by the Donner Laboratory, University of California, Berkeley.
Celebration Chairman William Murphy, Jr., M.D., and his wife Judy were on hand to greet guests. Nineteen ninety-one was a busy year for Murphy. In addition to chairing MIR's 60th Anniversary Celebration, his expertise in mounting top-notch scientific symposia was recognized with an appointment as program chairman of the 77th Scientific Assembly and Annual Meeting of RSNA in Chicago. RSNA annually draws 50,000 attendees and is the world's largest radiological organization, making its program chairman a great honor.

Surprise guests were the Blues Brothers, a.k.a. John Wong, Ph.D., (left) and Patrick M. Thomas, M.D. Thomas, a former Radiation Oncology faculty member, is now at the Temple University Comprehensive Cancer Center in Philadelphia. Wong, from the Radiation Oncology physics section, was invited to the University of Michigan to speak on "Clinical Aspects of On-Line Photo Imaging" on February 5.

The gathering showcased Virginia Trent's famous flair for organizing spectacular parties.

Renewing old friendships were alumnus Isidro Huente, M.D. (left), who travelled many miles from Santiago, Chile; Rita Diaz; and Armand Diaz, R.N., R.T., FASRT, former technical administrator who now is assistant professor emeritus of radiology.
ART AND ACQUAINTANCESHIP

Alumnus Matt Powers, M.D., and wife Pat made the trip from Tulsa, Oklahoma, to attend the 60th Anniversary Celebration.

Director Ronald G. Evens, M.D., (center) expressed his thanks to Michael and Barbara Kelly (left) and Merlin and Harriet Lickhalter, of the architectural firm Stone, Marraccini, and Patterson, sponsor of "Art and Acquaintanceship."

Hanna Evens visited with Celebration sponsors Bob Hartland (left) of Eastman Kodak Company and Manfred Pfeller, M.D., of Siemens Medical Systems, Inc.

MIR alumna Edda Quintero, M.D., (right) travelled from her home in Puerto Rico for the opportunity to see old friends like Louis Gilula, M.D., and wife Debbie. Gilula was one of nine St. Louis physicians who received the Missouri State Medical Association's Physician Recognition Award. The voluntary program recognizes physicians who reinforce their medical expertise by earning at least 150 Continuing Medical Education credits in a three-year period.
Enjoying the sights and sounds at the Art Museum are (left to right) Donna Farmer, Ph.D.; Robert Gropler, M.D.; Constance Courtois, M.D., class of 1994; and Michael R. Courtois, M.D. In 1991, Gropler received the American Heart Association's prestigious Clinician-Scientist Award in support of his research using positron emission tomography to study coronary artery disease.

Ronald G. Evens, M.D., as fourth director of the Institute, launched the programs necessary to sustain and enhance a world-class radiological facility. With the Institute's growing reputation, the inventor of computed axial tomography, Sir Godfrey N. Hounsfield, provided Mir a prototype head scanner, ushering in an era of high-technology, noninvasive imaging. Hounsfield later won the Nobel Prize for his invention.

A prototype linear accelerator, the Clinac 35 developed by Varian Associates, Inc., following specifications defined by Institute clinicians and scientists, set the stage for modern, high-energy, megavoltage radiation therapy machines.
Former faculty member Hywel Madoc-Jones, M.D., and his wife Suzanne travelled from Boston to attend MIR's 60th Anniversary Celebration. Madoc-Jones is radiotherapist-in-chief and professor and chairman of the Department of Radiation Oncology at Tufts-New England Medical Center.

The reception at the Art Museum provided Harvey Glazer, M.D., (right) with an opportunity to showcase a little known talent — that of film producer extraordinaire. Glazer's slide show chronicled the early days of MIR faculty. The unchallenged hit of the show were slides of the evolution of colleague Barry Siegel's hair styles throughout the years. Michael Ward, R.T., M.Ed., FASRT, director of technical education and chief technologist for quality assurance, congratulated Glazer on his success. Ward recently received a three-year appointment to the board of directors of the Joint Review Committee on Education in Radiologic Technology.

