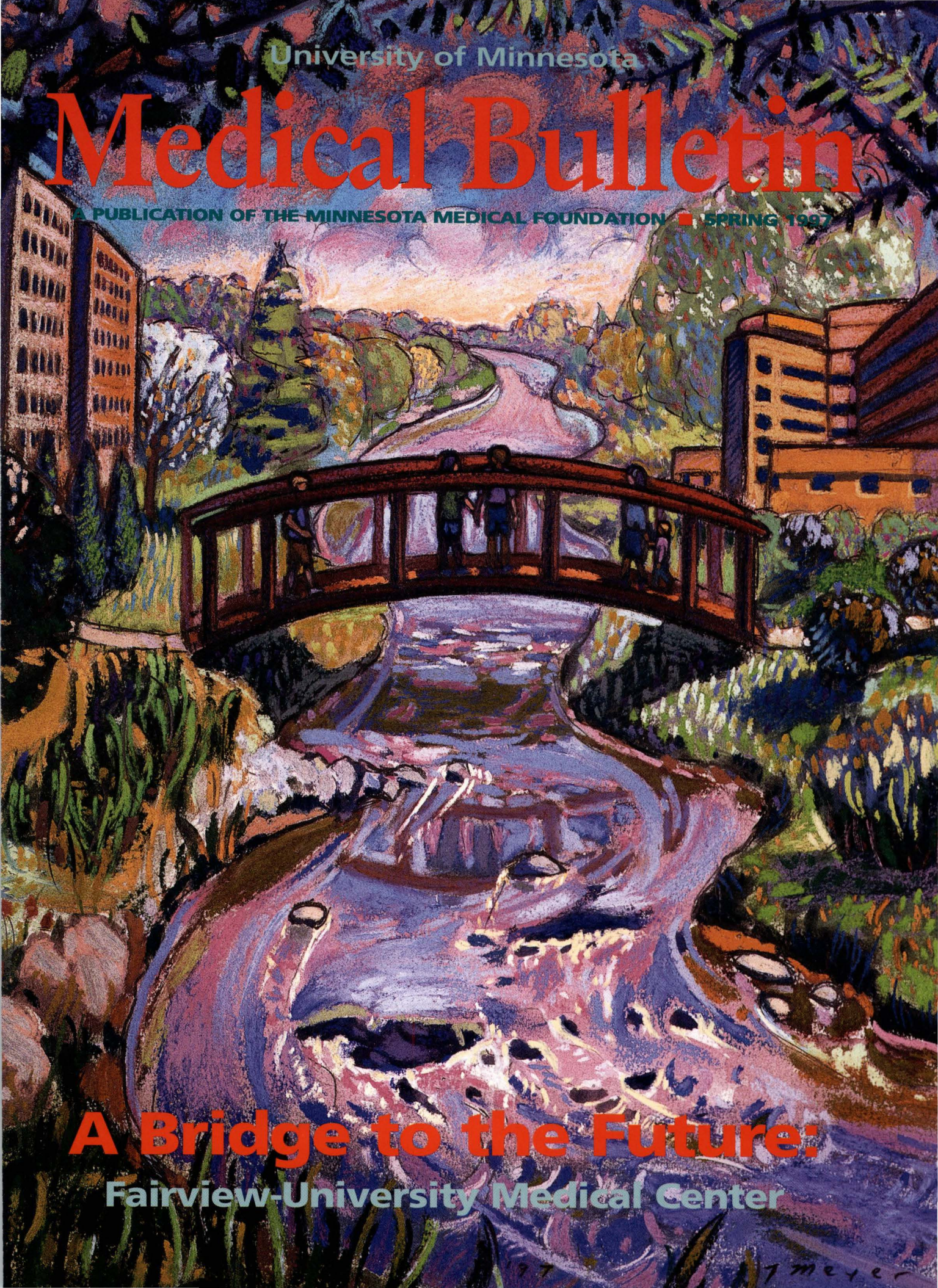


University of Minnesota

Medical Bulletin

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A Bridge to the Future:
Fairview-University Medical Center

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On the cover:

Fairview Riverside and University hospitals have formed a partnership known as Fairview-University Medical Center.



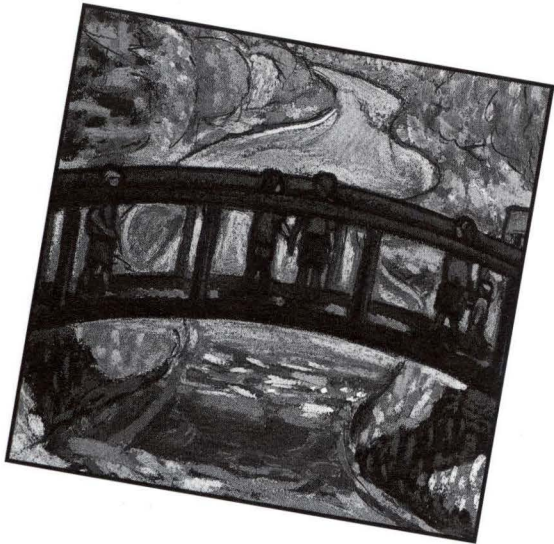
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A Bridge to the Future



by **Jean Murray**

**The Fairview-University partnership
is designed to sustain and
enhance research and education.**

Fairview and University hospitals have been across-the-river neighbors for years, but now they have bridged that distance to become partners. On January 7, University and Fairview officials signed the Academic Affiliation Agreement and the Asset Transfer and Statutory Merger Agreement, making the merged entity official.

The new Fairview-University Medical Center “creates a relationship designed to preserve the education and research mission of the University,” says Dr. Frank Cerra, provost of the University’s Academic Health Center (AHC). “Fairview has shown a unique willingness to become a partner in the University’s education and research programs.”

The partnership has been more than a year in the making, but the evidence that such a union would eventually be necessary has been growing for a decade.

Preserving education and research

Since 1911, the University of Minnesota Hospital has been a place where medical students could learn how to work with real patients and researchers could expand their knowledge of the causes and treatments of disease. Income from patient care helped support research and teaching programs.

But in the 1980s, change began to take place throughout the country. Hospitals began experiencing decreasing numbers of

patients, due to health-care reform — which placed limits on hospital stays — and advancing technology and procedures that permitted people to be treated in clinics rather than hospitals. Some hospitals closed, and others merged into networks with other hospitals or health maintenance organizations.

The situation was especially acute at the University of Minnesota Hospital and Clinic (UMHC), located in one of the nation's most competitive managed care markets. Admissions declined 14 percent in the last five years, with UMHc holding only 5 percent of the market.

"We did not have enough patients to teach our students, conduct research, maintain our accreditation, and underwrite the cost of health care education," explains Cerra.

Declines in patient census and income jeopardized the Academic Health Center's research and education mission. Despite substantial cutbacks of staff, the hospital continued to lose money, with losses projected to be \$100 million to \$150 million by 2000 unless changes were made.

A mutually beneficial solution

The University concluded that in order to have a large enough number of patients to treat, and to restore financial stability, it would need to join forces with a successful health care system. Just as important, it was essential that the new partner support the University's academic and research missions.

On November 16, 1995, the University signed a letter of intent to discuss a partnership with the Fairview Health System, believing that Fairview's strong community-based care would complement the University's advanced specialty care. The University's Board of Regents approved the transaction on July 29, 1996, and on January 1, 1997, UMHc employees became Fairview employees.

According to Cerra, "The UMHc-Fairview agreement represents the first time a health system has offered to help an academic health center preserve its education and research mission. Finding a partner committed to that mission, as well as to quality patient care, was essential to the entire AHC's future. Under the agreement, the new combined hospital will continue to be a world-class University hospital."

Dr. Gordon Alexander, senior vice president and medical director for Fairview Health System, says, "With this affiliation, we are expanding a



Creating Fairview-University Medical Center: the University of Minnesota Hospital (top), and Fairview Riverside Hospital.

commitment to all citizens of Minnesota. We will form a lasting partnership with the University to maintain and extend the highest quality patient care, medical education, and research."

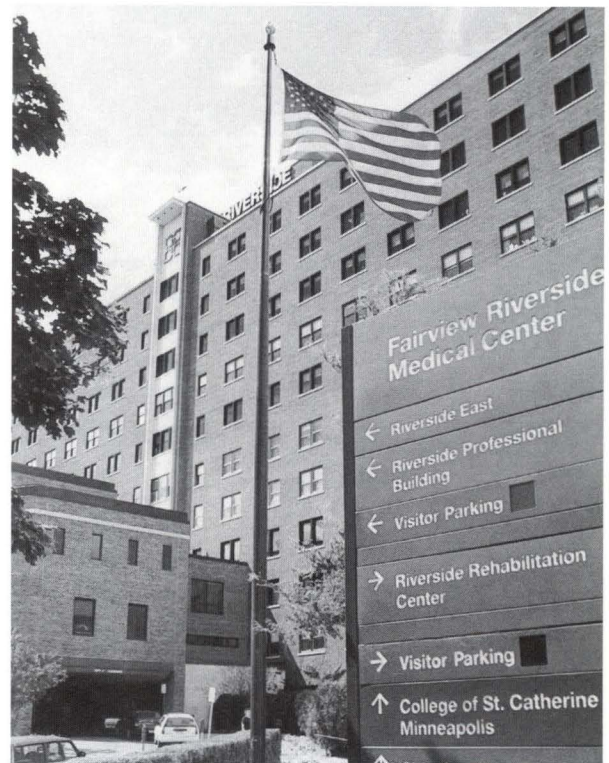
Fairview has agreed to change its mission statement to allow it to more deeply support research and education. The new mission statement reads:

"The mission of the Fairview-University Medical Center is to improve the health of Minnesota communities by providing excellence in health services, education, and research, while meeting the physical, mental, and emotional needs of individuals and families served, and honoring the spiritual dimension of health."

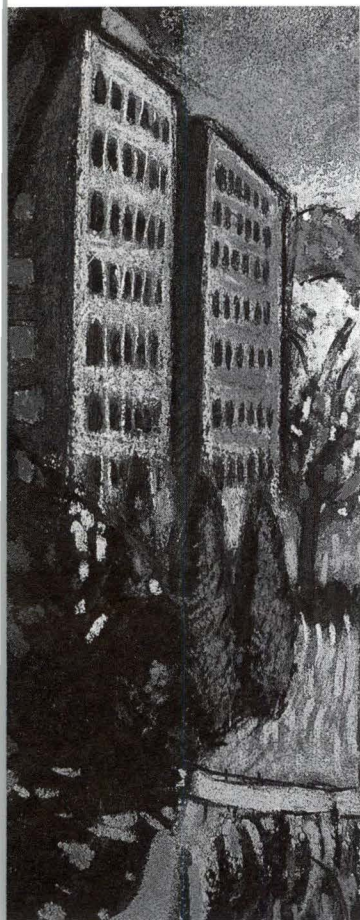
University President Nils Hasselmo says, "We are creating a new model for the nation for an academic health center in the new managed care scene. It is truly a historic moment and an idea whose time has come."

How does it work?

The agreement brings the University of Minnesota Hospital and Clinic into the Fairview Health



We will form a lasting partnership with the University to maintain and extend the highest quality patient care, medical education, and research.



System, a network of seven hospitals and 27 clinics serving the Twin Cities metropolitan area. The Fairview-University Medical Center, which combines the University and Fairview Riverside hospitals, is one division of the Fairview system.

The University will receive \$87.5 million from Fairview for purchase of the University of Minnesota Hospital and Clinic. After retiring long-term debt and paying transaction costs and other liabilities, the University will have an estimated \$70 million to be used for continued AHC restructuring, restoration of central services, technology, equipment, and administrative systems investments.

The University will cover \$1 million per month in research and education costs at Fairview-University Medical Center during a 32-month transition period. Estimated research and education costs for the division's first year are \$15 million to \$38 million.

Each year, Fairview will contribute 25 percent of its operating margin in excess of 3.5 percent to the University for medical research and education. Fairview and the University will share the ongoing costs of medical research and education.

The relationship between the University and Fairview is preferred but not exclusive, with the Academic Health Center maintaining the option of developing and placing education and research programs, including clinical services, at other sites.

The University retains full authority for educational and research policies, curriculum design, designation of education program leadership, academic appointments, and all related academic policy matters.

Logistics and governance

The new Fairview-University Medical Center is divided by the Mississippi River, and the integration of medical and surgical departments is a complicated task. Fairview and University administrators have been working on an operating model that consolidates the two campuses and eliminates as much duplication as possible. The complete transition is expected to take about 32 months.

The majority of inpatient medical and surgical care will be on the University side of the river, and subacute care and rehabilitation on the Fairview side. The current plan for specialties at the two sites includes:

University campus: Critical care; pediatrics; emergency room; medical and surgical oncology; bone marrow transplant; heart catheterization; ophthalmology; all inpatient surgery except benign orthopaedics (including spine) and benign gynecol-

ogy; inpatient ear, nose, and throat; and outpatient surgery at physician's choice, consistent with scheduling capability.

Fairview campus: Acute rehabilitation; behavioral health and chemical dependency; obstetrics and newborn intensive care unit; urgent care/emergency; benign orthopaedics (including spine) and benign gynecology; critical care/recovery center capability; and outpatient surgery at physician's choice, consistent with scheduling capability.

University employees were not required to start over in the Fairview organization as new employees. The state legislature provided \$1.8 million, matched by the University, to ease the transition of UMHC employees.

The Fairview-University Medical Center will be governed by a Board of Trustees, accountable to the Fairview System's Board of Directors. A majority of the division trustees will be appointed by the University. University appointees will also hold about a third of the seats on the Fairview System's overall board.

The University's Board of Regents elected seven members to the Fairview-University Medical Center's Board of Trustees. They include: Roby Thompson, M.D., chief medical officer for the University of Minnesota Health System; Edith Leyasmeyer, Ph.D., M.P.H., dean of the University's School of Public Health; and John Morrison, chair and owner of Central Bank Group, elected to three-year terms; Jonathan Ravdin, M.D., chair of the University's Department of Medicine; and Thomas Madison, MLM Partners president and CEO, elected to two-year terms; Michael Dougherty, founder, president and CEO of Dougherty Dawkins, Inc., and Nellie Johnson, CEO of Optage/Care Partners, elected to one-year terms.

The University's Vice President for Finance, the Academic Health Center provost, and the dean of the Medical School will be permanent, ex-officio, voting members of the System Board.

Enhanced education and research opportunities

Academic Health Center appointments — including chairs and department heads — will continue to be completely controlled by the AHC in accord with its policies and procedures, and academic affairs will be governed by AHC policies and pro-

cedures. Current Medical School programs and student, resident, and fellow commitments will be maintained.

"Hopefully, the Fairview System will be asked for input in the AHC mission," says Fairview's Alexander. "We would not be asked to drive it.

"More and more acute care is passing out of the hospital and into a broader system," says Alexander. "This affiliation gives the University more access to that system, more chances that leading-edge research can be done."

The Research and Education Committee of the Fairview System Board will be chaired by the AHC provost. Duties of the committee will include: 1) Developing the education and research program of the System, including that associated with Fairview-University; 2) Developing research policy and procedure of the System; 3) Monitoring research and education programs; and 4) Performing periodic assessments of the education and research programs.

