Dear Alumni and Friends:

It is sometimes easy to forget, as we make our way in haste through the bustling halls, clinics, labs and lecture rooms of the Medical School, that medicine at Michigan reaches far beyond the Ann Arbor campus and satellite clinics of the U-M Health System. This issue of Medicine at Michigan highlights two of the extraordinary ways in which the brilliance and commitment that characterize our school and health system are taken to some of the farthest reaches of our planet, often to those who need it most desperately.

It is at once remarkable and to be expected, given the caliber of students who study medicine and biomedical research at the U-M, that many of the international initiatives which bear the Michigan name started at the student level (page 20). From isolated ideas and individual efforts has grown a coordinated approach to international experiences, forming a powerful program we know as Global REACH (Research, Education and Collaboration in Health). The program’s mission is to facilitate collaboration among Medical School faculty, students and our global partners for the benefit of patients worldwide.

Under the auspices of Global REACH, students network with other students and faculty members to organize excursions to Central America, Africa and Asia, to small communities where health care is often virtually nonexistent. To learn, to educate, to treat and hopefully cure: These are the reasons students undertake missions to assess and improve health conditions in places too poor to accomplish such strides on their own. From conducting clinics and vaccination programs to educating communities on local diet and nutrition, our students are making a difference worldwide, without regard to geopolitical boundaries, and learning in the process how to achieve maximum medical benefit from minimal health care resources.

Throughout the Health System, teams of physicians, residents and nurses likewise organize travel to nations lacking our resources, volunteering their Michigan expertise in diagnosis, treatment and surgery to people who otherwise have little or no access to quality health care or advanced procedures (page 30). Dozens of surgeries performed within a week are not uncommon for short-term missions, but that impact is compounded many times over by giving medical personnel in these countries the opportunity to observe improved techniques and updated methods of care. Helping to establish eye banks in Mongolia, providing doctors with the latest techniques for helping children with disabilities in Malawi, working to secure needed equipment and supplies for communities in Guatemala — in ways such as these, U-M health care professionals are sharing their knowledge and skills.

In an age when disease can travel as fast and as far as jet airplanes, and cultures merge in the conduct of global business, it is the obligation of any great academic institution to bring its resources to bear on problems and issues outside the strict confines and limits of its campus, city or state. In concert with teaching students to provide medical care in the context of the individual patient — accounting for and accommodating cultural factors such as religion, lifestyle, ethnicity and socioeconomic status — it behooves us to provide students with the opportunity to experience and help improve health care and social conditions in other countries. It behooves us also to march forward in the world — in a culturally sensitive fashion — to share what we have learned and what we can do, to improve lives lived far from our own backyards, and to continually raise standards of care wherever we can.

The education that comes from international experiences is invaluable to our students. The good that is accomplished by these missions — those of students and those of seasoned physicians — is immeasurable. Everyone associated with the U-M Medical School can and should feel great pride in the dedication and heroic efforts of all who are seeking to improve health care and conditions throughout the world.

Sincerely,

Allen S. Lichter  (M.D. 1972)
Dean
HOST

a Student…

… Help Launch a Career!

Remember your search for just the right residency? The travel? The costs?

By providing a welcome place to stay for a fourth-year medical student exploring residency programs in your area, you can help defray significant student costs and stay in touch with a new generation of physicians studying medicine at Michigan.

In the last academic year, 267 alumni volunteered to be part of the U-M Medical School’s HOST (Help Our Students Travel) Program, representing nearly every state in the nation. The program matched 84 percent of student requests with alumni hosts and was a great success in the views of students and hosts alike.

Your participation in this year’s HOST Program can make an important difference in the lives and careers of members of the Class of 2006 as they undertake the same difficult and exciting process and decisions that you once experienced.

To find out how you can become a HOST volunteer and learn more about the program, call or e-mail B.J. Bess, director of alumni relations, at (734) 998-6044 or bjbess@umich.edu, or visit www.medicineatmichigan.org/alumni/host.

Alumni helping alumni keeps the Michigan tradition going strong. Volunteer to HOST today!
LETTERS

Memories of Medicine at Michigan

The articles on genetic counseling in the fall 2004 issue of *Medicine at Michigan* brought memories back to me. In 1946 I applied for a rotating pediatric internship at Michigan largely because of the presence of Dr. Lee R. Dice’s heredity clinic. I had already received my Ph.D. in zoology (genetics). At Ann Arbor I was able to meet with Drs. James V. Neel, Harold F. Falls, and Charles Cotterman, attend meetings with them, and meet visiting dignitaries.

Another feature of my internship at Ann Arbor was my month in Obstetrics, then located in an old mansion adjacent to the main hospital. I was the sole intern and I lived in the small attic room on the third floor. I was there for the month of December, and my only time off the entire month was three hours on Christmas Eve to be with my wife and son! As an intern, I had to do all routine lab work, and did the nighttime deliveries (12). The delivery room was similar to the little circular amphitheaters pictured in old books. Incidentally, I saw the professor of ob/gyn only once that month, since he occupied himself with gynecological work in the main hospital. A memorable experience for me occurred during one of the early evening deliveries with about six medical students in attendance. As the infant’s brow appeared, first one student, then another, fainted and slipped under the rail alongside my stool!