The Art Museum reception was a wonderful setting for a feast of the senses. Sampling the culinary feast were (left to right) alumnus Larry Anderson, M.D.; Henry Lee, M.D., Radiation Oncology faculty member; and Mary Kay and James Junker, M.D., MIR alumnus.
Wendell G. Scott’s development of a method to record the movements of various organs and structures on a single X-ray film was an important breakthrough in the field of radiology.

As testimony to Dr. Scott’s leadership at Washington University’s Mallinckrodt Institute and in the field of radiology, friends and colleagues established the Wendell G. Scott Memorial Lecture at the time of his death in 1972.

Following Friday’s scientific sessions, George D. Lundberg, M.D., editor of the Journal of the American Medical Association (JAMA), gave the keynote address at the Twentieth Annual Wendell G. Scott Memorial Lecture. Lundberg’s talk, which was titled “Future Responsibilities of Medical Journalism,” addressed the issue of the abundance of published research and the physician’s ability and responsibility to carefully judge that research before applying it in clinical practice. Or as Lundberg said, “We must adopt the phrase, ‘caveat lectore et editor — let the reader and editor beware.’ The future of medical journalism is exciting, bright, varied, and treacherous. It is up to the readers to realize that editorial messages may sometimes in fact be advertorials.”

Shown left to right are Ronald G. Evens, M.D.; Mrs. Wendell Scott; and George D. Lundberg, M.D.

Lundberg also is an outspoken advocate for national health-care reform. He dedicated the entire May 15, 1991, issue of JAMA, and many pages in the May issues of all nine specialty journals as well, to health-care reform in the United States. As Lundberg looked ahead to the 21st century, he said that medicine’s collective resources must be well managed.

Magnetic resonance imaging became the modality of choice for diagnosing many neurological, musculoskeletal, and cardiac disorders because of its unparalleled ability to differentiate among soft tissues and to be presented in any plane.
Before the festivities were in full swing, Warren Garner, M.D. (left) and Julie and Bruce McClennan, M.D., paused a moment to pose for the camera. On March 19, McClennan, chief of abdominal radiology, was invited to speak on "Contrast Media Reactions: Recognition and Response" and "CT of the Renal Mass - Update 1992" at the Brigham and Women's Hospital in Boston. He also was invited to present "CT of the Renal Mass - Update 1992" at the New England Roentgen Ray Society.

Michael Gold, director of public relations, discussed the Institute's latest achievements with good friend Al Wiman, who was long considered St. Louis' finest medical reporter and now
is president of Wiman Video Productions of New York and St. Louis. MIR’s office of public relations has been a three-time winner of awards, in 1987, 1988, and 1990, for total communications and external publications from the International Association of Business Communicators.

Henry Royal, M.D., associate director of the Division of Nuclear Medicine and recently named in the book The Best Doctors in America as tops in the field of nuclear medicine-radiation accidents, visited with fellow East Coaster John Curry, executive director of the American College of Radiology.

Juan M. Taveras, M.D., (left) the third director of MIR, reminisced with Carlos A. Perez, M.D., director of the Radiation Oncology Center. Perez was listed in The Best Doctors in America in four areas of cancer treatment: lung, gynecological, breast, and prostate. The second edition of Principles and Practice of Radiation Oncology, which Perez edited along with Luther Brady, M.D., professor and chairman of the Department of Radiation Oncology at Hahnemann University in Philadelphia, has been hailed as the definitive work on radiation therapy. Joining the discussion were Mariana Taveras and Susie Perez (right).

Joseph K. T. Lee, M.D., (center) former MIR “sultan of CT” and “maharajah of MR,” and his wife Christina travelled from North Carolina for the Celebration. He had a chance to swap stories with Robert McKinnon, president of Siemens Medical Systems, Inc. As a visiting faculty member, Lee, who is chairman of the Department of Radiology at the University of North Carolina at Chapel Hill, spoke on “Contrast Agents for MRI.”