The AHC and Fairview have agreed to maximize collaboration for research. The University is the sponsor for all basic research, and an academic appointment is required to be the principal investigator or to conduct basic research. Either the University or Fairview may sponsor clinical research and outcomes/health systems research, and the principal investigator may be from either the University or Fairview.

Fairview and the Academic Health Center have made mutual commitments to:

1. Support and encourage health-related education, research, and patient care at Fairview-University and throughout the Fairview System.
2. Support and encourage efforts to allow Fairview-University, the System, and University of Minnesota Clinical Associates, and Fairview affiliated physicians to compete effectively in the marketplace.
3. Position Fairview-University as a world-class, regional referral center.
4. Develop cost-effective care models that respond to the marketplace.
5. Provide a quality-enhancing and cooperative environment that permits the interaction of community-based and academic-based health care providers.
6. Exercise prudent stewardship of resources so

Why is the University/AHC entering into this relationship?

- To increase access to patients in order to maintain and enhance the AHC mission and the clinical competency of its faculty.
- To enable the AHC to be competitive in the healthcare marketplace.
- To enhance the efficiency and effectiveness of clinical services provided in the academic setting.
- To preserve and grow an on-site, world-class hospital and clinic system for the AHC.
- To provide new opportunities for education, research, and service/outreach development.
- To stabilize a portion of the AHC financial base by ensuring greater community support for the AHC mission.
- To enable the health professions to achieve relevance, leadership, and excellence into the 21st century.

that Fairview-University is an effective, cutting-edge provider within the Fairview System and the AHC continues to be a highly reputable health-related teaching and research institution.

7. Support health-related research, education, and clinical care at the AHC.

8. Commit to continuous quality improvement.

9. Regularly consult and communicate with each other.

Benefits

Those who have been involved in bringing together the University Hospital-Fairview Riverside partnership are optimistic about the future.

For Minnesota, they believe the partnership means that the state's premier research and education programs can thrive in an environment that preserves academic integrity while offering cost-competitive services.

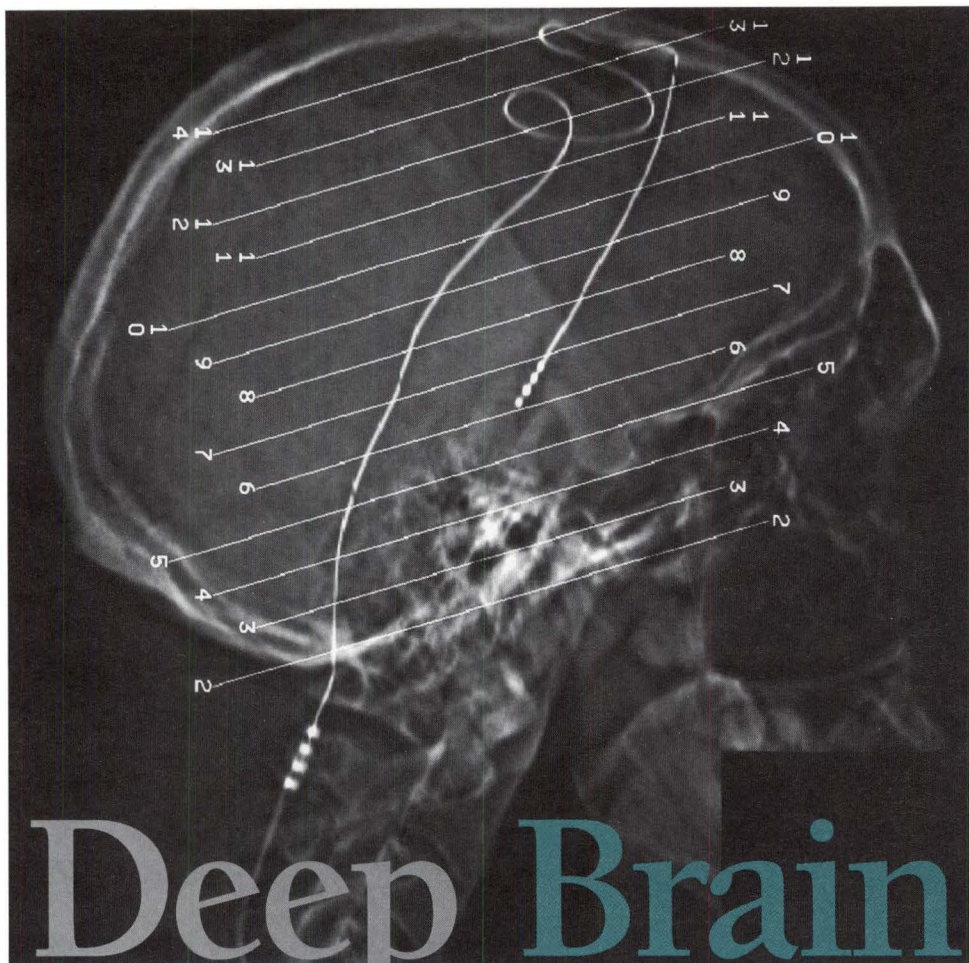
For patients, they envision access to a fully integrated, statewide health-care system with coordinated services ranging from illness and injury prevention to treatment of the most unusual and complex cases.

For students, the partnership means access to the broad patient base that is needed for learning and conducting clinical studies. They will also be part of an enhanced educational experience within a health system that will offer a preview of what they will likely find in practice. ■



For more information on the Fairview-University Medical Center, visit the website at: <http://www.ahc.umn.edu/ufa.html>.

Electrodes placed
in Bob Zgonc's
brain stimulate
the pallidum.



Deep Brain Stimulation:

Innovative relief for Parkinson's disease

Not too long ago Anton "Bob" Zgonc's (pronounced *sconce*) body moved so uncontrollably and continuously that it was like an 18 hour aerobic workout. At other times, he suffered from extreme cramping that left him virtually immobile. He only had about one good hour every day. Otherwise he spent his days in pain, sitting in a recliner at home.

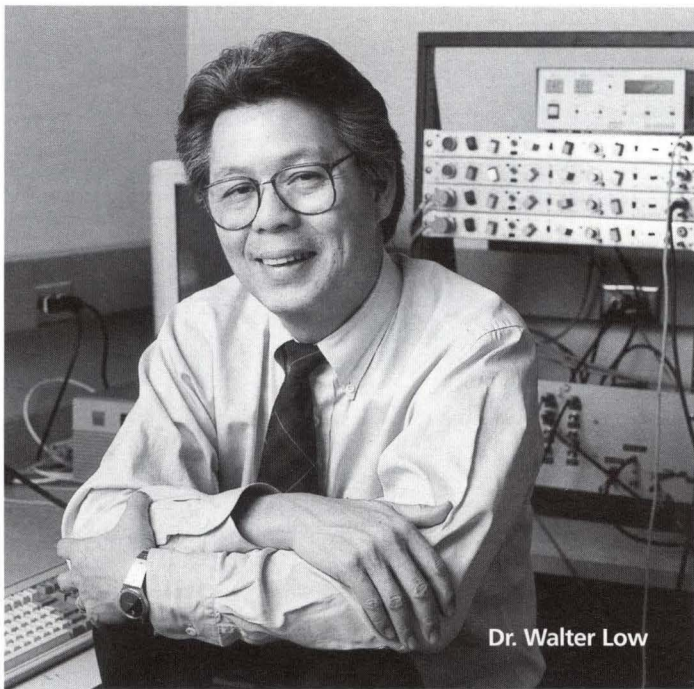
The medication Zgonc had been taking to manage his Parkinson's disease for the past 11 years was no longer working. Zgonc and his wife, Sharon, began to search for options.

At the University of Minnesota, the Zgoncs found new hope. Researchers and surgeons at the University have been forging new ground in Parkinson's disease treatment. To understand these treatments, it is first essential to understand what happens in the brain of a Parkinson's disease patient. As

University surgeons implant new electrical device

to relieve Parkinson's disease patients' symptoms.

By Jodi Ohlsen Read



Dr. Walter Low

Research: pursuing a cure

University of Minnesota investigators are involved in a number of other research programs on Parkinson's disease. For example, researchers are studying cell transplantation and gene therapy as a way to manage the disease.

"In gene therapy, there are growth factors that could influence the rate of degeneration of the dopamine-producing cells and actually prevent them from dying out," says Walter Low, Ph.D. "Currently we're looking at taking specific genes and inserting them into a cell so that they begin to secrete neurotropic growth factor. What we'd ultimately like to do is encapsulate those cells into a polymer so that these cells can continue to secrete the growth factor. We'd then implant them into the area of the dopamine-producing cells and see if we can prevent the progressive deterioration of these particular cells."

Dr. Walter Low, professor, Department of Neurosurgery, explains, "Certain areas of the brain are involved in regulation of movement. In Parkinson's disease, the basal ganglia is the structure that seems to undergo degeneration. The key area within the basal ganglia is the cluster of cells called the substantia nigra. These cells produce the chemical dopamine, which plays a crucial role in transmitting signals from the brain to the muscles.

"With Parkinson's disease there is a progressive degeneration of those dopamine-producing cells. As a result, there is a loss of cells and nerve fibers that reach out and talk to other cells in parts of the brain. It has been found that the absence of dopamine causes an increase of abnormal activity in a couple of areas, the internal pallidum and the thalamus." Patients with Parkinson's disease suffer from symptoms which include disabling tremors, rigidity, slowness of movement, uncontrolled movements (dyskinesia), and muscle cramping.

To help control the symptoms of Parkinson's disease, chemicals that are precursors to dopamine, such as L-dopa, can be used. However, as Zgonc experienced, the drugs become less and less effective, even causing side effects. "The drugs

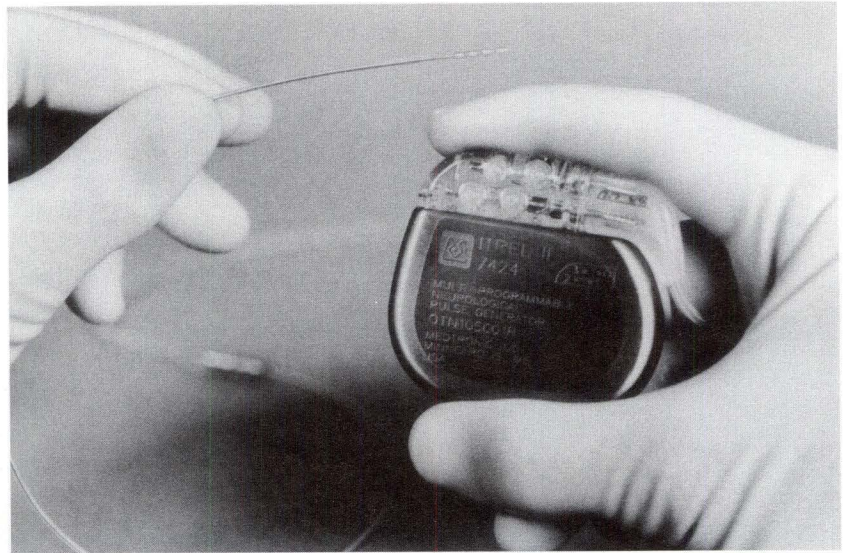
weren't working anymore," says Sharon Zgonc. "Cramping is a side effect of the drug and Bob had such extreme cramping — three to four hours at a time. It was very painful and left him immobile. He has been taking the drug for 11 years and as time went by he had to take more drugs but with more drugs you get more side effects. Without the drugs he was worse. What could we do? It was a catch-22."

In January 1996, University surgeons performed a successful pallidotomy on Zgonc to control the symptoms on his left side. "They drill a hole in your head, right here," says Zgonc, pointing to a spot near the front of his head. "Then they go in and make a little 'cut', a lesion."

"And that prevents the abnormal signals from getting through," continues Sharon Zgonc. "The pallidum is the size of an appleseed and by severing the connections, the signals can't get



Bob and Sharon Zgonc, above. Above right, the deep brain stimulator, made by Medtronic.



through and all of his symptoms, everything, went away. The pallidotomy was on the right side of his brain and the left side was affected. But, we still had to deal with the Parkinson's on his right side."

A second pallidotomy was not recommended since it could cause possible language problems. Instead, the Zgoncs chose to try their luck with a new method used on only a handful of patients worldwide — deep brain stimulation. "This is a modification of the pallidotomy," says Low. "Rather than making a hole — or lesion — we're actually placing electrodes into the pallidum. These electrodes are in turn connected to a battery which stimulates the pallidum at a frequency that suppresses nerve cells in the region. As a consequence, we can then normalize the neural activity in these other areas of the brain."

With the deep brain stimulation device, the treatment can be modified to fit each patient's needs. "The electrodes are much smaller than a lesion. There are four tiny electrodes that allow us to selectively activate each one to find out which area is the best to stimulate. It is a much more refined way of inhibiting nerve cell activity in the area of the pallidum," says Low. "There are other features, too. In addition to being able to select the area for stimulation, the device is programmable so we can adjust the electrical stimu-

lus intensity, increase its duration, or increase its frequency of stimulation. We can tailor it to the individual patient." In addition, no tissue is destroyed so the electrode can be reimplanted without damaging the brain, if needed.

The deep brain stimulator, made by Medtronic, is somewhat similar to a pacemaker. High frequency electrical stimulation is used through an electrode placed in the brain rather than the heart.

During surgery the patient is sedated but awake. This allows the patient to give feedback during the operation, which is necessary to properly place the device. To map out the area of the pallidum, surgeons place electrodes in the brain to record activity in the pallidum. They can then map precisely where the electrode should be located. A thin wire probe is inserted into the pallidum internus of the brain and a sophisticated battery that generates electrical pulses is placed under the skin of the patient's chest. The electrical signals can be turned on and off with a small but powerful magnet held near the battery.

On October 2, 1996, Bob Zgonc underwent successful surgery to implant the deep brain stimulator. Now only a small raised bump is barely noticeable on the top of his head, close to the front of his hairline. He turns the device on with the small battery and turns it off at night to extend the battery life. When it does wear out, it will be replaced through a small incision in the skin, similar to the battery replacement for a pacemaker. Zgonc also carries a small, portable

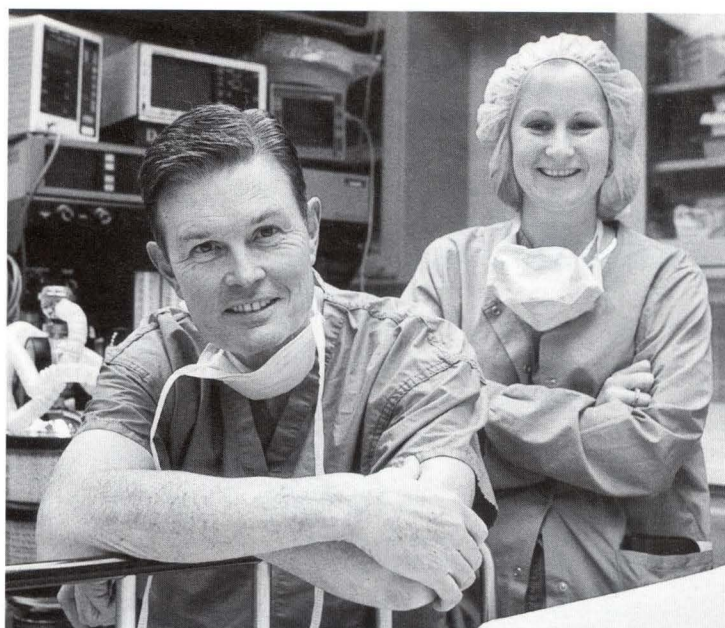
radio that he uses to reassure himself that the device is on. If he holds the radio close to himself, he can hear the interference caused on the AM channel of the radio, signaling that the device is working.