On completion of my internship I entered the Army and was tracked down by Dr. Neel at Fitzsimons Hospital in Denver in August of 1947, and was asked if I would be willing to join him in organizing the genetics program that was to be part of the Atomic Bomb Casualty Commission in Japan. Thus, I was involved in the start of that program in November of 1947. I decided to document my experiences there by keeping a daily diary and taking photographs (about 500). The librarian at the Texas library where records of the ABCC were being filed learned of my diary and asked for permission to copy it and some photographs about five years ago, and I was happy to oblige. I realized that no one else had documented the early start of ABCC as I had, and I am therefore in the process of having my records published by Elan Press.

Ray C. Anderson, M.D., Ph.D. (Residency 1947)
Sun City, Arizona
Raycarls@AOL.com

Anderson (fourth from left) on a matsutake (“pine mushroom”) hunt with friends just east of Hiroshima on October 17, 1948. According to Anderson, these mushrooms are very expensive and highly sought after today.

Anderson (front row, center) and members of his genetics staff on the roof of the Hiroshima Red Cross Hospital on January 10, 1949.
Global Grad

It is wonderful to read in Medicine at Michigan of my colleagues and teachers! I enclose news of a recent, unexpected award that has come my way, presented in Toledo on February 19, between my missions to Mindanao and Sudan (see Class Notes, page 56). I hope it represents a theme carried forward from my “Maize and Blue” days in encouraging medical students toward a global outreach.

I will be returning to Haiti in late spring. Please visit my online journal at http://home.gwu.edu/~gwg. Cheers!

Glenn W. Geelhoed (M.D. 1968)
Derwood, Maryland

In the next Issue of Medicine at Michigan:
- U-M research into the promise and perils of bone marrow transplantation, and its translation to clinical care… the lifelong importance of mentors… health care delivery that crosses cultural and social barriers. Also: nanotargeting of anti-cancer drugs; statins and lower colon cancer risk; and a look back on Michigan’s first pacemaker.

On June 3 in Hill Auditorium, members of the Class of 2005 vowed loyalty to the profession of medicine and to practice their art with honor, embarking upon the next phase of their careers as physicians and medical scientists. They join thousands of other Michigan-trained M.D.s throughout the country as esteemed alumni of the U-M Medical School.

Rear Admiral Susan Blumenthal, M.D., former U.S. assistant surgeon general, delivered the commencement address, ‘The Hippocratic Oath: Ancient Lessons for 21st Century Global Health Challenges,’ prior to the presentation of awards and diplomas. A complete list of faculty and student awards can be seen at www.medicineatmichigan.org/magazine. Residency matches for this year’s graduates can be found on page 48.
“Look at that picture and still remember my excitement, probably because it was similar to what I feel now as I approach my residency. I was honored to have been accepted into medical school, to know that I would one day be a doctor.

“The past four years have been filled with life-changing moments — some subtle, some not so subtle. There was a patient last year who was diagnosed with metastatic brain cancer. He was a wonderfully humorous patient who always kept a positive outlook. He reminded me a lot of my maternal grandfather. One morning I was in his room with my entire team — other students, residents and the attending — explaining about the surgery and radiation he would undergo. I told him that the doctors taking care of him would be excellent, and he looked at me and said, ‘I have only one doctor, and that’s you.’

“I realized then that my dream of becoming a physician was basically realized. I have lots more to learn — in fact, I’m not sure I’ll ever know enough — but that connection, that feeling of having an impact on someone’s life, was what I had strived for.

“The idea of being the responsible party for patients’ lives is somewhat daunting. I remind myself that I’m just moving on to the next phase, one where I have more opportunity to help others, to learn about medicine and to grow into an excellent clinician. I know residency will have its rocky spots, just like medical school, but I also truly believe that the journey will shape me into a ‘great doctor.’”

Interview by Whitley Hill
Photograph by J. Adrian Wylie
Danielle Turner-Lawrence, from the Kalamazoo area, is a member of the Class of 2005 who begins her residency in emergency medicine this fall at the Carolinas Medical Center in Charlotte, North Carolina. Turner-Lawrence appeared on the cover of the spring 2001 issue of Medicine at Michigan just prior to beginning her medical studies, for a story about the Medical School’s admissions process.
Millions of people with the most common type of hearing loss — caused by aging, infections, drugs, diseases or exposure to loud sounds — are one step closer to an effective treatment, thanks to scientists at the University of Michigan Medical School.

In research published in the March 1 issue of Nature Medicine, U-M scientists used gene therapy to grow new auditory hair cells and restore hearing in deafened guinea pigs. This was the first successful restoration of auditory hair cells in an adult animal, and it made international news.