St. Louis Cardinal Baseball Hall of Famer Stan Musial (seated) is a long-time friend of the Institute. Musial, a prostate cancer survivor, was the hit of the evening with former Chief Resident Richard Meidinger, M.D., and his wife Barbara.
A GALA TO REMEMBER

Vice Chancellor for Medical Affairs and Dean of the School of Medicine William Peck, M.D., and his wife Pat and MIR Director Ronald Evens, M.D., wished each other well on their anniversaries: the School of Medicine’s 100th and the Institute’s 60th.

Holly Pfitzinger; Jeffrey Brown, M.D., director of the MRI section, (middle) and Fernando Gutierrez, M.D., were among the guests gathering for cocktails in the Hyatt Regency’s Fleur de Lis Room. Earlier in the day, Gutierrez spoke on “Cardiac Morphologic Imaging (MRI).”

Chief of Vascular and Interventional Radiology Dan Picus, M.D., and wife Lisha Gayle stopped for a photo before going into dinner. At Thursday’s scientific session, Picus shared his latest findings in a talk on “Interventional Radiology of the Gallbladder.”
Alumnus Allan McCown, M.D., (left) and his wife Sunny and alumnus Michael Spence, M.D., enjoyed visiting with G. Leland Melson, M.D., (far right) during a break in the activities. Recently elected vice president of the Washington University Medical School Chapter of Alpha Omega Alpha (AOA), Melson, chief of ultrasound, moderated MRI scientific sessions on Thursday.

Ron Evens' 20-plus years of leadership of MIR were highlighted as William Murphy (left) presented Evens with a "Book of Memories," a collection of cards, notes, and letters from leaders in radiology nationwide.

"Salute to Mallinckrodt," an extravaganza featuring lasers, special slide effects, and a musical revue was written, produced and narrated by Virginia Trent (at podium). Celebrating the Institute's 60 years, the evening's program had a touch of everything — history, nostalgia, flair, and the future.

CURRENT AND FORMER STAFF OF THE INSTITUTE, ALL AUTHORITIES IN THEIR FIELDS, PRESENTED THEIR LATEST FINDINGS AT SCIENTIFIC SESSIONS IN THERAPEUTIC AND DIAGNOSTIC RADIOLOGY. THEIR DISCUSSIONS OF IMPORTANT ISSUES FACING RADIOLOGY IN THE NEXT DECADE WERE KEY ASPECTS IN THE SUCCESS OF MIR'S 60TH CELEBRATION.

Philip O. Alderson, M.D.
College of Physicians and Surgeons of Columbia University, New York

Dixie J. Anderson, M.D.
Mallinckrodt Institute of Radiology, St. Louis

John D. Armstrong, II., M.A., M.D.
University of Colorado Health Sciences Center, Denver

John M. Bedwinek, M.D.
St. Joseph's Hospital, St. Louis

Carl R. Bogardus, Jr., M.D.
University of Oklahoma Health Sciences Center, Oklahoma City
Sounds of the Bob Kuban Brass had everyone jumping with hits from the Big Band era up through the rocking 80s. Tripping the light fantastic were Nina and Edwin Meissner, M.D., former chairman of the board of Barnard Free Skin and Cancer Hospital. In the background, Sheila, from the MRI section, and Joseph Doerhoff (hidden from view) were easily one of the hottest couples on the dance floor.

Pausing for a chat were Ronald Evens (left) and one of the Celebration sponsors, William Mercer of Mallinckrodt Medical, Inc. and his wife Nikki.

Guests of William and Virginia Trent were on hand to congratulate Virginia for her expert organization of the successful evening. Trent was chairman of the Celebration committee. Shown left to right are William Trent, Adele Adam, Virginia Trent, Frank Adam, Jane Harris, and Whitney Harris.
September 13 was a night to sparkle, and (left to right) Raymond Bentele, chief executive officer of Mallinckrodt, Inc.; Brenda and James Carlile, vice president and general manager of the Radiology Division of Mallinckrodt Medical, Inc.; Harold Thayer, former chairman of the board of Barnes Hospital and former chairman of the board and chief executive officer of Mallinckrodt, Inc.; and his wife Bess were resplendent in their evening finery.