The dramatic changes in Zgonc are more than enough to show that the device is working. During a routine checkup, Zgonc was asked to perform some simple exercises to evaluate the effectiveness of the deep brain stimulator. Without any medication and with the device turned off, Zgonc will get up from a chair and walk a short distance. The pain is already evident as he sits, tremors beginning in his right hand and cramping distorting his face and leg. Sharon Zgonc brings him warm, wet towels to help soothe the pain in his face and neck. With great effort, he rises and begins the 14 meter walk. At one point, he is unable to move forward. Sharon Eriksen, R.N., C.N.R.N., puts her foot in front of his to prompt the walking reflex and he is able to return to his chair. Exhausted, he puts his head in his hands.

Next, with the stimulator on, Zgonc is sitting in the chair, waiting to begin. His entire countenance is strikingly different — his face is relaxed, his legs resting comfortably. On cue, he rises easily from his chair and quickly walks to the mark and back. With confidence, he sits back down in the chair. It only took him a fraction of the time to complete the exercise.

The impact on Zgonc's daily life is even more dramatic. Where he was once lucky to have one hour a day of normal living, he now fully enjoys daily activities like doing things around the house, even driving. Recently he even took his grandchildren sledding. He's been able to resume hunting, once a favorite pastime. This season he went on a 14-day hunting trip and actually ran through the woods in successful pursuit of a deer. "He has his independence back," says Sharon Zgonc. "It's a 100 percent improvement."

Her life has also been deeply affected by Zgonc's increased independence. Previously she spent nearly all of her time caring for Zgonc since



Photos by Tim Rummelhoff

Above, Zgonc's surgeon, Dr. Robert Maxwell and Sharon Eriksen, R.N., C.N.R.N., members of the Parkinson's research team.

Activities of Daily Living*

	On Med	On Med On Stim
Shopping in the mall	-	+
Carrying luggage	-	+
Driving a car	-	+
Spending time alone	-	+
Hunting deer	-	+
Sleeping all night	-	+
Maintaining weight	-	+
Spouse able to go back to work	-	+

* Activities Bob Zgonc has been able to resume.

he was in such pain and was unable to do many things for himself. But Sharon Zgonc does not focus on her own sacrifices. "Some handle it and some don't. It's just how you do things. Remember, we could keep going but he's the one who had to sit back and not participate." Now she is able to "have a little breather" and has even resumed working part-time.

Zgonc continues to take medication along with using the stimulator. "The medication and the device seem to work together," says Low. "Zgonc, for example, still takes medication and it helps a little. Then he turns on the stimulator to improve his ability to move. You can think of it as a bumpy course of events with medication.

SUPER: Supporters United for Parkinson's Education and Research

SUPER (Supporters United for Parkinson's disease Education and Research) was formed in 1992 by a number of people who have Parkinson's disease and their families and friends. Its mission is to inform the public about current research developments and to raise funds for Parkinson's disease research at the University of Minnesota.

SUPER is also a fund of the Minnesota Medical Foundation, which raises and manages private funds on behalf of the University of Minnesota Medical Schools. Gifts to SUPER support Parkinson's disease research in the Department of Neurosurgery.

For more information about SUPER, contact Noelann Brown, Minnesota Medication Foundation, Box 193, 420 Delaware Street SE, Minneapolis, Minnesota, 55455-0392, 1-800-922-1MMF or 612-625-1440.

What the stimulator does is smooth out the bumps so he doesn't go into states with dyskinesia and discomfort."

Zgonc is one participant in a study Low and Dr. Robert Maxwell are heading to look at Parkinson's disease patients whose medication is no longer effective. Other members of the research team include Sharon Eriksen, Drs. Timothy Ebner and Michael Johnson in the Department of Neurosurgery, Dr. John Anderson in the Department of Otolaryngology, Dr. Deborah Roman in Physical Medicine and Rehabilitation, Dr. Nancy Solomon in the Department of Communication Disorders, Dr. Charles Truwit in Radiology, Dr. Paul Tuite in Neurology, and Drs. Paul Silverstein and Felix Zwiebel of the Struther's Parkinson's Center.

In the current clinical trial, the researchers are examining patients of a particular age range and certain disability level. A good candidate for the deep brain stimulator would be a patient who no longer responds to the medication, is fairly disabled, and is not suffering from severe dementia or other disorders similar to Parkinson's disease.

Patients participating in the clinical trial will be evaluated periodically over three years. "We have a core evaluation that looks at how quickly they can stand and walk a certain distance; how well they move their limbs and fingers; and neurological assessments of balance and speech," says

Low. Initially, Low hopes to enroll 10 patients and after preliminary data has been gathered, the study will expand. "Hopefully, we'll be able to demonstrate that this is an excellent therapy for the subset of patients that no longer respond to medication," he says.

"Mr. Zgonc is very courageous to participate in this," says Low. "He is a real pioneer. He realizes that the results here may one day open the doors for its use on a general basis, for many patients with Parkinson's disease." Zgonc is the first person in

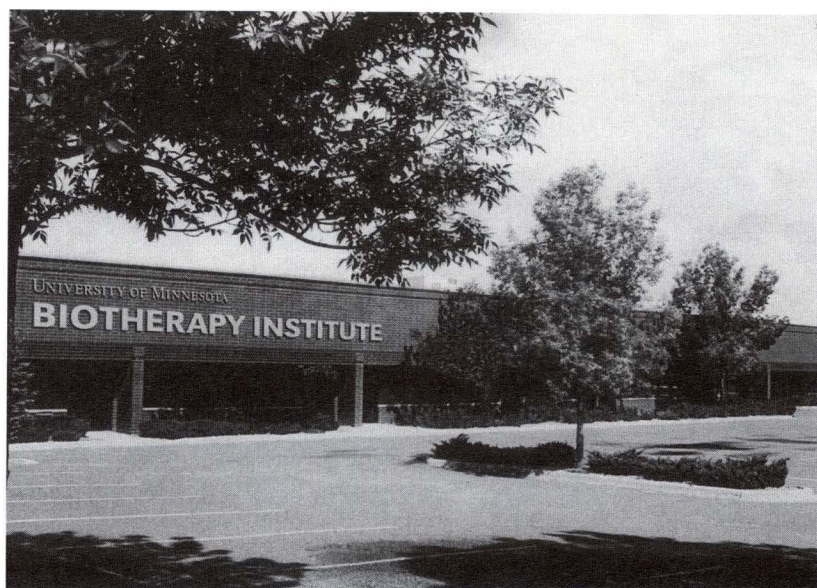
Minnesota and only the third or fourth in the country to have deep brain stimulation of the pallidum, yet both he and Sharon Zgonc are somewhat nonchalant about the magnitude of their contribution.

"I had to do something," says Zgonc. Sharon Zgonc adds, "He was an excellent candidate. He's in excellent health, except he has Parkinson's. What were we going to do? He couldn't go on the way he was. So we decided why not take a chance? We knew it wasn't a cure. We said if he could just walk, that would make us happy. We've accomplished that, and then some. Maybe what we are doing can show that it is worth it, and then the next people down the line can benefit."

Since the procedure is still considered experimental, the Zgonc's insurance company refused to cover the expenses. In a rally of support, residents of Zgonc's home town, Chisholm, Minnesota, and surrounding communities began raising money for Zgonc's surgery. A large portion was raised at a town pasta feed and benefit. "I think everybody in Chisholm ate rigatoni that night," says Sharon Zgonc. "And Hibbing, and Virginia, and even as far away as Duluth and Bemidji." Church organizations and other groups contributed and many sent money anonymously. So far the Zgoncs have received 18 to 20 thousand dollars.

Zgonc is well liked and respected in Chisholm. He worked as a state trooper for many years. "Obviously the kindness and caring he gave to others turned around and came back to him. Twentyfold," says Sharon Zgonc. Now Zgonc is again active in his community, visiting those who are ill and most importantly to him, giving back to his supportive community. ■

To find out more about the University of Minnesota's Department of Neurosurgery, please visit the neurosurgery website at <http://www.neuro.umn.edu>.



New Hope:

Biotherapy Institute Fights the Toughest Diseases

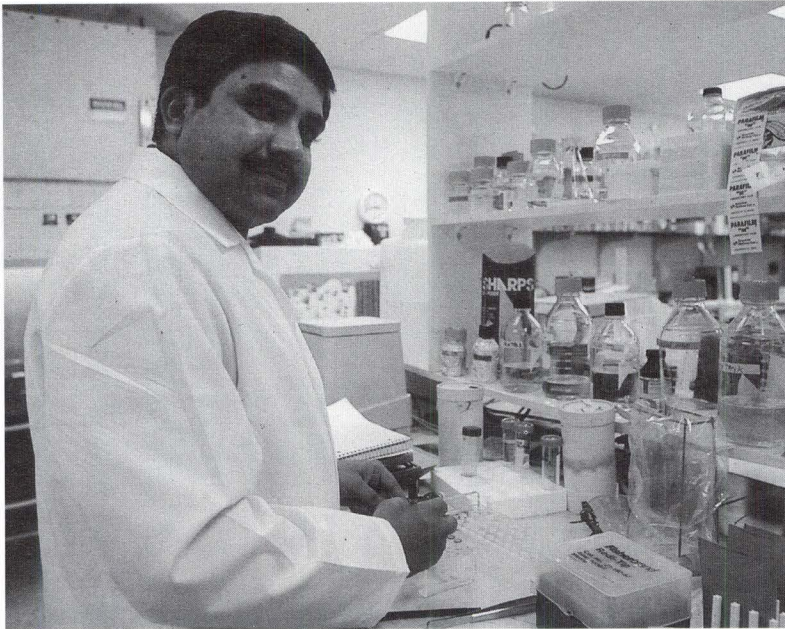
by Jean Murray

Innovative research and treatment is providing hope where often none existed at the new Biotherapy Institute at the University of Minnesota. The goal of the Institute, founded in 1996, is to develop research discoveries with the potential to improve treatment of cancer, AIDS, and diseases of the immune system.

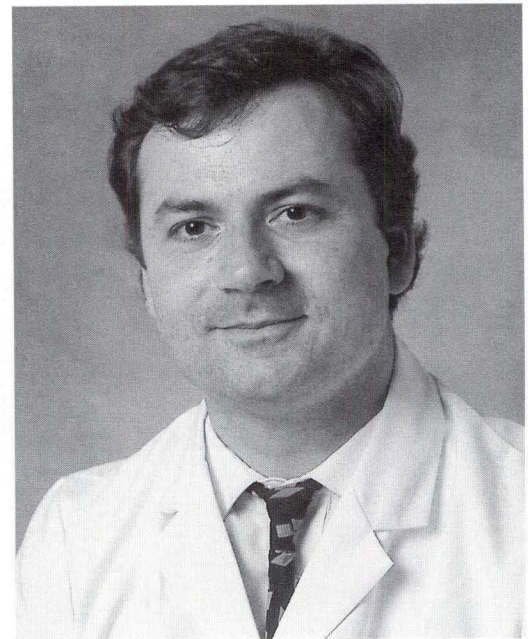
According to Institute Director Fatih Uckun, M.D., Ph.D., "Biotherapy selectively seeks out and destroys cancer cells without disturbing nearby healthy tissues. We are working toward designing effective therapies for cancer patients unable to benefit from standard chemotherapy."

Biotherapy research has been underway at the University since 1984, but the work was expanding rapidly, creating a need for larger facilities. In June, 1996, the Biotherapy Institute moved into new, state-of-the-art facilities in Roseville.

"The Institute is growing at such a rapid pace that it was necessary to triple the size of our facilities to accommodate our staff and their research," says Uckun. "This is a new home for scientists from all over the



Dr. Fatih Uckun, director of the Biotherapy Institute, right. Above, molecular biologist Dr. Sandeep Mahajan.



and mortality caused by life-threatening disease.”

The team of researchers at the Institute has come from institutions throughout the United States and the world, bringing the latest knowledge of genetic, molecular, cellular, and systemic disease processes to suggest new strategies for rational drug design (see faculty list).

“I am excited to have this strong team working together,” says Uckun, “and I believe the future holds many promising discoveries in biotherapy.”

Uckun and his team have made significant progress in developing new technologies for the treatment of leukemia, other cancers, and diseases of the immune system. One technology is the development of immunotoxins — monoclonal antibodies conjugated with toxins. The monoclonal antibodies target specific cells, allowing the toxins to kill cancer cells without harming normal cells.

These unique forms of biotherapy have shown clear advantages over conventional treatments. Often these new methods are the only hope for patients who can no longer be helped by standard treatments.

“The most exciting prospect for biotherapy is that it will allow physicians to target and eradicate abnormal cells without disturbing nearby healthy tissues,” says Uckun. “The results of biotherapy studies will not only be improved therapy for patients unable to benefit from standard chemotherapy and irradiation, but potentially a superior form of treatment for newly diagnosed cases as well.”

Patients are referred to the Biotherapy Institute by their physicians when their illnesses

world to work together for a common goal. The facility has everything necessary to enable this team to develop and test new targeted therapies applicable to a wide array of diseases.”

The research space is divided into cell biology, molecular biology, signal transduction, biochemistry, and synthetic chemistry laboratories. Biotherapy Institute faculty also occupy space in

the Minnesota Molecular and Cellular Therapeutics facility on the St. Paul campus.

Frank Cerra, M.D., provost of the Academic Health Center, has made the Biotherapy Institute one of his top priorities. “I am very supportive of the

Biotherapy Institute because of its strategy of developing targeted therapies for many different types of diseases and disorders,” says Cerra. “Dr. Uckun has assembled a team of excellent scientists focused on designing new drugs that attack diseased cells while sparing the patient’s healthy tissue and organs. This is an exciting approach for both patients and their physicians, because it has great potential for reducing both the morbidity

Uckun and his team have made significant progress in developing new technologies for the treatment of leukemia, other cancers, and diseases of the immune system.

can no longer be controlled by standard methods. Conventional drugs may influence the disease outcome, but they have had either limited efficacy or debilitating short-term and long-term side effects.

Support from Variety Children's Association

Variety Children's Association (VCA) is supporting the Biotherapy Institute at the University of Minnesota through fund-raising campaigns and other efforts of its donors and volunteers. George Reilly, VCA board president, says the Biotherapy Institute is an innovative and effective program designed to treat the most devastating childhood diseases.