Reporters from around the world sought interviews with Yehoash Raphael, Ph.D., associate professor of otolaryngology at U-M’s Kresge Hearing Research Institute. For the last 11 years, Raphael has been searching for a way to regenerate functioning auditory hair cells.

Unlike hair that grows on our bodies, hair cells are the sensory cells of the auditory and balance organs in the inner ear. They get their name from microscopic hair-like projections that grow from each cell. Certain diseases, drugs and exposure to loud sounds can damage or destroy hair cells. This breaks the connection between sound waves and the brain’s auditory processing center and makes it impossible to hear.

Raphael used a “pro-hair cell gene” called Atoh1, which normally is active only during embryonic development. “Our goal was to find a way to activate Atoh1 in mature non-sensory cells in the inner ear, causing them to develop into new hair cells,” Raphael says.

Masahiko Izumikawa, M.D., a research fellow in Raphael’s laboratory, used an adenoviral vector to deliver the Atoh1 gene to non-sensory cells in the deafened inner ears of adult guinea pigs. The animals were deaf because their original hair cells were destroyed by ototoxic drugs. Eight weeks later, the scientists found new auditory hair cells in the Atoh1-treated ears of the research animals.

To find out whether the guinea pigs’ new hair cells were working, the scientists used auditory brainstem response tests, similar to hearing tests given to people. These tests measure auditory thresholds — the lowest level of sound
intensity that generates a response in the brainstem.

“Four weeks after treatment, the threshold levels indicated profound deafness. But at eight weeks, average thresholds in Atoh1-treated ears were lower (better) at all frequencies than in the control ears. This is the most exciting finding of our study,” says Raphael.

Restoring auditory threshold levels is an important advance, but Raphael cautions that it is not the same as restoring normal hearing. “At this early stage the structural and functional repairs are incomplete, and the hearing of these animals is likely to be distorted,” he says. “For this and other reasons, it will be several years before Atoh1 gene therapy is ready for human testing.”

—SFP

Misfolded Molecules: Key to Diabetes?

University of Michigan scientists may have found a new culprit in diabetes: improperly folded molecules of proinsulin, the precursor molecule for insulin.

Too many misfolded molecules can clog a cell’s internal waste disposal system, putting stress on cells and even killing them. If this happens with proinsulin in the pancreatic beta cells that produce insulin, it could be an important factor leading to the development of diabetes, according to Peter Arvan, M.D., Ph.D., the William K. and Delores S. Brehm Professor of Type 1 Diabetes Research.

Pancreatic beta cells make insulin by folding long molecules of proinsulin into a specific shape, so chemical bonds can form, and then chopping them up to make active insulin. If the folding process is defective, the cells must work extra hard to generate additional insulin needed to regulate the amount of glucose in the bloodstream.

According to Arvan, this continual stress on beta cells could explain why people with diabetes make less insulin and why the cells eventually die. Destruction of pancreatic beta cells is the hallmark of both type 1 (juvenile) and type 2 (adult) diabetes.

In a study published in the Journal of Biological Chemistry, Arvan’s research team found that normal rat and human beta cells produce misfolded, as well as normally folded, proinsulin. But mice with gene mutations that made them prone to diabetes and mice that produced mutant forms of proinsulin had much higher levels of misfolded molecules. Misfolded molecules were much less likely to leave the cell.

“We’ve shown that misfolded forms of proinsulin are made under normal conditions, and in higher abundance under diabetic conditions,” Arvan says. “The next step is to see how they affect cell function.”

—KG

Read an expanded version of the story: www.med.umich.edu/opm/newspage/2005/insulin.htm

For more information on the Brehm Center and U-M diabetes research: www.med.umich.edu/brehm
Simulation Station

WHERE MEDICAL TRAINEES CAN PRACTICE SURGERY AND OTHER PROCEDURES AGAIN AND AGAIN — WHILE DOING NO HARM TO PATIENTS

Hands-on training at the operating table is invaluable, but it presents distinct limitations. Medical students and residents are restricted to the cases that present themselves. Learning through trial-and-error is not an option when a patient's safety is on the line. And minimal opportunity exists for the repetitive practice needed to master surgical and clinical procedures.

That's why the University of Michigan Medical School has created the Clinical Simulation Center. Established last year, the Simulation Center brings together high-tech teaching tools and innovative curricula to deliver realistic, intensive and risk-free training.

For example, the center is home to a full-size mannequin, known as a human patient simulator, equipped with software and sophisticated electrical, mechanical, hydraulic and pneumatic devices which realistically replicate human physiology. He (or she — the patient simulator has interchangeable genitalia) speaks, blinks his eyes, and has a heartbeat. His pupils dilate and constrict to light, his chest rises and falls with each breath, and his pulse can be felt in his neck, wrists, thighs and feet.

Instructors program the patient simulator to present specific symptoms and create medical scenarios for students to respond to. The mannequin can be intubated, ventilated, anesthetized, catheterized and medicated intravenously — and he will mirror human responses to the treatments. His heartbeat can be set to mimic arrhythmia. If he goes into cardiac arrest, students can perform CPR or use a defibrillator. If his lung collapses, they use a needle to reinflate it. A tube can be inserted into his chest to remove gas trapped in the lungs or fluid around the heart.