Representing Boatmen's National Bank, a long-time supporter of the Institute were (left to right) Robert and Mary Ventimiglia, Roy Heimburger, G. Duncan Bauman, and Marjorie and Alfred Ford.
THE CELEBRATION FESTIVITIES ENDED ON A TRIUMPHANT NOTE ON SEPTEMBER 14 AS MORE THAN 150 MIR AND WASHINGTON UNIVERSITY SCHOOL OF MEDICINE ALUMNI, FACULTY, STAFF, AND FRIENDS RAN, JOGGED, STROLLED, WALKED, BIKE, AND TROTTED THROUGH FOREST PARK.

Veteran runners Rex Hill (left), head of MIR’s computer section; John Wong, Ph.D., Radiation Oncology’s physics section; and Jim Blaine, D.Sc., (background) codirector of the electronic radiology laboratory, braved the 90-plus degree temperature to compete in and finish the 3.1 mile race. In a less strenuous situation, Blaine spoke on December 10 regarding “PACS Bandwidth: The Quest Continues!” at the University of California-Los Angeles School of Medicine.

Radiation Oncology’s Eric Slessinger, M.S., (left) and Gil Nussbaum, Ph.D., psyched themselves up for the challenge of the race — or perhaps it was in anticipation of the scrumptious picnic lunch waiting for them at the finish line.
Mokhtar Gado, M.D., was cool, calm, and collected as he biked his way over the winding course. At RSNA, Gado spoke on his latest research, “Measurement of Cerebral Blood Flow and Cerebral Blood Volume with MR Imaging.”

Fun Run/Walk Coordinator Gary Shackelford, M.D., (left) took a respite from the heat of the day with fellow runners Dixie Anderson, M.D., and Stuart Sagel, M.D. Anderson also was among those doctors who received the Missouri State Medical Association’s Physician’s Recognition Award. Sagel, chief of chest imaging, was invited to New York City’s Columbia-Presbyterian Hospital in December to present four separate talks on computed tomography and magnetic resonance imaging of chest-related diseases.
In preparation for the future

On Saturday, all eyes were focused on the future as (left to right) Chancellor William Danforth, M.D.; former MIR director Juan Taveras, M.D.; MIR director Ronald Evens, M.D.; and Vice Chancellor and Dean William Peck, M.D., rededicated the institute not only to the important tasks of the next decade but also to the great challenges of the next 60 years.

Ronald G. Evens, M.D., challenged MIR radiologists, past, present, and future, to become leaders in the political process. “When MIR was established, the federal government was an insignificant participant in medical care; in 1991, there is a very different scenario. The government is now a primary participant. It’s easy to predict that government action and regulation will increase. Access is a major problem. The challenge of the next sixty years will be to use our special expertise not only to continue caring for people and to improve future...
medical care — the things we've already done, but, in addition, we have a new role to play — in the political process. Good legislation is influenced by data, by facts and wisdom the Institute's faculty can provide. Medical care is not meeting the needs of our citizens. Somebody must take leadership. We must not only take care of patients, teach future physicians and technologists, and expand medical knowledge but also we must influence this political process so that we will be a part of setting how medicine is practiced in the next century.

Michael Loberg, Ph.D., MIR alumnus and president of Squibb Diagnostics, discussed the importance of change and staying ahead of the curve. “Organizational, if every bit of your organizational energies is currently well suited for today's environment, you're history. MIR has prospered, it has continued in its preeminence. In the next ten years, one of the new core competencies for radiology is going to be the economics of radiology. Preeminent institutions will have to have knowledge and skills in this area. I know of no other institution in the nation that is better known for its preeminence in radiology healthcare than this organization. To have maintained preeminence for 60 years is quite an accomplishment.”