"This represents a major opportunity for Variety to help in providing care for critically and chronically ill children in the most effective way," says Reilly. "We are very excited about the future of this area of research and treatment, and what it means for children and their families."

Working Together

The Biotherapy Institute maintains strong relationships with many other departments within the University of Minnesota, providing a forum for the sharing of ideas and research.

Tony Faras, M.D., director of the Institute of Human Genetics, believes that Biotherapy and Human Genetics will have many opportunities to collaborate. "These may range from the identification and synthesis of genetic and molecular markers to serve as targets for biotherapy, to collaboration in producing gene therapy and biotherapy agents at the University's Molecular and Cellular Therapeutics facility."

Biotherapy Institute researchers are also collaborating with the University of Minnesota Bone Marrow Transplant Program — a relationship that has been ongoing for a decade.

Another important relationship exists between Biotherapy and the (organ) Transplant Program. The Biotherapy Institute has developed

Hannah's Story

Hannah Rose Schaefer is typical of toddlers her age. But this energetic little girl has been through a lot more than most children.

In January of 1995, during a routine visit to her pediatrician, Hannah was diagnosed with infant leukemia. She was nine months old. Today, thanks to a supportive group of medical professionals and a drug developed at the Biotherapy Institute, Hannah has been in remission for more than a year.

The treatment of leukemia is one of medicine's success stories. Twenty or 30 years ago there were few leukemia survivors, yet today 70 percent of leukemia patients survive the disease. But Hannah had a type of Acute Lymphoblastic Leukemia (ALL) which is very difficult to treat, and her initial outlook was grim at best.

Hannah's treatment began immediately after diagnosis. Within an hour she was receiving a blood transfusion, and the following day she underwent chemotherapy. When Hannah did not respond to the chemotherapy, her treatment was intensified.

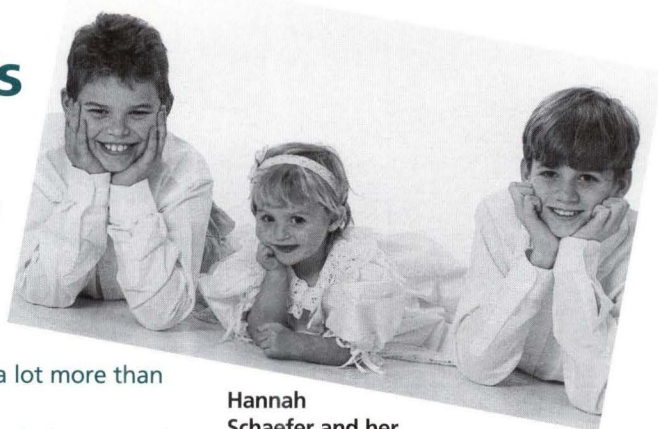
The chemotherapy did not remove all the cancer cells in Hannah's body, and the family was told about biotherapy. They learned that the therapy could reduce the number of leukemic cells in her body so that chemotherapy could give her a better chance for extended survival.

The biotherapy Hannah received involves a plant toxin hooked to an antibody that selectively destroys leukemia cells while avoiding normal cells. Hannah was eligible for this treatment because of her type of cancer.

In April of 1995 Hannah received two rounds of treatment, and in October no detectable cancer cells were left. Her prognosis for a cancer-free future is good.

several new agents which show great potential as anti-rejection drugs. "The development of new immunosuppressive agents with fewer toxicities than those in current use will be a tremendous advance, but the potential payoff is even bigger," says David Sutherland, M.D., director of Transplant Surgery. "If used strategically at the time of stimulation of an immune response, the new agents may induce tolerance, eliminating the need for long-term maintenance immunosuppression all together."

Biotherapy is also of great importance to the clinical Pancreas and Bowel Transplant Programs. Rainer Gruessner, M.D., director of the Bowel Transplant Program, says, "To reduce the rate of



Hannah Schaefer and her brothers Andrew (left), and Ryan.



Inside a research lab at the Biotherapy Institute.

rejection, we have to be involved in the development of new drugs that may result in improving graft and patient survival.”

Ongoing Research

Faculty of the Biotherapy Institute are involved in numerous research projects, including the following innovative studies.

Battling HIV The Biotherapy Institute has developed a drug which may prove effective against HIV, the AIDS virus. The “magic bullet” uses monoclonal antibodies — tailor-made versions of the body’s own germ-fighting antibodies. These monoclonal antibodies target the T-lymphocyte white blood cells where HIV lives and multiplies. The antibodies are coupled with an antiviral agent derived from the pokeweed plant that inactivates HIV. When used together, the pokeweed protein and the monoclonal antibodies become very potent. The hope is that the drug can keep the infection from spreading to more T-lymphocyte white blood cells and eventually killing them.

Childhood cancer B43-PAP is a promising new biotherapeutic agent directed against the most common form of childhood cancer. B43-PAP binds to the CD19 target found on the surface of leukemia cells. It becomes internalized and the toxin moiety is released to inactivate ribosomes and shut down protein synthesis. The irreversible inactivation of protein synthesis leads to rapid cell death.

Innovative agents TP3-PAP is a new anti-osteosarcoma agent.

TXU-PAP is a novel anti-AIDS drug which studies have shown to be 500,000-fold more potent than AZT. TXU-PAP also has potential as an effective drug against organ rejection in solid organ transplantation.

DT-GMCSF is a fusion toxin for the treatment of acute myelocytic leukemia (AML). AML is the most common form of acute leukemia in adults and the second most frequent leukemia in children. DT-GMCSF therapy was proven superior to standard chemotherapeutic agents when tested in mice transplanted with an otherwise invariably fatal human AML.

EGF-Genistein is a new anti-breast cancer agent. This agent targets the soybean-derived inhibitor Genistein (Gen) to the epidermal growth factor receptor (EGF-R) on breast cancer cells. In mice and monkey studies, EGF-Gen was more effective than standard chemotherapeutic drugs and resulted in 60 percent long-term cancer-free survival from an otherwise invariably fatal metastatic breast cancer. In addition to breast cancer, this agent will be used for the treatment of ovarian, bladder, and prostate cancer and melanoma patients. It is expected that EGF-Gen will be available for use in human clinical trials in March, 1997.

Leukemia smart bomb The “smart bomb” developed by Biotherapy Institute scientists is called B43-Gen. It showed promising results when tested in mice against B-cell precursor leukemia, the most common form of childhood cancer and second most common form of adult acute leukemia. B43-Gen binds to and inactivates a life-maintaining structure found on the surface of leukemia cells. Therefore, B43-Gen kills leukemia cells without harming normal cells. It is also a potent destroyer of lymphoma cells.

Dr. Fatih Uckun: Breaking Barriers

Uckun has gained international recognition for his innovative approach to treating leukemia in children. As a professor in the Departments of Pediatrics, Therapeutic Radiology-Radiation On-

Patients are referred to the Biotherapy Institute by their physicians when their illness can no longer be controlled by standard methods.

cology, and Pharmacology, he is focusing his research on signal transduction and experimental therapeutics. Uckun's work has provided the basis for developing novel therapeutic strategies for the treatment of AIDS, autoimmune diseases, and cancer.

Uckun has been named the first holder of the Hughes Chair in Biotherapy. The chair was made possible by gifts from the Variety Children's Association and B. Wayne Hughes of Glendale, California. Hughes' interest in the Biotherapy Institute began two years ago during his son's battle with cancer. His son received biotherapy treatment from Uckun and his team and is doing well.

Uckun has been awarded a number of research grants from the National Institutes of Health, the Leukemia Society of America, and the Department of Defense. He is the holder of 11 patents, and has 250 publications to his credit.

The Biotherapy Institute faculty includes:

Dr. Yulong Chen, a bioorganic chemist from Harvard University Medical School. He plays a key role in rational design and synthesis of therapeutics to help patients suffering from cancer, AIDS, and cardiovascular diseases.

Dr. Ilker Dibirdik, a biochemist from the Cellular Immunity and Tissue Culture Laboratory at Gulhane Military Medical School in Ankara, Turkey. His research focuses on cellular and humoral immunity, cancer biology, and molecular biology with particular emphasis on signal transduction in leukemic cells and their normal counterparts.

Dr. Sandeep Mahajan, a molecular biologist from the Drug Discovery Program of Bristol-Myers Squibb. He is part of a team of 10 molecular biologists and biochemists working to elucidate the key signal transduction events in human lymphocytes and lymphocyte precursors. While at Bristol-Myers Squibb, he successfully cloned several critical genes that have pivotal roles in cell survival.

A bright future

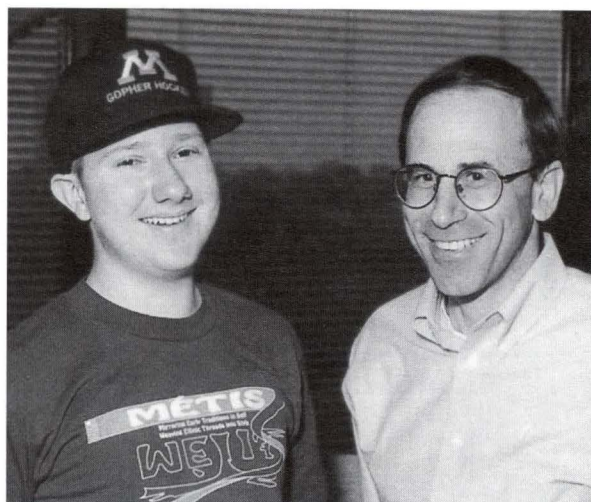
At the age of 13, Lance Relland of Alberta, Canada, formed the Theatre Arts Community Outreach Society, a musical dance theatre company which provides performing and cultural exchange opportunities for Canadian students of Russian classical dance. Just a few years later, he received a grant from the Canadian Native Arts Foundation to study Russian classical dance in the Czech Republic.

Lance has accomplished a great deal for a 17-year-old, but his biggest challenge is beating Acute Lymphoblastic Leukemia (ALL), diagnosed this past summer. He was studying at the Royal Winnipeg Ballet School at the time, and returned home to Alberta for chemotherapy treatment.

After learning about biotherapy treatment at the University of Minnesota, Lance's parents decided that's where he should be — despite the fact that the treatment was not covered by the Canadian health care system.

Lance received biotherapy treatment beginning in October, followed by a bone marrow transplant in November. The application of biotherapy treatment prior to bone marrow transplantation was performed to increase the chance of survival by eliminating leukemia cells that are resistant to bone marrow transplant therapy.

The biotherapy treatment has given Lance and his family renewed hope for the future. He has developed an interest in medicine after getting to know the staff of the Biotherapy Institute, but his first love is still dance.



Lance Relland with his pediatric oncologist, Dr. Yoav Messinger.

Mahajan has been named a Variety Research Scholar.

Dr. Zahide Özer, a chemist from the University of North Carolina at Chapel Hill, who received her Ph.D. from Middle East Technical University in Ankara, Turkey. She is continuing her work on DNA damage control and repair.

Dr. Jong-Sung Park, a microbiologist from the University of Alberta in Edmonton, Canada, who received his Ph.D. from the Kyung Pook National University in Korea. He is focusing his efforts on developing novel strategies to slow down the aging process and designing new preventive measures against cancer.

The most exciting prospect for biotherapy is that it will allow physicians to target and eradicate abnormal cells without disturbing nearby healthy tissues.

Dr. Alexander Rostovtsev, a biochemist who received his Ph.D. from Moscow University. He focuses his research efforts on identification, purification, and characterization of cancer cell associated antigens.

Dr. Li-Yan Sun, a plant biologist who received her Ph.D. from the University of Paris. She is studying transgenic plants and plant derived active ingredients that will be utilized in rational drug design efforts.

Dr. Kevin G. Waddick, from the Department of Biophysical Sciences at the University of Minnesota. He is studying immunology as it pertains to radiation therapy and alternative means of inducing apoptosis in leukemia cells.

Dr. Bruce Witthuhn, a biochemist from St. Jude Children's Hospital in Memphis. He focuses his research efforts on molecular events triggered by cytokines and hormones. Witthuhn has been named a Variety Research Scholar.

Dr. Carla Wood, a microbiologist from the University of Warwick in the United Kingdom. She is studying the impact of aging and the risk of developing cancer. She received training in aging in the laboratory of molecular genetics at the National Institute on Aging, Baltimore.

Dr. Jun Xiao, from the Medical School of Shandong Medical University in China, who did post-doctoral training in cellular immunology, biochemistry, molecular biology, and molecular immunology. She is researching human breast cancer and immunodeficiencies.

Dr. Lance Augustin, a biochemist from the Pharmacology Department at the University of Minnesota. He investigates molecular mechanisms underlying chemical and radiation induced

changes in gene expression. Molecular interactions identified in these studies will be targeted by agents designed to increase the efficacy of anti-cancer therapies.

Dr. Alexey Benyumov, from Moscow State University, where he was a senior research scientist in the Department of Embryology. His research interests are in the field of developmental and cell biology performed in the studies of nuclear reprogramming and gene transfer in fish. He studies mitotic cell division regulation in vertebrates using zebrafish embryonic development as a model system.

Dr. Patricia Goodman, a geneticist from the University of California at Los Angeles. She performs molecular genetic studies of ataxia telangiectasia. This genetic disorder is complex since patients have neurologic and immunological defects as well as an increased cancer risk. She is also involved in molecular genetic analysis of other immune disorders.

Dr. Alexei Vassilev, a biochemist from the Department of Cell Biology and Neuroanatomy at the University of Minnesota. He works on characterization of a regulatory system that halts the cell cycle in response to microtubule perturbation or DNA damage.

Dr. Mark Williams, a biochemist from the BioProcess Technology Institute at the University of Minnesota. He has extensive experience in bacterial and baculovirus/insect cell protein expression systems and is particularly interested in the optimization of such systems. He uses his experience to develop protein expression systems for potential therapeutic proteins and immunoconjugates.

Dr. Yoav Messinger, a pediatric oncologist, who treats high-risk leukemia patients on experimental Phase I or Phase II clinical protocols. He was the first fellow to be trained in the Biotherapy clinical service and has played a pivotal role in implementation of new treatment programs. Messinger was named the first Variety Clinical Scholar. ■

Editor's note: Thanks to the Biotherapy Institute's "Discoveries" publication and Variety Children's Association's "Billboard" for information included in this article.

For more information about the Biotherapy Institute, visit the website at: <http://www.biotherapy.umn.edu>.

Class Gifts Scholarships

Class reunions, particularly 50-year class reunions, often heighten the sense of time passing. For many alumni, the reunions are a time to reminisce, reunite with friends, and contemplate the future.

In gratitude for the education they received and to perpetuate the legacy of giving and helping, members of a class year often create a scholarship fund. As Dr. Peggy Craig, '45, explains, "We give class gifts to help the students coming along, but more importantly, it is a recognition. It is our recognition of what we have gained because we went to medical school, and in many instances somebody helped us. We never did it alone. It was either our parents, our employer, or somebody else who helped us."

Often, those who receive scholarships later give in return. "The scholarships prepare the current medical students to give to those who come behind them. It shows that this is a profession we are very proud of and they should have the same pride and same responsibility to it," says Craig.