“We can create any medical scenario we want. Students respond to it, and the system responds to the students’ actions. You can’t get that in real life.”

—Pamela Andreatta

“We can create any medical scenario we want. Students respond to it, and the system responds to the students’ actions. You can’t get that in real life.”

The Simulation Center also has a full-sized female mannequin which simulates childbirth. Called Noelle, this patient simulator replicates a variety of medical situations, since instructors can alter fetal head descent, cervical dilation, placenta location, the speed of delivery, and fetal heart sounds and heart rate.

The center also is equipped with infant and pediatric patient simulators, mock operating/trauma rooms, and procedural simulators which allow doctors-in-training to practice laparoscopic surgery, hysteroscopy, endoscopy and other clinical procedures. Audio-video equipment records simulations from a variety of angles for review and debriefing.

The goal of patient simulation is to provide medical students and residents the opportunity to...
Bexxar: Effective First-Line Treatment for Lymphoma

Bexxar, a cancer therapy developed by scientists at the U-M Comprehensive Cancer Center, is an effective first-line treatment for patients with advanced-stage follicular lymphoma — a cancer previously considered to be incurable — according to a study published in the February 3 issue of the New England Journal of Medicine.

Of 76 patients enrolled in the study, 95 percent responded to the treatment and 75 percent had a complete response, meaning no evidence of cancer remained. More than three-quarters of patients with a complete remission were disease-free after five years.

According to Mark Kaminski, M.D., professor of internal medicine and director of the study, results from a one-week treatment with Bexxar rivaled those of other treatments for follicular lymphoma. Plus, Bexxar treatment took less time and produced fewer side effects. The drug was approved by the U.S. Food and Drug Administration in 2003 for use in patients with follicular lymphoma after other treatments have failed. The new study evaluated Bexxar as a first-line treatment for the disease.

Kaminski and his colleague Richard Wahl, M.D., formerly at the U-M and now at Johns Hopkins University, developed the Bexxar regimen. The University of Michigan holds patents for the Bexxar therapeutic regimen, which is marketed by GlaxoSmithKline under a licensing agreement.

Read an expanded version of this story:
www.med.umich.edu/opm/newspage/2005/bexxar.htm

For patient information about non-Hodgkin's lymphoma:
www.cancer.med.umich.edu/learn/lymphomainfo.htm

—NF

The Clinical Simulation Center is located in the Towsley Center at the U-M Medical School. For more information, call (734) 936-8305 or visit www.med.umich.edu/umcsc.
Help Your Heart, Save Your Brain

Heart attack prevention measures may also help preserve memory for patients with Alzheimer’s and dementia

Medications and lifestyle changes that help prevent a heart attack or stroke could also prevent or slow the memory loss and confusion of dementia, according to U-M researchers. For some people with a condition called mixed dementia, controlling blood pressure and cholesterol could help more than memory-preserving drugs.

Mixed dementia is a combination of Alzheimer’s disease and vascular dementia, caused in part by problems with blood flow in the brain. It may affect as many as 20 percent of the 6.8 million Americans with dementia. Doctors now think that many people with symptoms attributed solely to Alzheimer’s — memory loss, confusion, wandering, trouble following instructions — may have mixed dementia.

“The effects of high blood pressure and high cholesterol damage small blood vessels in the brain and can cause death of brain cells over time,” says Kenneth Langa, M.D., Ph.D. (Residency 1997), an assistant professor of internal medicine and assistant research scientist in the Institute of Gerontology.

“In addition, the Alzheimer’s disease process itself can affect the walls of blood vessels in the brain, making strokes more likely,” Langa says. “Strokes can cause dementia through the death of large areas of brain tissue, or through the build-up of damage from multiple small strokes caused by atherosclerosis in small arteries in the brain or the larger carotid arteries in the neck.”

Langa and the research team reviewed all recent studies on mixed dementia, vascular dementia and Alzheimer’s. They analyzed hundreds of articles, noting any results from drug studies that were relevant to mixed dementia. The researchers concluded that efforts to treat cardiovascular risk factors, especially high blood pressure, may be more effective than memory drugs in protecting brain function.

—KG

Medical School Again in the Top 10

U.S. News and World Report’s annual survey of graduate schools ranks the U-M Medical School among the top 10 research-oriented medical schools in the nation for the fifth consecutive year. This year, the school took ninth place.

The school also ranked in six of eight medical specialties: family medicine (fourth), geriatrics (sixth), women’s health (seventh), internal medicine (eighth), drug/alcohol abuse (14th) and pediatrics (18th).

Read an expanded version of the story: www.med.umich.edu/opm/newspage/2004/mixeddementia.htm

For patient information on Alzheimer’s disease and dementia: www.med.umich.edu/1libr/aha/aha_alzhdis_crs.htm
If just thinking about exercise makes you tired, perhaps you have something in common with Steven Britton’s rats. They have been selected and bred over 11 generations to concentrate genetic differences related to innate aerobic exercise capacity. As a result, the rats differ substantially in their ability to use oxygen efficiently and generate the energy it takes to run for long periods of time.