Following the rededication ceremony in Scarrellino Auditorium a luncheon reception was held in the Library and Biomedical Communications Center at Washington University School of Medicine. The elegant Kenton King Faculty Room provided the perfect ending for a successful 60th Anniversary Celebration. Enjoying a farewell chat are (standing, left to right) Donald Wadsworth, M.D.; Mark Nicol, M.D.; and Jerrold Van Dyke, M.D. Seated is Heber MacMahon, M.D.
Dallas Anthony, M.D. (left) and former director Juan Taveras, M.D., took one last opportunity to enjoy food and fellowship before returning to their home bases.

Chairman of the Celebration, William Murphy, Jr., M.D., congratulated Michaele Gold, director of public relations, for organizing the successful reception.

Ronald Evens, M.D., (left) and Michel Ter-Pogossian, Ph.D., complimented Dixie Anderson, M.D., on her talk at the rededication ceremony. Anderson, who recently stepped down as director of the residency program at MIR and is now directing MIR’s task force on education, discussed the importance of and direction of education in radiologic service in her talk “The Hidden Curriculum.” She pointed out that education at MIR is made up of three aspects: the physical structure, the curriculum, and the hidden curriculum, which, according to Anderson, is that “indelible message you’re left with after the lecture is over — often nonverbal — it’s what you remember.”

“The success we have at MIR is because of our people who contribute to all three aspects of education. They’re the strength of our hidden curriculum — our hidden weapon,” she said. “Will we be able to preserve and to perpetuate the legacy of our hidden curriculum?”
Mokhtar Gado, M.D. (left), the Institute's well-known neuroradiologist, talked with Lois and MIR alumnus John Armstrong, M.A., M.D., clinical ethicist and professor of radiology at University of Colorado Health Sciences Center. Armstrong offered the audience at the rededication ceremony food for thought with his discussion of ethics in medicine, "The Humanity - Technology Conflict." "The patient is the beneficiary of our trust; we physicians are the trustees," Armstrong said. "Our duty is to honor the patient's humanity and to allow for one's individual uniqueness to be taken into account. High technology, of which we are a part, has taken a central part in patient care. High technology contributes to depersonalization, if not dehumanization, of patients." Armstrong concluded his talk with this thought-provoking question: "As radiological physicians, to what extent should we value our interrelatedness, our interdependence with our patients, and to what extent does our contribution in research, education, and patient care turn on that connection?"

Then, it was back to the Institute for an open house and a tour of the facilities. One of the tour stops was the Breast Diagnostic Center on 10 West Pavilion where Judy Destouet, M.D., head of mammography, discussed the facility's comprehensive capabilities. The three-year-old center is a prime example of the Institute's uncompromising commitment to excellence in clinical care, education, and research. Destouet was a recipient in March of the prestigious Krey Clinician Award, presented annually by the American Cancer Society. Considered one of the country's leading experts on mammography, Destouet was invited to speak on "The Altered Breast," "Fine Needle Aspiration and Biopsy State-of-the-Art," and "Examining the Altered Breast" at the Second Annual Breast Imaging Conference held in Florida in March.

Barry A. Siegel, M.D. Mallinckrodt Institute of Radiology, St. Louis
Murray A. Solomon, M.D. Redwood City MRI
Robert J. Stanley, M.D. University of Alabama Hospital, Birmingham
Juan M. Taveras, M.D. Harvard Medical School, Boston
Michel M. Ter-Pogossian, Ph.D. Mallinckrodt Institute of Radiology, St. Louis
William G. Totty, M.D. Mallinckrodt Institute of Radiology, St. Louis
Frederick A. Valeriote, Ph.D. Wayne State University School of Medicine, Detroit
Michael W. Vannier, M.D. Mallinckrodt Institute of Radiology, St. Louis
Todd H. Wasserman, M.D. Mallinckrodt Institute of Radiology, St. Louis
Michael J. Welch, Ph.D. Mallinckrodt Institute of Radiology, St. Louis
Philip J. Weyman, M.D. Mallinckrodt Institute of Radiology, St. Louis
It is with great sadness that I report the death of Leonard J. Tolmach. In a 1987 interview, Professor Tolmach said to a reporter, “I’m just an average, hardworking scientist; every university’s full of them.” In his more than 30 years at Mallinckrodt Institute of Radiology, Professor Tolmach received the admiration of his colleagues and peers and some of the nation’s highest honors in radiation research. He was anything but average. The following words are written by Karen Beetham, Ph.D., an instructor in cancer biology, formerly at MIR, now at the University of Iowa, and a long-time, close friend and collaborator of Leonard Tolmach. She expresses the feelings of us all.