Many alumni also feel a sense of obligation to the future classes of medical students. With the continued rise in tuition, it is increasingly difficult for students to finance their education. Annual tuition for Minnesota residents is \$16,300 and tuition for non-residents is \$29,700. The average medical student debt at graduation is \$67,000.

In fiscal year 1996, 2,736 alumni contributed a total of \$2,093,642 to the Minnesota Medical Foundation in support of the Medical Schools in the Twin Cities and Duluth. The percent of reachable class members giving ranged from 8 percent to 41 percent for each class. "Giving to the class fund tends to rekindle the feelings from medical school," says Dr. Richard McGraw, '43. "It's a feeling of connectedness or giving together."

As chair of her reunion committee, Craig notified and encouraged her colleagues to contribute to the fund. In addition, she tried to instill the feeling that giving is not simply an obligation but also a great privilege. It is an



Members of the Class of 1945.

opportunity to pay back some of the help that is given along the way. It is, as McGraw says, "The maintenance of the world." ■

A Critical Need

There is a critical need for scholarships for medical students. In order to maintain the high quality of physicians graduating from the University of Minnesota Medical Schools, the Minnesota Medical Foundation has made scholarship support a top priority. The Minnesota Medical Foundation board of trustees is committed to increasing scholarship support to medical students by 20 percent annually by raising a minimum of \$3 million to add to scholarship endowments by the end of fiscal year 1998.

In the past year, the Minnesota Medical Foundation presented 263 individual scholarships totaling \$290,550. In each issue of the Medical Bulletin we profile a scholarship currently given through the Minnesota Medical Foundation.

Dean's Report

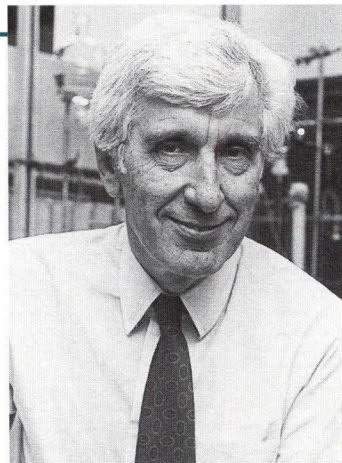
These are remarkable times for our Medical School. The revolution in health care management — now in full bloom in Minnesota — has had a major impact on how we practice medicine and how we teach its art and sciences. In response to these imperatives for change, a strong Academic Health Center is in place linking the goals and directions of the Medical School to its sibling health science schools/colleges where we have much in common for the development of joint educational and scientific programs that benefit all students and programs concerned with health.

The recent formation of the Fairview-University Medical Center provides a strong clinical base for the care of patients by Medical School faculty and community-based physicians. In addition, the departmental practice plans have combined into a single group practice in order to provide comprehensive care in our changing health care environment.

However, the Medical School with its educational and research missions is clearly separate from any specific health system and will continue as an educational and research engine for the state by maintaining and developing relationships with all physicians, hospital, and health care networks.

This "community model" is reflected by our numerous partnerships with physicians, hospitals, and health systems providing superlative education for our students and residents. The secret of the Medical School's success lies in continuing to foster these relationships. We will be reviewed by the Liaison Committee on Medical Education in the spring of 1997 and I predict our excellent educational program will fare very well in this review.

Innovation and research are important goals for the School for we are also challenged to look into the future and develop new ways to solve the riddles of disease. Our basic science programs are vigorous and we are developing new ways to connect basic science investigators to the clinical arenas and to connect programs across the entire University. Our second



Alfred F. Michael, M.D.

revolution deals with molecular science, structural biology, and remarkable advances that will teach us more about the body and the medicine of the future.

The excellence of our research program is reflected by the resources obtained by the faculty from the National Institutes of Health and other organizations ranking us 16th in the nation. Clinical research is an every day occurrence in our Medical School. Minnesota's first surgical remodeling of the heart to treat cardiomyopathy was recently performed by Drs. Chip Bolman and Soon Park — a procedure that may be an alternative to heart transplants. A toddler from Northern Minnesota received part of her father's liver in a rare operation performed by Dr. Rainer Gruessner, and a three-year-old girl was the recipient of Minnesota's first small bowel and liver transplant. These and many other programs are initiated by research.

A recent survey conducted by our Medical School showed that more than half of the Medical School students who graduated in 1985 are practicing in Minnesota, with 60 percent of those graduates in family practice. We are way ahead of the national average for students entering primary care medicine.

We also look forward to Mark Yudof's arrival on campus, and know he is a strong supporter of the Medical School. We want you to know that we are not just alive and well. This is a superb Medical School that takes up the challenge and looks forward to the future.

Alfred F. Michael, M.D.

Interim Dean

University of Minnesota Medical School, Twin Cities

Mark Yudof named 14th president of the University of Minnesota

Mark Yudof, executive vice president and provost of the University of Texas at Austin since 1994, was named the 14th president of the University of Minnesota on December 13 by a unanimous vote of the board of regents. Yudof, 52, will assume the post July 1, 1997, upon the retirement of University President Nils Hasselmo, who has served since 1989.



Mark Yudof

Yudof has a bachelor's degree from the University of Pennsylvania and a law degree from the University of Pennsylvania Law School. He served for 10 years as dean of the University of Texas School of Law before becoming executive vice president and provost. In that post, he initiated many improvements in undergraduate education at the Austin campus, including an extensive revision of undergraduate advising; an Academy of Distinguished Teachers to recognize and reward outstanding teachers, especially those who teach undergraduates; and a freshman seminar program that aims to give all entering freshmen a small-class experience.

As an administrator, Yudof has a reputation for commitment to scholarship. While dean of the University of Texas School of Law, he created — and raised funding for — a program to allow regular sabbaticals to faculty wishing to pursue scholarly activities. In his personal legal work, he is an authority on school finance and has written widely on such topics as school desegregation and property taxes. Yudof is a fellow of the American Bar Foundation and the Texas Bar Foundation and holds the James A. Elkins Centennial Chair in Law at the University of Texas. ■

University moves to forefront of umbilical cord blood transplant research

The University of Minnesota Blood and Marrow Transplant (BMT) Program has been designated a National Heart Lung Blood Institute (NHLBI) transplant center in a multimillion dollar national effort to

expand the applications of umbilical cord blood transplantation, a promising treatment for deadly blood diseases.

The \$727,000 contract, plus part of the BMT Program's \$5 million National Institutes of Health (NIH) grant to study alternative sources of stem cells, moves the University of Minnesota to the forefront of research that will expand and improve this highly promising therapy, according to **Dr. John Wagner**, the BMT Program's associate director. The NHLBI study, which includes five other institutions, is based significantly on Wagner's previous research.

To date, 25 cord blood transplants have been performed at the University of Minnesota, placing it among the top two institutions in the world that are advancing this therapy. Under the new NHLBI program, approximately 350 transplants will be performed at all six institutions involved in the study with cord blood from three NHLBI-funded banks.

The BMT Program cord blood transplant team aims to determine if cord blood contains adequate numbers of stem cells to take hold and multiply in adult-sized transplant patients, thereby extending the therapy's applicability. The NIH stem cell grant is funding efforts to expand umbilical cord blood stem cells in the laboratory, in order to increase the number of cells available for transplant and to shorten hospitalization. The transplant team will also explore the incidence and severity of complications associated with unrelated bone marrow transplantation, such as graft-versus-host disease and infections. Finally, based on groundbreaking work by the BMT Program, this study will explore quality of life and cost issues associated with umbilical cord blood transplantation. ■

Thompson appointed vice provost for clinical affairs

Dr. Roby Thompson, Jr. has been appointed vice provost for clinical affairs in the Academic Health Center. As vice provost, Thompson plays a major role in implementing the affiliation with the Fairview Health System.

He continues to practice orthopaedic surgery, with emphases in the areas of bone and soft tissue tumors. He has been responsible for the training program in orthopaedic surgery and served as department head for 20 years. During his tenure, the department and its education and research programs have achieved world-class stature and recognition. ■

DEPARTMENTAL UPDATES

Biochemistry

Dr. Paul Siliciano was promoted to associate professor July 1. **Dr. Ian Armitage**, professor, received a \$539,140 National Institutes of Health (NIH) grant for "Multinuclear NMR probes of biological systems." He also received a \$712,266 National Science Foundation (NSF) grant for "Establishment of a high field nuclear magnetic resonance facility." **Dr. Vivian Bardwell**, assistant professor, was awarded \$20,000 from the Leukemia Task Force for "Gene regulation by BCL-6." **Dr. Laura Mauro**, assistant professor, received an NIH Shannon Award of \$80,000 for "Function of tyrosine phosphatase, OST-PTP, in osteogenesis." **Dr. Kevin Mayo**, associate professor, received a \$47,976 grant for the production of two segments on the PBS-TV series "Newton's Apple." Mayo also received a \$37,469 NIH grant for "Liver sterol carrier proteins: Effects of ethanol." **Dr. Howard Towle**, professor, received a \$556,690 NIH grant for "Nutritional and hormonal regulation of hepatic genes."

Dermatology

Dr. Saganika Kanjilal has joined the department. **Dr. Mark Dahl**, professor and head, attended dedication ceremonies of the new Dermatology Clinic/Training Center Building in Moshi, Tanzania, which provides training to medical assistants from 12 African countries. **Dr. Marna Ericson**, assistant professor, joined the department as the director of laboratory research. She is currently researching alopecia areata, hair loss in women, the peripheral nervous system, and photodynamic therapy as a treatment for skin cancer. **Dr. Whitney Tope**, assistant professor, received approval for research on oral delta-aminolevulinic acid for photodynamic therapy of basal cell carcinoma.

Family Practice and Community Health

Dr. William E. Jacott, associate professor and interim head, was elected vice chair of the board of commissioners of the Joint Commission on Accreditation of Health Care Organizations.

Medicine

Dr. Harry S. Jacob, professor and holder of the George Clark Professorship in Medicine, vice president

and head of the Division of Hematology, was elected a fellow of the American Association for the Advancement of Science for his research in blood vessel and blood cell disorders. He was also elected president of the American Society of Hematology. **Drs. John Bantle**, professor, and **Bruce Redman**, assistant professor, are co-principal investigators in research involving a pharmacologic induction of weight loss to treat Type II diabetes mellitus. The study is funded by the American Diabetes Association. Redman also spoke about obesity management at the 21st Annual Fall Seminar of the Minnesota Academy of Physician Assistants. **Dr. Tim Schacker**, assistant professor and medical director of the University of Minnesota HIV Clinic, is conducting an ongoing study on the virology of primary HIV infection. He has established a clinical research project to evaluate patients who fail to respond to conventional antiretroviral therapy, and has created a clinical research database to support HIV studies. **Dr. Greg Vercellotti**, professor, has been appointed vice chair for education. He is also the new host of "Health Talk and You." **Dr. Craig Henke**, assistant professor, is conducting a study to examine the mechanisms of lung repair. He also received an American Heart Association Grant-In-Aid to examine new antifibrosis therapies. **Dr. Elizabeth Seaquist**, associate professor, received a grant from the Juvenile Diabetes Foundation to measure the glucose homeostasis in the human brain by Nuclear Magnetic Resonance. She was also appointed consultant to the Science Museum of Minnesota. **Monica Overkamp, ANP**, lectured on travel medicine in November at St. Olaf College and the College of St. Catherine. **Dr. Jianyi Zhang**, senior research associate, received a \$300,000 American Heart Association (National) Established Investigator Award to examine the relationships between myocardial oxygenation, bioenergetics, and contractile function in hearts with severe left ventricular remodeling secondary to left circumflex coronary artery occlusion. **Dr. Keith M. Skubitz**, associate professor, was chair of the 6th International Workshop and Conference on Human Leukocyte Differentiation Antigens in November in Kobe, Japan. He was also an invited speaker at the 7th International CEA/PSG Workshop in Los Angeles in September. **Sue Fredstrom**, clinical nutritionist, is researching the interdependence of hemodynamic immunologic and metabolic derangements of liver disease. **Dr. P.N. Yakshe**, assistant professor, is investigating the role of antioxidants in relieving oxidative stress in chronic pancreatitis. **Dr. Gladwin Das**, assistant professor of pediatrics, is evaluating a new percutaneous device used to treat atrial septal defects, or holes in the heart.

Neurology

Dr. Gareth Parry, professor and chair, was elected to the Faculty Practice Organization Board of Directors for a three-year term. The following faculty have joined the department: **Dr. Desiree Czaplansky-Beilman**, assistant professor, Division of Pediatric Neurology; **Dr. Sara Langer**, assistant professor, directs both the Neurology Outpatient Clinic and the Neurology Residency Program; and **Dr. Praful Kelkar**, assistant professor, who has joined the neuromuscular group and will be involved in the Neuromuscular Clinic and research of treatment protocols. **Dr. Paul Tuíte**, assistant professor, has established a Movement Disorder Clinic at the Academic Health Center, and is developing a comprehensive program on the diagnosis and treatment of Parkinson's disease.

Dr. Costantino Iadecola, associate professor and associate head for research, and **Dr. M. Elizabeth Ross**, associate professor, received a \$827,517 NIH grant to research the molecular mechanisms responsible for stroke and for devising new treatment therapies. **Drs. Gareth Parry** and **Praful Kelkar** were awarded research grants from Amgen to study new treatments for Lou Gehrig's disease and diabetic neuropathy using growth factors. **Drs. Ross** and **William Dobyns**, associate professor, received a \$703,433 NIH grant to identify and study the gene responsible for a human developmental disorder of neuronal migration. **Dr. David Rottenberg**, professor of neurology and radiology, chief of the Neurology Service and director of the PET Imaging Service at the Minneapolis VA Medical Center, has been awarded a Program Project Grant from the NIH to use positron emission tomography and functional magnetic resonance imaging to study human brain function. The study is part of a larger program called the Human Brain Project. Others involved include **Drs. Seong-Gi Kim**, assistant professor of radiology, **Stephen C. Strother**, associate professor of radiology and neurology, **John J. Sidtis**, associate professor, and **Lael C. Gatewood**, professor of laboratory medicine and pathology.

Otolaryngology

Dr. David Hom received a \$480,000 NIH FIRST (First Independent Research Support and Transition) Award for "Impaired soft tissue wound healing with growth factors." Hom was also promoted to associate professor. **Dr. Peter Santi** was promoted to full professor and **Dr. George S. Goding, Jr.**, was promoted to associate professor.

Pediatrics

Dr. C. Carlyle Clawson, professor, was named medical director of the Neighborhood Health Care Network, a management services organization for community clinics in the Twin Cities area. He will coordinate program expansions and develop new procedures for the Continuous Quality Improvement Department.