For example, the high-exercise-capacity rats in generation 11 can run continuously on a treadmill for 42 minutes on average before exhaustion forces them to stop, while low-capacity “couch potato” rats give up after only 14 minutes.

In a study, published in the January 21 issue of *Science*, Steven Britton, Ph.D., and Lauren Gerard Koch, Ph.D. — professor and assistant professor, respectively, of physical medicine and rehabilitation in the U-M Medical School — reported that low-capacity rats had more cardiovascular disease risk factors, including high blood pressure and vascular problems, than rats bred for high exercise capacity.

Scientists from the Norwegian University of Science and Technology, the Medical College of Ohio and Williams College, who collaborated in the study, found a close association between low aerobic exercise capacity and high scores for risk factors linked to metabolic syndrome — physical changes, like insulin-resistance and more abdominal fat, often seen in people who later develop cardiovascular disease and diabetes.

“Essentially we are breeding for genes that code for low levels of proteins involved in mitochondrial function,” Britton says. “We think impaired mitochondrial function may be the link between low aerobic capacity and disease.”

Studies with thousands of people have found low aerobic exercise capacity to be the strongest predictor of mortality among all risk factors for cardiovascular disease, Britton adds. So increasing exercise capacity is important for anyone who wants to reduce their risk of dying from a heart attack or stroke.

“You may have to work harder, and you’ll never reach the level of a professional athlete, but almost everyone can improve their aerobic capacity and health status with regular exercise,” Britton says.

—SFP

For an expanded version of this story: www.med.umich.edu/opm/newspage/2005/borntorun.htm
U-M Health System Designated as a National Neuropathy Center

The U-M Health System has been designated by the Neuropathy Association — a public, charitable, nonprofit organization established in 1995 — as one of four neuropathy centers in the United States. Neuropathy is a painful nerve disorder affecting up to 20 million Americans. Its tingling, numbness and pain in the hands and feet affects half of all patients with diabetes, as well as people with other conditions that cause nerve inflammation and damage.

As a national center, the U-M will receive funding to coordinate the care and support of neuropathy patients, educate doctors about the best diagnostic and treatment options, raise public awareness and pursue research on neuropathy. The center will bring together many of the neuropathy-related research and clinical efforts already underway at Michigan. “We look forward to offering patients more coordinated diagnosis and care, and access to clinical trials of promising treatments,” says Eva Feldman (Ph.D. 1979, M.D. 1983) the Russell N. DeJong Professor of Neurology, who will direct the center.

—KG

For patient information about neuropathy: www.med.umich.edu/1libr/aha/aha_perineur_crs.htm

For more information on the Neuropathy Association: www.neuropathy.org

Women Wait Longer for Angioplasty

After a heart attack, time is vital. An emergency angioplasty to re-open clogged blood vessels and restore blood flow to heart muscle can reduce the risk of death by 50 percent, but only if it’s performed within 90 minutes of the patient’s arrival in the emergency room.

Unfortunately for women, they receive this life-saving procedure an average of 13 minutes later than men, according to a study of 1,511 Michigan heart attack patients conducted by Mauro Moscucci, M.D., associate professor of internal medicine in the U-M Cardiovascular Center. Add the extra 20 minutes that it took for the average woman to reach the ER, and the result is an additional 33 minutes of wasted time and damaged heart muscle, compared to male patients.

The reasons for these gender differences in emergency treatment aren’t clear, but may be related to the fact that women are less likely to have the “typical” symptoms of heart attack, such as crushing chest pain and left arm pain. Also, women may be more likely to attribute their symptoms to something other than a heart attack, because they don’t realize their own risk for a heart attack.

“Heart attacks happen to women, as well as men,” Moscucci says. “Both men and women must recognize and react to symptoms as quickly as possible. Emergency medical professionals must work harder to ensure that women receive the same immediate diagnosis and treatment as men.”

The study is part of the Blue Cross Blue Shield of Michigan Cardiovascular Consortium, a multi-hospital initiative to study and improve angioplasty care.

—KG

Read an expanded version of this story: www.med.umich.edu/opm/newspage/2004/womenheart.htm

For patient information on heart attack in women: www.med.umich.edu/1libr/wha/wha_svmyoinf_car.htm
Individuals with severe clinical depression who died while they were depressed had lower levels of molecules called fibroblast growth factors, and associated receptors, in their brains than people without the disease, or those with the bipolar form of depression, according to a study by U-M researchers.

Since fibroblast growth factors have never been associated with psychiatric illness before, the discovery suggests a whole new direction for understanding depression and developing new depression treatments. It may even help scientists understand how some antidepressant medications work in the brain to ease symptoms, and why there is wide variation in how depressed people respond to different antidepressants.