— Ronald G. Evens, M.D.

Leon Tolmach died on November 26, 1991, following a lengthy struggle with lung cancer. At the time of his death he was Professor Emeritus of Radiation Biology in Radiology at Washington University’s Mallinckrodt Institute.

Len’s death brought to a close a noteworthy career. After completing a Ph.D. in chemistry at the University of Chicago in 1951, he went to the University of Colorado, where Theodore Puck and Philip Marcus were developing methods for growing single mammalian cells in vitro. Although Len’s initial studies involved virus and host-cell interactions, it was during this time that he first became interested in the effects of radiation on mammalian cells — an interest that dominated the rest of his career. In 1958 Len came to MIR, where he continued his study of radiation effects at the cellular level. He and postdoctoral fellow Toyozo Terasima soon developed the mitotic collection method for obtaining synchronous populations of mammalian cells. Utilizing this procedure to obtain relatively pure populations of cells in specific cell-cycle phases, they demonstrated that the survival, as well as the duration of cell-cycle progression delays of irradiated cells depends on their position in the cell cycle at the time of irradiation. At the same time, Len and Bill Powers provided the initial experimental demonstration of hypoxic cells in mouse solid tumors. Shortly thereafter, he and graduate student Bob Philips described the concept of radiation-induced potentially lethal damage (PLD), a subject that influenced Len’s research for the rest of his life. In later years (during which I had the good fortune to work with him), most of Len’s research involved the effects of caffeine, a known inhibitor of cellular repair on irradiated cells. One finding seems especially gratifying: we determined that in HeLa cells, most of the age-specific variation in survival of irradiated cells results from differential PLD repair capabilities of cells in different cell cycle stages.

Any summary of Len’s work would be incomplete without mention of his abiding love of gadgetry. His labs were filled with an unending array of his inventions, ranging from the relatively simple (a foot-controlled Bunsen burner) to the exceedingly complex (a robot, named AUDRI, designed to do cell culture experiments around the clock).

Working in Len’s lab was always stimulating, and it also was generally fun. Beneath a sometimes gruff exterior lurked a warm and caring human being with a sharp wit and a lively sense of humor. We put in long hours, as necessitated by the type of kinetic studies being done, but our leader frequently entertained us with song. He had an extensive repertoire, especially of songs with clever lyrics. (“New Math,” by Tom Lehrer, often was heard as we were manually booting AUDRI’s first, primitive computer.) Len did have a few characteristics that made working with him particularly challenging. He was constantly thinking about recent experiments or approaches to the current investigations, and he assumed that we were thinking about the same thing. He would suddenly make a statement or ask a probing question, and wait expectantly for a response. In the meantime, we would be scrambling to figure what on earth he was talking about! One had to quickly become adept at mind reading in order to thrive in Len’s lab.

Len was a careful and insightful scientist whose love for his work was second only to that for his family. Although he “retired” in 1989, he regularly went to his office until a few weeks before his death. His colleagues will miss his thoughtful discussions of their work. One of his former colleagues summarized our loss most eloquently: “The fullest human being who [treated] his life as an adventure without ever losing compassion and understanding for other people left us, taking with him his wisdom and goodness. He was not superficially kind or nice. He was sincere, warm and human — a scientist and teacher for whom finding the truth was a passion and not a career.”
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