Pharmacology

Drs. Stan Thayer, associate professor, and **Horace Loh**, department head and holder of the Frederick and Alice Stark Neuroscience Chair, received a \$369,837 three-year NIH grant to study opioid excitatory signaling. **Dr. Earl Dunham**, associate professor of medicinal chemistry, was elected a fellow of the Council for High Blood Pressure Research of the American Heart Association. **Dr. S. Ramakrishnan** received a \$100,000 two-year grant from the Gustavus Louise Pfeiffer Research Foundation to investigate the effect of antibodies to vascular endothelial growth factor on ovarian and breast cancers. **Dr. Duanqing Pei** was appointed assistant professor. His main research interest is the turnover of the extracellular matrix under physiological and pathological conditions such as tumor metastasis. **Dr. Stephen W. Schondelmeyer**, professor and holder of the Century Mortar Club Endowed Chair in Pharmaceutical Management and Economics, gave a presentation to the Presidential Advisory Council on HIV/AIDS in Bethesda, Maryland. He was recently named associate dean and director of the Division of Research and Graduate Programs in the College of Pharmacy.

Physiology

Dr. Linda Boland, assistant professor, received an NIH grant for research on the molecular physiology of potassium channel gating. She also received an ataxia grant for research on ion channel defects and hereditary episodic ataxia. **Dr. Vincent Barnett**, assistant professor, received an NIH grant for his work on molecular and cellular mechanics of muscle. **Dr. Martha Flanders**, associate professor, received an NIH grant for research on the patterns of muscle activity in natural arm movement. **Dr. Apostolos Georgopoulos**, professor and holder of the American Legion and American Legion Auxiliary Chair in Brain Science, received an NIH grant for his neurophysiology research on the cognitive processes in motor behavior. **Dr. Richard Poppele**, professor, received an NIH grant entitled "Functional localization in the cerebellum." **Dr. John Soechting**, professor,

Departmental Updates, continued

received a Human Frontier Grant entitled "Internal Frames for Visuomotor Transformations." **Ute Hermann**, a neuroscience graduate student, received the Eva O. Miller Fellowship. **Dr. Steven Katz**, associate professor, received the 1996 American Medical Women's Association Gender Equity Award for outstanding teaching.

Surgery

Dr. Jorge L. Rodriguez was named a vice chair and associate professor. He is also the chief of surgery at Hennepin County Medical Center. **Dr. Julio Garcia-Aguilar** was named a partner of the Colon and Rectal Surgery Associates of St. Paul. He will also supervise the development of the basic science colorectal cancer research laboratory at the University's Cancer Center. **Dr. Bernhard J. Hering** was named an assistant professor in October. **Nicole Kirchof, D.V.M.**, joined the faculty in October as a research associate. A veterinary pathologist, she is working with the Diabetes Institute and has a joint appointment with the Department of Veterinary Pathobiology. **Dr. Karen R. Wasiluk** was promoted to research associate and assistant professor in July. **Dr. Greg J. Beilman** was named the associate director of surgical critical care and an assistant professor of general surgery. **Dr. David Dunn**, Jay Phillips Professor and head of surgery, hosted the Seventh Annual Fundamentals of Surgical Research Course at the University of Minnesota on July 13-16. **Dr. David A. Rothenberger**, clinical professor and chief of the Division of Colon and Rectal Surgery, was named president of the American Society of Colon and Rectal Surgeons. **Dr. John S. Najarian**, clinical professor of surgery and former department chair, delivered his Presidential Address at the XVI International Congress of the Transplantation Society in Barcelona, Spain, on August 28. He also received the second annual Glenn T. Seaborg Award from the Sons of California.

Therapeutic Radiology

Dr. Seymour H. Levitt, professor and head, was given the Glen W. Hartman Award by the Minnesota Radiological Society at the Fall Annual Meeting. ■

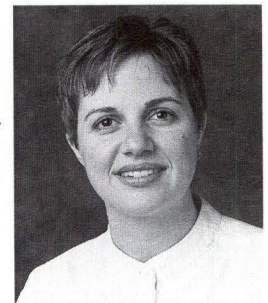
Foundation welcomes new staff

Cindy J. Kaiser, CPA, has been appointed vice president of finance for the Minnesota Medical Foundation. Prior to joining the Foundation, she served as controller for Rehab One, Inc. She received her Bachelor of Science degree from the University of Wisconsin-La Crosse.



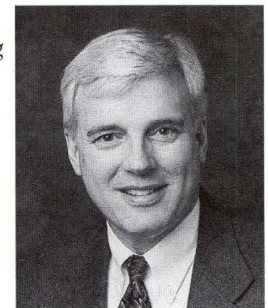
Cindy J. Kaiser

Sara Jean Dougherty has been named associate director of annual giving and alumni relations. She was previously an account executive at Westmoreland Larson Webster, Inc., in Duluth, Minnesota. She received her Bachelor of Arts degree from Montana State University.



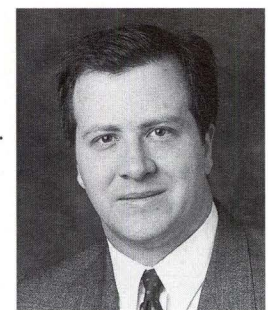
Sara Jean Dougherty

C. Blaine Thrasher has been appointed director of development for the Department of Surgery. Prior to joining the Foundation, he was the deputy director for the CARE Foundation. He received his Master of Arts from Luther Northwestern Theological Seminary and his Bachelor of Arts from Concordia College.



C. Blaine Thrasher

Mark Marshall has been named director of development for special programs. He has served the Foundation as director of alumni relations for the past five years. He received his Bachelor of Arts degree from St. Olaf College. ■



Mark Marshall

Grant recipient: **Elsa G. Shapiro, Ph.D.**

Faced with conflict, one child may retreat while the other lashes out. What causes some children to respond with aggression? Recent research has shown that lead may play a role in a child's propensity to act aggressively.

Previously it had been shown that lead taken in through fumes or dust, paint chips, or water could build up over time and high levels of lead could cause learning, behavior, and health problems in young children. Knowing that their children were particularly at risk because they live in older housing and in a high-traffic corridor, people of the Minneapolis Phillips neighborhood approached Amos Deinard, M.D., associate professor of pediatrics and director of the Community-University Health Care Center/Variety Children's Clinic, in 1991 seeking advice and solutions. Now the Minneapolis Phillips Neighborhood Lead Collaborative and the University of Minnesota are tackling the issue of lead and children together.

"This is a unique study," says Elsa G. Shapiro, Ph.D., Department of Pediatric Neurology. "The Phillips Neighborhood Lead Collaborative is actually one of the co-investigators. I think this is a model for how the University and a diverse, low socio-economic neighborhood can work together to solve a problem."

One tactic the group is taking involves a study headed by Deinard to evaluate how education affects prevention of lead overburden (blood lead levels of more than 10 micrograms/deciliter). Another, led by Shapiro, examines how lead overburden affects attention and memory. Within that study, Shapiro is also evaluating the role of lead in aggressive behavior in children.

"We know from our clinical work and other research that lead-burdened children have more learning difficulties, are more aggressive, and show attention problems," says Shapiro. "That is why we are looking at how lead overburden affects attention and memory, and now, aggressive behavior. This involves following children from the Phillips Neighborhood from birth through five years of life.

"Initially we thought the aggressive behavior might be the byproduct of memory and attention problems and not something lead itself affected," she says. "Then we began thinking about how lead might affect the propensity to act aggressively, how it may alter the threshold for aggressive behavior in children. We decided we wanted to use the same group of children to add a bit to the study and examine aggressive behavior."

The group received additional funding for one year from the Minnesota Medical Foundation's Emma B. Howe fund to look at aggressive behavior and lead overburden (original funding for the project came from



Elsa G. Shapiro, Ph.D.

Maternal and Child Health for the educational intervention project "Does Education Limit Lead Burden?") Shapiro also received a one-year \$7,000 grant from the Foundation to fund another aspect of the research into aggressive behavior. She is one of 11 faculty members to receive \$73,215 in grants from the Foundation last fall.

"We realized we needed some sort of biologic marker of aggressive behavior. If we thought the behavior was affected by lead burden we had to have some way of measuring it biologically," explains Shapiro. With Dr. Megan Gunner, Institute of Child Development, Shapiro decided that measuring the hormone cortisol may give an indication about lead's link to aggressive behavior.

"Cortisol is involved in regulating emotional arousal and is implicated in attention and memory," says Shapiro. To obtain cortisol in a saliva sample, the children are given sugar-coated gauze to suck. A base measurement will be taken and for a measurement of aggressive response, the children will be gently provoked before another sample is taken. Shapiro hopes to be able to show a link between the cortisol levels and elevated lead levels.

"We are currently writing a larger grant to be submitted for federal funding for four more years. The money from the Foundation grant will help us provide data to support the grant proposal."

Over the next five years, researchers will evaluate whether there is a critical point in development when elevated lead levels may be more damaging or whether long durations of lead overburden are as damaging as short-term high levels.

"This is the only project of its type," says Shapiro. "Not only in the way the neighborhood is involved but also in the way we are looking at the effects of lead overburden on growth and development. It's very exciting." ■

UMD scholarships presented

Scholarships presented during the 1995-96 academic year to University of Minnesota, Duluth, School of Medicine students were inadvertently omitted from the Minnesota Medical Foundation's 1996 Annual Report. Names of recipients and the scholarships they received are listed below. We apologize for this error.

Charles and Ruth Bagley Scholarships

Timothy Arnold

Allison Heimer

Mollie Stapleton

Thomas Viren

Established by Dr. and Mrs. Bagley to benefit second-year medical students at the University of Minnesota, Duluth.

Duluth Clinic Regional Scholarships

Kristen Fallstrom

Nichole Hecimovich

Provided by physicians at the Duluth Clinic to benefit University of Minnesota, Duluth, medical students.

Ben and Jeanne Overman Scholarships

Timothy Arnold

Seth Larson

Provided by the Ben and Jeanne Overman Charitable Trust to benefit medical students at the University of Minnesota, Duluth.

John George Ross Scholarships

Joshua Crabtree

Joel Erickson

Monte Johnson

Wendy Johnston

Matthew Kirsch

Jay Kruse

Khoa Le

Nathan Norquist

Created by bequest of John George Ross.

UMD Scholarships

Amy Colwell

David Hajek

Michael Hudalla

Kari Johnson

Peter Sandgren

Sandy Schumacher

Established during the Centennial Scholarship Campaign.

Harold and Rhea Walder Memorial Scholarship

David Jorde

Established through a trust created by Harold Walder to benefit medical students at the University of Minnesota, Duluth.

Foundation approves \$297,726 in grants

At its summer and fall quarterly meetings, the Minnesota Medical Foundation board of trustees approved \$297,726 in research and special grants. The amount includes \$161,715 in research grants, \$129,711 in special grants, and \$6,300 in student grants.

SUMMER FACULTY RESEARCH GRANTS

include: **Thomas T. Amatruda III, M.D.**, Medicine, \$6,000, A program to bank viable melanoma cells for use in clinical treatment and clinical research; **Linda M. Boland, Ph.D.**, Physiology, \$8,500, Cerebellar physiology of SCA1 transgenic mice; **Kathleen F. Conklin, Ph.D.**, Microbiology, \$9,000, Cell type specific activity of retrovirus LTRs; **Earl W. Dunham, Ph.D.**, Pharmacology, \$8,000, Pharmacology and medicinal chemistry analysis of adrenoceptor control of renin secretion in mice with mutated alpha 2A adrenergic receptor; **Maurice W. Dysken, M.D.**, Psychology, \$3,000, Plasma and red blood cell serraline and desmethylsertraline levels; **Mary C. Gannon, Ph.D.**, Medicine, \$7,000, Liver glycogen deposition in human subjects after ingestion of meals; **Angeliki Georgopoulos, M.D.**, Medicine, \$3,000, Are genetic mutations of homocysteine metabolism associated with macro angiopathy and/or nephropathy?; **David A. Lee, M.D.**, Radiology, \$5,000, Male fertility evaluation using penile ultrasound — comparison of response to papaverine versus caverject; **Paul C. Letourneau, Ph.D.**, Cell Biology and Neuroanatomy, \$9,000, Mechanisms of nerve growth turning and branching; **Ronald C. McGlennen, M.D.**, Laboratory Medicine and Pathology, \$7,000, Detection of estrogen receptor variant in breast tissue by *in-situ* hybridization; **Dean L. Melnyk, M.D., Ph.D.**, Anesthesiology, \$8,500, Modulation of stress response in a mouse sepsis model; **Robert D. Nelson, Ph.D.**, Dermatology, \$8,500, Regulation of human neutrophil chemotaxis; and **William B. Rathbun, Ph.D.**, Ophthalmology, \$6,000, Maintenance of glutathione homeostasis for prevention of diabetic cataracts.

SUMMER SPECIAL GRANTS include: **Greg Connell, Ph.D.**, Pharmacology, \$20,000, RNA editing in trypanosomatids; **Glenn Giesler, Jr., Ph.D.**, Cell Biology and Neuroanatomy, \$18,745, Tonic currents in pain receptors; **Arlen R. Severson, Ph.D.**, Anatomy and Cell Biology, \$13,000, Neuroanatomy Laboratory: A computer-assisted learning program; **Carol L. Wells, Ph.D.**, Laboratory Medicine and Pathology, \$19,200, Translocating bacteria: Role in surgery and trauma; and **David L. Dunn, M.D., Ph.D.**, Surgery, \$4,989,

Immunotherapeutic protection during gram-negative bacterial sepsis.

FALL FACULTY RESEARCH GRANTS include: **M. Dwight Chen, M.D.**, Obstetrics and Gynecology, \$3,000, Decay accelerating factor in the pathogenesis of endometrial neoplasms; **Charles E. Dean, M.D.**, Psychiatry, \$5,000, Instrumental and clinical assessment of tardive dyskinesia; **Marshall L. Hertz, M.D.**, Medicine, \$8,000, Inhibition of airway fibrosis with synthetic fibronectin peptides after tracheal transplantation; **Kristin A. Hogquist, Ph.D.**, Laboratory Medicine and Pathology, \$6,075, Positive selection of T cells *in vitro*; **Stephen C. Jameson**, Laboratory Medicine and Pathology, \$6,700, Controlling T cell responses with oligonucleotides; **Jose Jessurun, M.D.**, Laboratory Medicine and Pathology, \$6,000, Detection of K-ras mutations in samples from ERCP washings and brushings, CT guided needle biopsies, and resected pancreas specimens to aid in the detection of pancreatic and biliary adenocarcinomas; **David C. LaPorte, Ph.D.**, Biochemistry, \$9,800, Target protein recognition in the isocitrate dehydrogenase phosphorylation cycle; **William B. Orr, M.D., Ph.D.**, Psychiatry, \$5,000, Study of lexical processing in the elderly and in patients with early Alzheimer's disease using positron emission tomography; **Robert Patterson, Ph.D.**, Physical Medicine and Rehabilitation, \$6,640, Characterization of normal and burned tissue using impedance spectroscopy; **Timothy W. Schacker, M.D.**, Medicine, \$10,000, Design and implementation of a comprehensive system of data management for HIV clinical research; and **Elsa G. Shapiro, Ph.D.**, Neurology, \$7,000, Does lead overburden affect salivary cortisol levels and disposition to aggressive behavior?