The results of the study were published in the Proceedings of the National Academy of Sciences by researchers from the Pritzker Neuropsychiatric Disorders Research Consortium. The research team consisted of scientists from the University of Michigan Molecular & Behavioral Neuroscience Institute, formerly known as the Mental Health Research Institute, and researchers from the University of California and Stanford University.

“This finding comes from an unbiased search to find which genes best differentiate major depression brains from normal and bipolar brains,” says senior author Huda Akil, Ph.D., the Gardner C. Quarton Distinguished Professor of Neurosciences in Psychiatry. “The family of genes that was most different and showed the highest significance as a coherent group was the fibroblast growth factor family.”

Fibroblast growth factors stimulate cell growth in many areas of the body and are involved in the growth of multiple tissues at various stages of life. They have potent effects during embryonic, fetal and child development, and can modify the size and structure of particular brain regions. They are also involved in the repair of adult tissues after injury and may mediate the cross-talk between different cell types in the brain.

As a result, they can be seen as mediators of a property that neuroscientists call “neural plasticity” — the ability of the brain to adapt to stress, experience, disease and the effects of drugs.

“We can’t say whether these growth factor gene expression changes are a predisposing factor for depression or a consequence of the disease process itself,” says Simon Evans, Ph.D., U-M research investigator. “There may be people out there with compromised fibroblast growth factor systems, but if they don’t experience stressful life events they may never develop major depression. We need to study the system further to unravel the answer to this question.”

—KG

For an expanded version of the story: www.med.umich.edu/opm/newspage/2004/depressedbrains.htm

For patient information about depression: www.med.umich.edu/depression
Once regarded as just another nutrient, vitamin D is vital for good health and holds promise for the treatment of disease.

Everyone knows that vitamin D builds strong bones by helping the body absorb calcium. But new research indicates that it’s essential for nearly every other part of the body, too.

Vitamin D deficiency is now recognized as a significant problem in developed countries like the United States. Clinical studies have found intriguing associations between low levels of vitamin D and diseases like diabetes, cancer, depression, hypertension, osteoporosis, muscle disorders, multiple sclerosis, arthritis and heart disease. These associations have made this essential nutrient the subject of many basic science research studies.

“People used to think vitamin D was just one in a long list of nutrients in your morning multivitamin pill, but now we know how important it is, and how much promise it holds for developing future therapeutic drugs,” says Robert Simpson, Ph.D., a professor of pharmacology in the Medical School.

Simpson has spent 25 years studying the secrets of vitamin D, and he says it’s gratifying to see it finally getting the respect it deserves from the scientific community.

“Vitamin D isn’t really a vitamin at all,” Simpson says. “It’s a substance the body converts into a hormone called 1,25 dihydroxyvitamin D or calcitriol. The process begins with sunlight. When ultraviolet light from the sun hits your skin, it reacts with a steroid molecule in skin cells to create vitamin D. It’s transferred from the skin to your liver and kidneys where it is metabolized into calcitriol, the activated form of the vitamin.”

Simpson was the first scientist to identify the docking site, or receptor, calcitriol uses to affect heart muscle cells called cardiomyocytes. He and other scientists have found the same receptor on many other types of cells. When calcitriol binds to the vitamin D receptor, it sends a signal to the cell’s nucleus telling it...
to turn on, or turn off, certain genes. This makes calcitriol one powerful hormone, because it can alter gene activity in most cells and affect the function of many organs in the body.

Simpson believes that the ability of our cells to respond to vitamin D’s signal developed early in human evolution as a sort of internal “wake-up call” triggered by exposure to sunlight. After all, our ancestors didn’t just hang around the cave all day. They were outside hunting and gathering food, in a dangerous environment where survival could depend on every organ in the body operating at peak performance.

In 2004, Simpson received a $1.2 million grant from the National Institutes of Health to study the relationship between the vitamin D hormone and a condition called cardiac hypertrophy, or progressive heart failure, which affects nearly 5 million Americans.

Heart failure can develop when damage from a heart attack or chronic high blood pressure makes the heart work harder than it should for long periods of time. As a result, the heart gets larger, and its cells don’t contract and relax together. This makes the heart less efficient at pumping blood. Over time, cardiac muscle dies, scar tissue forms and the heart gets weaker. Although drugs can help slow the process, doctors currently have no way to stop the heart’s gradual deterioration.

“In our laboratory, we study rats and mice that either can’t make enough vitamin D hormone or lack the vitamin D receptor,” Simpson says. “These animals have abnormally large hearts and cardiac muscle cells, similar to what physicians see in people with heart failure. We think that a lack of vitamin D hormone leads to defects in the heart’s extra-cellular matrix resulting in inefficient contractions.”

In studies conducted by other researchers, patients with heart failure were found to have vitamin D levels as much as 50 percent lower than similar patients without the disease.

Ultimately, Simpson hopes his research will lead to new drugs for heart failure. He’s trying to identify genes that are active in cardiomyocytes and figure out how they are regulated by the vitamin D hormone. He’s also looking for slight genetic differences in the human gene for the vitamin D receptor to see if these differences are more common in people diagnosed with heart failure.

Because it is so vital for good health, Simpson says it’s important to make sure you get enough vitamin D. The federal government recommends adults get 400 international units of vitamin D every day. The recommended amount for adults over age 55 is 800 international units. Since only a few foods — like fortified milk, egg yolks and salmon — contain vitamin D, Simpson says it’s difficult to get an adequate supply through diet alone.

“Sunlight is the best source,” he says. “Fifteen minutes of direct exposure without sunscreen several times a week is enough to allow your skin to produce the recommended dose.”

Of course, if you are at high risk for skin cancer, you need to check with your doctor and weigh the risks and benefits of sun exposure carefully. Born and raised in sunny southern California, Simpson includes himself in this category. “I’ve had several pre-cancerous lesions removed from my face,” he says. “So I follow my dermatologist’s recommendation and use sun-blockers. But I also take vitamin D supplements every day.”

If you have dark skin, live in a northern climate where it’s cloudy much of the winter, have a history of skin cancer, or spend more time indoors than outside, taking daily vitamin D supplements can help, according to Simpson. “But too much can be toxic,” he warns. “So don’t take more than the recommended dose without consulting your physician.”

—SFP

For more information on sources and recommended amounts of vitamin D: http://ods.od.nih.gov/factsheets/vitaminD.asp
Caring for the Whole Patient
U-M’s PsychOncology Program Addresses the Psychological and Social Aspects of Being a Patient with Cancer

Bill Howe calls them his “dark times,” the days when concerns about his cancer diagnosis and treatment overshadowed everything positive and pleasant in life.

On days like those, “you’re vulnerable to your worst thoughts,” says Howe, 58, who was diagnosed with aggressive prostate cancer four years ago. “You worry about how you’re going to arrange treatments, pay for treatments, deal with the insurance company, support your family. At its worst, it’s like trying to draw a map of an underground cave without a light. You’re kind of lost.”

Howe found his way to brighter days with help from the U-M Comprehensive Cancer Center’s PsychOncology Program, headed by Michelle Riba, M.D., a clinical professor of psychiatry in the Medical School and current president of the American Psychiatric Association. With a staff that includes psychiatrists, psychologists, social workers, child and family life therapists, nurses, physician assistants, art therapists and complementary therapy professionals, the program is committed to helping patients — and their families — deal with the social and psychological effects of cancer, cancer treatment and cancer survivorship.

“People think of the cancer diagnosis as the most stressful event, but there are, unfortunately, many other situations and reasons for patients and families to become distressed during the course of cancer treatment and afterward,” says Riba. “A new MRI scan, the results of various tests, three-month or six-month checkups all become additional stresses.” Certain treatments can even affect mental functioning, and the effects can be devastating, as Howe discovered.

“You start to lose your ability to multitask, your mental sharpness, your energy,” he says. “You’re at the top of your game, in your most productive years, and all of a sudden you can’t do it any more. Your confidence is smashed, and you think, what is going on with me?”

PsychOncology, says Riba, looks at this whole range of mental and emotional issues related to cancer, in the context of the patient’s life before, during and after diagnosis and treatment. And with a new PsychOncology Clinic located in the Cancer Center, patients can get quicker, more convenient access to mental health professionals, often the same day as their oncology appointment.

Helping clinicians to know when patients need emotional support is another part of PsychOncology’s mission. “We would love to see all patients and families evaluated for distress at the very beginning of their care and then on a regular basis,” says Riba. With that goal in mind, she helped develop the National Comprehensive Cancer Network’s guidelines on psychological distress, which include screening tools and answers to such questions as, “How do you know when distress is normal — or more serious?”
Sometimes, without meaning to, physicians add to patients' distress, so another aim of the PsychOncology Program is to educate doctors about avoiding that. For example, Riba recently lectured hematology-oncology fellows on how to break bad news.

Hearing that doctors are getting that sort of training is good news to Howe, who'll never forget the way one physician — not from the U-M — delivered the news that his cancer was worse than the doctor had initially thought.

“He called me on the phone and, in about a five-minute conversation, said I’d have to come in and get radiation. It was so matter-of-fact — like a conversation in the Meijer checkout lane.”

His experience at the U-M, on the other hand, has been far more empathic, Howe says, and he credits Riba and the PsychOncology Program for much of that difference. “When you have someone to talk to who deals with cancer patients every day and who understands the cancer patient’s perspective,” he says, “you know they understand what you’re telling them — your thought processes, your anger, your resentment. Having someone tell you that the thoughts you’re having are normal is such a relief.

“If you are a cancer patient and ask yourself ‘Should I reach out to someone?’ ... you probably have your answer.”

—NR-F

# Second Opinions Help Radiologists

## COMPUTER-AIDED DIAGNOSIS IMPROVES CANCER DETECTION RATES

Not all lumps, nodules and masses are cancer. To determine whether a lump is malignant or benign, radiologists study its texture, border and shape when they review the CT scan. Researchers at the U-M Comprehensive Cancer Center are developing computer-aided diagnosis methods to make that assessment easier.