FALL SPECIAL GRANTS include: **Craig A. Henke, M.D.**, Medicine, \$8,777, Induction of fibroblast apoptosis by Anti-CD44 antibody; **Nancy Raymond, M.D.**, Psychiatry, \$10,000, Equipment for testing cardiac vagal tone in eating disorder subjects for study "Food intake, satiety and pain in obese binge eaters"; **S. Hossein Fatemi, M.D., Ph.D.**, Psychiatry, Cell Biology and Neuroanatomy, \$20,000, The role of polysialylated NCAM in migration and differentiation of mouse neuronal cells following prenatal exposure to influenza; and **David Thomas, Ph.D.**, Biochemistry, \$15,000, Cell culture for cardiac membrane biophysics.

STUDENT GRANTS include: **David Larson**, "Inhibition of complement and its effect on xenotransplantation," conducted under the supervision of **R. Morton Bolman III, M.D.**; **Patrick Townley**, "Which products of the cytomegalovirus and what cell mechanisms are responsible for the endothelial cell accu-

mulation of cytoplasmic p53," conducted under the supervision of **Gregory M. Vercellotti, M.D.**; **Bryan Wood**, "Characterization of the effect of hyperthyroidism on extraocular muscle apoptosis and growth factor expression," conducted under the supervision of **Linda McLoom, Ph.D.**; and **Laurie Wright**, "Hormonal regulation of sodium pump activity in lung epithelial cells," conducted under the supervision of **David Inghar, M.D.** ■

AFFILIATE ORGANIZATIONS

Children's Cancer Research Fund

The 16th annual Dawn of a Dream benefit on January 18 included the opportunity to bid on two of the most unique items ever presented to CCRF — life-size replicas of the magnificent Terra Cotta



Warriors in China, and a brilliant African gray parrot.

CCRF founders Norm and Diana Hageboeck were recently recognized by *Mpls. St. Paul Magazine* in its eighth annual Twin Citian Volunteer Hall of Fame.

Lee Kopp, president of Kopp Investment Advisors, led CCRF's first planned giving seminar. Held Tuesday, November 12, at Interlachen Country Club, the seminar attracted nearly 40 individuals interested in preserving their estates and supporting the fight against childhood cancer. This is the first of many topical subjects the Planned Giving Committee plans to provide to friends of CCRF.

Board member Patricia McHugh completed a photo display project for CCRF entitled "Childhood Cancer: Facing the Facts." The collection of photos represents a joint effort of physicians, nurses, parents, patients, a photographer, and several other volunteers. Children, ages two months to 20 years, who have been treated at the University of Minnesota Hospital and Clinic are featured in this collection. The children were photographed by Steve Schneider. The exhibit was displayed at the CCRF Showhouse at the Mall of America and will be featured at future CCRF events and activities.

The Junior Benefactors Circle, also known as the Caterpillar Club, has been established at CCRF. The Circle includes individuals and couples in their 20s and 30s who have donated \$250 or more to CCRF this year. The Junior Benefactors Circle mission is to draw a new

generation of volunteers into the ranks of the organization. The goal is to raise money for specific CCRF needs while socializing and having fun. Two events per year are planned, one in the fall and one in late spring/early summer. The Caterpillar Club celebrated on November 2 with a bonfire and casual chili dinner.

CCRF and *Country Home* magazine brought a fully decorated showhouse to the public at the Mall of America. Visitors toured the home through December 31. Ron Schuth won the home and its furnishings — a retail value of \$400,000, on January 1. Over \$225,000 was raised for CCRF from the log home prize drawing donations last year and more than 40,000 people entered the drawing. For more information, call 612-893-9355 or 1-800-922-1MMF. ■

Diabetes Institute for Immunology and Transplantation

A world expert in islet transplantation, Dr. Bernhard J. Hering, from Giessen, Germany, has



joined the Diabetes Institute. As leader of the islet program, he brings exceptional expertise in islet research and transplantation to the University of Minnesota.

Of the last 12 consecutive islet transplants performed by Hering's group at Justus Liebig University, 11 patients have maintained islet graft function for more than six months associated with marked improvement of glycemic control and absence of severe hypoglycemia. Four patients have already discontinued insulin injections completely.

Under his direction, the Institute hopes to develop islet transplantation as the treatment of choice for the majority of patients afflicted with Type I diabetes mellitus, while continuing to offer pancreas transplants — currently the only therapy that achieves insulin-independence. In early 1997, Hering will begin expanding efforts in islet transplantation by starting comprehensive clinical trials.

The Diabetes Institute is very thankful to the following individuals and foundations who recently became Institute Founder's Circle members by giving \$10,000 or more in support of the Institute's mission: Toby and Penny Cohn, Calla and James Fullmer, Dr. Bernhard J. Hering and Nicole Kirchhof, Michael Hoffman, Bill and Toni Meierhoff, Miller-Dwan Foundation of Duluth, Alice M. O'Brien Foundation, and St. Luke's Foundation of Duluth. For more information, call 612-626-2101 or 1-800-922-1MMF. ■

International Hearing Foundation

The International Hearing Foundation (IHF) and its board continue to support missions and programs in research, education, and public service. Recently, Dr. Oleg Froymovich and Dr. Michael Shternfeld visited Dr. Malik Diop in Senegal, Africa, to provide gratis surgical care to indigent surgical patients, and to teach educational courses to physicians and other professional workers.

Dr. Vikram Jaisinghani, an IHF fellow from India, recently arrived to study and conduct research in the Otopathology Laboratory and to observe otological clinical care. Drs. Kawano and Sone, IHF fellows, are participating in research relating to molecular biology and otitis media and archival studies of human temporal bones.

Support groups for Meniere's disease and tinnitus continue. For more information, call 612-339-2120. ■



University of Minnesota Cancer Center

The University of Minnesota Cancer Center's second annual Community Open House will be held April 6 at the Masonic Cancer Research Building, 425 E. River Road, University of Minnesota. Visitors can tour the four-story Masonic Cancer Research Building and meet cancer researchers. For more information, call Lynn Roark, 612-626-5437 or visit the U of M Cancer Center website: www.cancer.umn.edu.

The Cancer Center recently recruited two faculty members: Julio Garcia-Aguilar, M.D., Ph.D., a colon and rectal surgeon, and David Largaespada, Ph.D., an assistant professor of laboratory medicine and pathology with expertise in animal modeling.

Bobbie Griffin, executive vice president, Medtronic, and president, Medtronic Pacing Business, was elected as the new UCAN Fund Board chair. For more information, call 612-626-1107 or 1-800-922-1MMF. ■

University Children's Foundation

The University Children's Foundation is proud to announce three new board members: Terri Cole, Targeted Media; David Gigerich, Workstations International; and Daniel J. Starks, Daig Corporation.

The second annual Wine-Fest and Auction will be



held May 14-16. Raynelle Perkins, Jim Zechmann, and Steve Gill will co-chair this year's event. Haskell's Liquor and the Bacchus Society continue as major patrons. The three days of events include: Wine Maker Dinners at several Twin Cities restaurants on May 14, a Wine Tasting Evening on May 15, and a Fine Wine Dinner on May 16 sponsored by the Bacchus Society, Haskell's, and 40 other vintners.



Money raised by the UCF WineFest and Auction funds the UCF Scholar Award annual grants awarded to outstanding scientists in the Department of Pediatrics whose research is vital to improving children's health.

The second annual UCF/Dove Golf Tournament will be held in June. The Dove family (Tim, Judy, and their daughter Angie Svien-Dove, a former patient of the Department of Pediatrics) of New Richmond, Wisconsin, and Action Battery Wholesalers, Inc., will host a golf tournament and pig roast at Bristol Ridge Golf Course in Somerset.

For more information, call 612-625-1471 or 1-800-922-1MMF. ■

Vision Foundation

The first annual Visions from the Past/Hope for the Future event will be held April 26 at the James J. Hill Mansion in St. Paul. The theme is "An Evening of Victorian Romance" and activities will include recognition of new giving club members, house tours, concerts, dinner, and more. Funds raised will support the Department of Ophthalmology's research and education programs.



The Vision Foundation has appointed nine new board members: Oscar Anderson, M.D.; Larry Johnston; Norm McCarthy; Stephen Otto; Rene Pelletier, M.D.; Charles Roach, M.D.; Jack St. Martin; Marilyn Swenson; and Thomas Woessner. James Bradshaw was appointed president, David Bolt is vice president, and Betty Jane Walen was appointed secretary.

The next series of Gift of Sight Tours will be conducted in May. Friends of the Vision Foundation are invited to visit the Department of Ophthalmology's research laboratories and education facilities. Stops include the Lions Children's Eye Clinic and Lions Research Building.

For more information call 612-625-9613 or 1-800-922-1MMF. ■

Medical Alumni Society President's Report

I want to tell you about some exciting changes in our alumni programming. Several new things are being planned that will provide more opportunities for everyone. We will be changing our reunion program from one weekend to two separate events and inviting more alumni to participate. In addition, we will be holding our Spring Alumni Social again.

Spring Alumni Weekend, June 5-7, will feature reunions for the classes of 1947, 1952, 1957, 1962, 1967, and 1972. The Half Century Club (those graduates who have already celebrated their 50th reunion) will also gather on this weekend. The weekend includes the Reunion Dinner, a Deans' Reception and Dinner, special tours, an alumni golf outing at the University Golf Course, a Continuing Medical Education course, and most importantly, an opportunity to visit with old friends and colleagues.

At the first Fall Alumni Weekend, September 26-27, we will welcome the classes of 1977, 1982, 1987, and 1992 back to the University for their reunions. Events include a Reunion Dinner, special tours, golf, Gopher football, tailgating, and more. A special function for Duluth graduates will also be included. If you would like to be involved in organizing your class reunion, please contact the alumni office.

Our Spring Alumni Social is being planned — details will soon be sent to Twin Cities area alumni. We hope to provide an opportunity to talk with the new dean of the Medical School and visit some new campus facilities.

The Medical Alumni Annual Fund results are ahead of last year's, but your support is still needed. You may designate your gift to any area you wish or to unrestricted funds, which support student scholarships and research programs.

Thank you to all those who signed up to be mentors. We matched more than 50 alums with first-year medical students and we have received great feedback. We always need alums who would like to donate their time, either through service on the Alumni Board, working with students, or committee service. Contact the Alumni Office at the Minnesota Medical Foundation 612-625-1440 or 1-800-922-1663.

Sincerely,

Wayne Liebhard

Wayne D. Liebhard, M.D., '83
President, Medical Alumni Society



Spring Alumni Reunion Weekend

June 5-7, 1997

Minneapolis, Minnesota

Classes of 1972, 1967, 1962, 1957, 1952, 1947,
and Half Century Club

Thursday Evening

Welcome Reception

Friday

Half Century Club Program and Luncheon

Tours

Medical School Graduation

Deans' Reception and Dinner

or Individual Class Functions

Saturday

Reunion Golf Outing

New Horizons In Minnesota Medicine (CME)

Tour

Estate Planning for Physicians and Friends

Reception & Medical School Class Reunion

Dinner & Programs

All alumni are welcome to participate in
Reunion Weekend Events.

Call 612-625-8676 or 1-800-922-1663 for more
information on Alumni Reunion Weekend.

Fall Alumni Reunion Weekend

September 26-27, 1997

Minneapolis, Minnesota

Classes of 1992, 1987, 1982, and 1977

Friday Evening

Reception & Dinner Dance

Saturday

Golf

Financial Planning for Younger Physicians

Tailgate/Football Game

All alumni are welcome to participate in
Reunion Weekend Events.

Call 612-625-8676 or 1-800-922-1663 for more
information on Alumni Reunion Weekend.

CLASS NOTES

1947

Dr. John E. Verby, Jr.,
Bloomington, Minnesota,
serves as a consultant to
both the Osteopathic
School of Medicine in
Long Island, New York,
and the General Practice
Physicians in Leuven,
Belgium. He recently
received the Carleton
College Achievement
Award in honor of his work.

1960

Dr. L. Ashley Whitesell,
Glendale, Arizona, recent-
ly relocated to Arizona to
practice occupational
medicine.

1962

Dr. Richard Reem,
Fairbanks, Alaska, retired
after eight years of active
U.S. Army status and 20
years in the Army
National Guard.

1964

Dr. Al Shemesh, Capis-
trano Beach, California,
recently appeared as a
guest on the "Oprah
Winfrey Show" to discuss
the future of new treat-
ments for obesity.

1966

Dr. Stephen L. Hanson,
Benson, Minnesota, relo-
cated in January from
Glenwood, Minnesota, to
practice at the Benson
Medical Center. He will
be working with **Dr.
Richard Horecka**, '80.
A captain in the Naval
Reserve Medical Corps,
Hanson recently complet-
ed two weeks of active

duty at the Naval Hospital
in Pensacola, Florida.

1970

Dr. Harold R. Veits,
Lubbock, Texas, has
recently relocated from a
private psychiatry practice
in Bangor, Maine, to
become an academic psy-
chiatrist at the Medical
School of Texas Tech
University in Lubbock.

1977

Dr. Joanne B. Rogin,
Minnetonka, Minnesota,
has been elected president
of the Minnesota
Society of Neurological
Sciences. She was also
elected a fellow of the
American Academy of
Neurology. Rogin prac-
tices adult neurology at
the Minneapolis Clinic of
Neurology and is medical
director of the Midwest
Center for Seizure
Disorders.

1978

Dr. Fred L. Rasp, Fort
Wayne, Indiana, was
appointed medical direc-
tor of the Medical Group
of Fort Wayne. Rasp has
practiced in Indiana since
1985.

1980

Dr. Penny Langland,
Thief River Falls, Minne-
sota, was selected to
receive Planned
Parenthood's Physician of
the Year Award in
November of 1996. In
addition to working at the
Planned Parenthood clin-

ic in Thief River Falls, Langland also practices at the Dakota Clinic.

1981

Dr. Bruce A. Orkin, Washington, D.C., was promoted to associate professor of surgery with tenure and was appointed director of the Division of Colon and Rectal Surgery at the George Washington University, Washington, D.C.

1987

Dr. Thomas J. Vererka, Saginaw, Michigan, established a solo private practice in general surgery and surgical critical care. He currently serves as an associate clinical professor and preceptor at Michigan State University, where he teaches general surgery residents.

1990

Dr. Patrick M. O'Reilly, Maplewood, Minnesota,

finished his gastroenterology fellowship at UCLA. O'Reilly will relocate to St. Paul to practice with a group of gastroenterologists.

1991

Dr. David Pollak, St. Louis Park, Minnesota, completed his psychiatry residency at the University of Colorado in 1995. After relocating to Minnesota, he practiced at Abbott-Northwestern Hospital and provided consultation services to area agencies. He is now opening a private practice in psychotherapy and psychiatry in Minneapolis.

1993

Dr. Jennifer S. Smith, Bristol, Maine, recently completed her residency at Maine Medical Center. She now practices with the Miles Medical Group in Damariscotta, Maine.

7th Annual Golf Classic

Monday, August 25, 1997
Rolling Green Country Club
Hamel, Minnesota
Double Shotgun Start
(morning and afternoon starts)
Scramble Format
Entry Fee \$200 (\$60 tax-deductible)



The Minnesota Medical Foundation Golf Classic, now in its seventh year, has become one of the Twin Cities' premier golf events. The scramble format tournament provides a challenging but enjoyable round of golf for players of all skill levels.

Last year's event raised more than \$70,000 for medical research and scholarships at the University of Minnesota Medical Schools (Minneapolis and Duluth). The past five tournaments have raised a total of \$190,000.

Golfers may sign up as a foursome or as individuals. Interested parties are encouraged to call for more information soon. Space is limited and the past few Classics have all been sellouts. For more information or to register call 612-625-1440 or 1-800-922-1663.

IN MEMORIAM

CLARENCE E. ARLANDER, M.D., Class of 1929, Falcon Heights, Minnesota, died January 12 at age 91. He served as a medical officer in the U.S. Navy during World War II, and as a physician in Northeast Minneapolis for 40 years. He is survived by his son, Dr. Thomas Arlander.

GENEVIEVE A. ARNESON, M.D., Class of 1953, Pass Christian, Mississippi, died November 16 at age 74. She became a Life Fellow of the American Psychiatric Association in 1989. After completing her residency in psychiatry at the Louisiana State University School of Medicine in 1958, Arneson remained at LSU for over 30 years. Arneson assisted in the development of the West Jefferson Mental Health Center in Louisiana and was its medical director from 1964 to 1990.

HELEN B. BARTON, M.D., Class of 1933, Golden Valley, Minnesota, died October 3 at age 87. Barton, author of *Nervous Tension Behavior & Body Function*, was active with the American Association of University Women, Minneapolis. She received the American Psychiatric Association 50 Year Service Award. Barton also served as the clinical services director and assistant superintendent at the Mental Health Institute in Independence, Iowa. She is survived by three children.

MAURICE W. BEERS, M.D., Class of 1972, Fergus Falls, Minnesota, died in December 1994. He specialized in family practice.

GEORGE J. BOODY, JR., M.D., Class of 1933, St. Paul, Minnesota, died September 15 at age 88. He worked at a private practice in Dawson, Minnesota, until

1953. He then entered the Minnesota State Hospital System, practicing first at Sandstone State Hospital and then at Cambridge State Hospital, where he served as acting medical director. He retired in 1976. Boody is survived by his wife, Esther, and two sons.

ENOCH B. BRICK, M.D., Class of 1930, Wausau, Wisconsin, died August 19 at age 91. Brick practiced in Wausau as an ear-nose-throat specialist from 1938 until his retirement in 1971. He served as a commander in the Navy Medical Corps. Brick was on the staff at St. Mary's and Memorial Hospitals in Wausau, and on the faculty of St. Mary's Hospital School of Nursing. He is survived by two daughters.

COLEMAN J. CONNOLLY, M.D., Class of 1942, St. Paul, Minnesota, died December 4. Connolly was a fellow in the American College of Surgeons, and was board certified in thoracic surgery in 1955. He was a clinical associate professor of surgery at the University of Minnesota Medical School, and served on the board of admissions. Connolly is survived by his wife, Peggy, and four children.

ROBERT J. CUMMING, M.D., Class of 1961, St. Cloud, Minnesota, died November 9 at age 65. He is survived by his wife, Patricia, and 10 children.

W. JOHN DAWSON, JR., M.D., Class of 1957, Wayzata, Minnesota, died in early December at age 75. He is survived by his wife, Margaret.

JESSE E. DOUGLASS, JR., M.D., Class of 1951, Tyler, Texas, died September 14 at age 78. Before completing his medical degree, Douglass served as pharmacist's mate in the U.S. Navy during World War II. After graduating, he practiced at a sanatorium near Walker, Minnesota. He then served as the medical director at Mineral Springs Sanatorium in Cannon Falls, Minnesota. Douglass is survived by four sons and a daughter.

JOHN D. FREMSTAD, M.D., Class of 1973, Woodbury, Minnesota, died in October at age 48. Fremstad, a prominent surgeon in St. Paul, was a partner of Minnesota Surgical Associates P.A. He is survived by four children.

FLOYD K. GARETZ, M.D., Class of 1955, St. Louis Park, Minnesota, died November 14 at age 72. He is survived by his wife, Diane, and five children.

JOHN T. HACHIYA, M.D., Class of 1985, Edina, Minnesota, died November 28 at age 41. He was a physi-

cian at Park Nicollet Medical Center since 1984, and a clinical associate professor in obstetrics and gynecology at the University of Minnesota. Hachiya was elected chairman of the Obstetrics and Gynecology Department at Park Nicollet Medical Center in 1989. Hachiya served on the board of the Women's Health Fund, and was president of the Obstetrics and Gynecology Alumni and Friends organization. He is survived by his wife, Mary Beth, and four children.

LYLE J. HAY, M.D., Class of 1937, Buffalo, Minnesota, died January 9 at age 83. He was charter president of the Minnesota Chapter of the American College of Surgeons. He served in the 26th General Hospital Unit in the Army during World War II. He became a professor of surgery at the University of Minnesota Medical School in 1947. From 1947 to 1952, Hay served as chief of surgery at the Minneapolis Veterans Medical Center. He was director of surgical research and medical education at Mount Sinai Hospital in Minneapolis from 1952 to 1959. Until his retirement in 1981, he was director of the intern-resident training program at the St. Barnabas and Swedish hospitals in Minneapolis, and chief of surgery and president of the medical staff at Metropolitan Medical Center, also in Minneapolis. He is survived by two sons and three daughters.

CARL B. HEGGESTAD, M.D., Class of 1957, Fridley, Minnesota, died May 26 at age 65. Heggstad specialized in anatomy. He is survived by his wife, Gloria, one daughter and two sons.

CURT W. LUNDQUIST, M.D., Class of 1934, Blue Earth, Minnesota, died December 31 at age 89. He served in World War II in the Army Medical Corps. Lundquist practiced ophthalmology in Owatonna until his retirement. He is survived by a daughter and son.

SHELDON C. MANDEL, M.D., Class of 1945, Los Angeles, California, died August 22. Mandel specialized in internal medicine. He is survived by his wife, Renee.

EVELYN W. MAYMAN, M.D., Class of 1927, Modesto, California, died January 18, 1995, at age 93. She completed her internship in San Francisco, and became the second female doctor in Stanislaus County, California. She is credited with establishing the county's first blood bank, establishing a dairy farm to produce pasteurized milk in response to the tuberculosis plague, and co-founding the Gould Medical Group in Modesto.

ROBERT O. McMAHAN, M.D., Class of 1953, Eugene, Oregon, died June 7 at age 67. He worked as a

radiologist at Sacred Heart Medical Center in Oregon until his retirement in 1990. He was past president of the Oregon Radiological Society and past second vice president of the Pacific Northwest Radiological Society. He is survived by his wife, Carol, and nine children.

NICHOLAS J. MUSTY, M.D., Class of 1940, Whitefish Lake, Minnesota, died November 17 at age 89. A Major in the U.S. Air Force, Musty served as a flight surgeon during World War II. He was head football coach and athletic director at the College of St. Thomas in St. Paul in the late 1930s, and was inducted into the St. Thomas Athletic Hall of Fame. He practiced obstetrics and gynecology in Minneapolis until he retired in 1972. He is survived by two sons.

JAMES J. O'LEARY, M.D., Class of 1973, St. Paul, Minnesota, died September 19 at age 49. O'Leary specialized in pathology. He is survived by his wife, Denise, and five daughters.

KENNETH H. PETERSON, M.D., Class of 1944, Hutchinson, Minnesota, died July 28 at age 77. He specialized in family practice. He is survived by his wife, Hulda, two sons and one daughter.

ANDREW REARDON, M.D., Class of 1954, Duluth, Minnesota, died April 14 at age 68. Reardon practiced at the Duluth Clinic from 1957 to 1990 as a pediatrician. He was an associate professor at the UMD School of Medicine for 16 years. He is survived by his wife, Catherine, one son and two daughters.

JEROME J. SCHEREK, M.D., Class of 1957, Annandale, Minnesota, died January 5 at age 64. He established an OB/GYN practice in St. Paul, where he remained for 25 years. Scherek was an associate clinical professor in OB/GYN at the University of Minnesota Medical School, and served as chief of staff at St. Joseph's Hospital. He was the president of the Minnesota Obstetrical & Gynecologic Society and chairman of the Prenatal Guidelines Task Force in Minnesota. He is survived by his wife, Barbara, and four daughters.

JOHN F. SCHMID, M.D., Class of 1941, Hilton Head Plantation, South Carolina, died August 5 at age 79. He served in the Army Medical Corps as a major during World War II, where he was awarded the Army Commendation Medal for his work with tropical diseases. He then returned to the University of Minnesota Graduate School to study dermatology. In 1949 he entered private practice at a clinic in Duluth. In 1983 he joined the staff

of the Hilton Head Hospital in South Carolina. He remained there until his retirement in 1990. He is survived by three daughters and a son.

RAYMOND A. SCHWEGLER, M.D., Ph.D., Class of 1930, Lawrence, Kansas, died in July. He is survived by his wife, Alice.

HARRY N. SIMMONDS, M.D., Class of 1943, St. Paul, Minnesota, died in early November at age 77. Simmonds established a permanent practice in St. Paul in 1965, after serving as chief of staff at St. Francis Hospital. He was a veteran of the Korean War, and received a Bronze Star. He was elected a Fellow of the Royal Society of Health in London in 1971.

LINDSEY K. SORENSON, M.D., Class of 1992, St. Paul, Minnesota, died October 16 at age 32. He is survived by his wife, Christa, and three children.

HAROLD C. STRATTE, M.D., Class of 1920, Windom, Minnesota, died April 15 at age 102. Stratte began his medical career by helping his father fill and deliver prescriptions in a horse and buggy. After graduating from medical school, he served in the Army during World War I. He practiced medicine in northern and southwestern Minnesota for 65 years, seeing his last patient when he was 92. Stratte is survived by two daughters and a son.

ROBERT W. UTENDORFER, M.D., Class of 1947, Edina, Minnesota, died in October at age 84. Utendorfer was a clinical professor emeritus of surgery at the University of Minnesota Medical School. He served in the Army during World War II. He practiced at the Minneapolis Veterans Medical Center for eight years and then started his own practice in Minneapolis. Utendorfer is survived by a son and a daughter.

FREDERICK H. VAN BERGEN, M.D., Class of 1941, Minneapolis, Minnesota, died September 11 at age 82. Van Bergen was head of the Department of Anesthesiology at the University of Minnesota Medical School for 23 years. It is estimated that he trained 350 anesthesiologists prior to his retirement in 1978. He completed his residency in anesthesiology after serving in the Navy in the South Pacific during World War II. Van Bergen worked with the Elmer Smith Co. to develop the Van Bergen respirator, a device used to help polio patients. He is survived by his wife, Nancy, and four sons. ■

THANKS FOR ASKING



Gary G. Hargroves

Q

Can real estate be used to 1) take advantage of the \$10,000 annual exclusion gifting; 2) reduce estate taxes, 3) gift to children, and 4) make charitable gifts?

Yes, if a person is charitable, patient, persistent, has an interest in lowering taxes, and is willing to make modest cash gifts to achieve substantial tax savings.

Tax law and the IRS provide for many tax savings, but make us plan to take advantage of them. This is where the staff of the Minnesota Medical Foundation can help. We can do much of the work to keep the process relatively simple.

For example: Neal Gault, Jr., M.D., Class of 1950, Dean Emeritus of the Medical School, has real estate valued at \$180,000 with a cost basis of \$12,600. At one time, this property had considerable personal value, but now it is unused, unwanted, and unneeded by both Dr. Gault and his children and requires management and money.

If Dr. Gault gifts the real estate to his children either during or after his life, there is a gift/estate tax liability of approximately \$90,000. If Dr. Gault sells the real estate, there is an immediate capital gains tax liability of \$47,000 plus a gift tax of 50 percent on any remaining portion that may pass to children later. Dr. Gault has three children and is not currently fully using the \$10,000 annual gift exclusion tax savings opportunity, \$30,000 for three children.

Dr. Gault decides to gift an undivided interest in the real estate of approximately \$30,000 per year for several years into a charitable trust. All of the above tax liabilities are bypassed and the trust provides a 5 percent income to the children for their lives and then a generous gift to the Minnesota Medical Foundation. In addition, Dr. Gault receives a modest current year charitable deduction.

If you have real estate (or other assets) and you are looking for options available to you, we would welcome the opportunity to discuss how we may be of assistance in helping you accomplish multiple objectives. Please call Gary Hargroves at: 612-625-5463 or 800-922-1663 or return the reply below.

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Gary G. Hargroves, Minnesota Medical Foundation, Box 193 UMHC,
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MB-S97

THANKS FOR GIVING

Dr. Fred Bollum

by Jean Murray

If the train from Pepin, Wisconsin, had gone directly to Madison, Fred Bollum's life might have taken a different turn. As it was, the 16-year-old headed to Minneapolis, eager to begin his education at the University of Minnesota.

"I began the University on my seventeenth birthday," says Bollum.

A zoology major, he attended a seminar his senior year taught by Professors Cyrus P. Barnum, Wallace D. Armstrong, F. Otto Schmidt, and H. Burr Steinbach. It was only 1950, but the topic under discussion was the replication of DNA. The young student knew he had found his field.

Bollum went on to get his Ph.D. in physiological chemistry, and his advisor was C.P. Barnum. "I learned just about everything I know in my field from him," says Bollum. "Cy's teaching and research prepared many of us with opportunities for success in our futures."

Along the way Bollum served in the U.S. Coast Guard late in World War II and in the Navy during the Korean War. He held a U.S. Public Health Service Postdoctoral Fellowship at the University of Wisconsin, was a biochemist at the Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee, professor of biochemistry at the University of Kentucky Medical School, and chair and professor of biochemistry at the Uniformed Services University of the Health Sciences in Bethesda, Maryland.

At the University of Wisconsin Bollum discovered the major DNA replication enzyme in mammalian tissues and later, at ORNL, a second DNA polymerase thought to be involved in generation of immunological diversity.

His interest in DNA lasted not only for his scientific career but on into retirement. Bollum now heads a small biotechnology company that is involved in the production of enzymes, antibodies, and polynucleotides. These are products developed during Bollum's earlier career which are used in genetic engineering and medical diagnostics.

Bollum has generously supported both the Wallace



Dr. Fred Bollum with Anne Barnum, widow of Cyrus P. Barnum.

D. Armstrong Memorial Award and the Cyrus P. Barnum Teaching Fellowship, and has recently established the Frederick James Bollum, Ph.D., Endowed Research Fund through the Minnesota Medical Foundation to enrich research activity in the Department of Biochemistry at the University of Minnesota.

The Frederick James Bollum, Ph.D., Endowed Research Fund will support small research projects or other research activities such as minisymposia, workshops, postdoctoral and graduate student stipends, and matching funds for essential shared research equipment.

Fred Bollum feels it is critically important — and a "most pleasurable experience" — to give back to the institution that educated him and provided the foundation for his lifetime career. "If it weren't for the University of Minnesota, I could be working on the railroad!"

The Minnesota Medical Foundation and the Department of Biochemistry are very grateful to Fred Bollum for his generosity. ■

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We look forward to receiving your comments.