“Our system is designed to help the radiologist,” says Lubomir Hadjiyski, Ph.D., a research assistant professor of radiology in the Medical School. “From our experiences in evaluating computer-aided diagnosis for breast cancer, we know that radiologists with computers are able to detect more cancers than radiologists by themselves. We expect that computer-aided diagnosis for lung cancer will produce similar results.”

In Hadjiyski’s diagnostic system, current and previous scans are fed through a computer program designed by U-M researchers to evaluate the size, texture, density and change of nodules over time. The computer analyzes the images with computer-vision techniques specifically designed for a given type of cancer or disease. Based on all the information, the computer determines how likely it is that the nodule is cancerous.

At the same time, the radiologist examines the images and evaluates the likelihood of cancer. The radiologist then compares the two results and makes a final decision.

“The radiologist is not perfect and the computer is not perfect, but working together they detect more cancers,” Hadjiyski says.

Hadjiyski’s computer-aided diagnosis programs for lung and breast cancer need Food and Drug Administration approval before they can be offered clinically.

—NF

Read an expanded version of the story at: www.med.umich.edu/opm/newspage/2004/computer.htm

For patient information about lung cancer: www.cancer.med.umich.edu/learn/lung.htm
In the last four years, University of Michigan medical students have opened clinics in the Dominican Republic, performed surgery in Honduras, worked with HIV/AIDS victims in Thailand and Ghana, and immersed themselves in the Cuban health care system. They’ve also led teams overseas that have included undergraduates, students in engineering, public health, and social work, as well as physicians and faculty members, in an attempt to address the cultural and societal issues that have an impact on health care.

Why are they so involved in international experiences? Because they believe it will make them better physicians, and the world a better place.

This is no mere starry-eyed notion. The burgeoning number of U-M Medical School students who have organized and participated in overseas projects universally describe those experiences as transformative, and the school itself is recognizing and supporting their efforts through the Student Alliance for Global REACH, launched last fall as the institutional response to a growing and increasingly visible trend. Call it the “trickle up” effect.

Global REACH (Research, Education and Collaboration in Health) is itself a four-year-old Medical School initiative that focuses on increasing educational exchanges among students and faculty, facilitating international research collaborations, conducting its own international research, and providing opportunities for visiting scholars to benefit from Michigan expertise.
Pictured above: Seth Blumberg, Priya Saigal and Tammy Chang. Photos: Martin Vloet
In 2004, Global REACH and the growing cadre of internationally active first- and second-year medical students found each other — and there’s been no looking back since.

Students were looking for a way to expand international health opportunities, while at the same time avoiding “reinventing the wheel” with each new academic year and new entering cohort of students. And Global REACH was well-positioned to help students work within the parameters of the institution to facilitate such things as fund raising, identifying opportunities, lunchtime lectures, and evening symposia. Hence, the Student Alliance for Global REACH was born.

With an appointed executive board, regular meetings, and an official liaison with the Global REACH office, the Student Alliance has created a framework that students hope will sustain and facilitate international activities over time.

Priya Saigal, a second-year student from South Barrington, Illinois, and one of the students who was instrumental in the early days of the Student Alliance, says they were excited at the prospect of combining forces with a formal organization that was already in place. “We realized that we had a chance to form a sustained effort, rather than year-by-year.”

“It was a wonderful confluence of events,” says Cheryl Moyer, research director and senior research associate at Global REACH. “Just as student interest was taking off, we were in a position to be of help. And that’s very gratifying.”

When it came to extending the program’s reach to facilitating such student sojourns, David Stern, M.D., Ph.D., director of Global REACH and an associate professor in the departments of Internal Medicine and Medical Education, was an easy sell. He had seen the explosion for himself.

“There’s an overwhelming interest on the part of our medical students — and, more and more, also our residents — to engage in international work,” Stern says. “Three years ago I gave a lecture to
medical students about how to do international work, and 20 or 30 people showed up. The last time we had a luncheon seminar on international opportunities, 120 people came. The medical students see global health as a leading issue in their lifetime as physicians.”

“I’m guessing that over half of our first-year medical students, at the end of this summer, will have had some international experience,” says Moyer. “The difference between three years ago and today is stunning.”

The students themselves laid the foundation, not only by envisioning and organizing their trips, but also by funding them through bake sales, shoveling driveways, finding sponsors and, often, dipping into their own resources.

“This was all outside their regular first- and second-year curriculum,” says Moyer. “This was on their lunch hour. The energy level was incredible, but there was no formal link with the administration.

“Now we’re helping students work within the system for maximum benefit,” she says. “We do as much as we can to support them financially and logistically, understanding there may never be enough money to support all of their activities.

“We put so much work into the trips that was just getting lost and having to be renewed and recycled every year,” says Sarah Battistich, a second-year student from Tracy, California. “Now with the central office, a lot of groundwork has been laid that people can build on.”

That groundwork is the result of the work of countless students, including many who may never directly benefit from the framework they helped establish. Battistich, Saigal and Seth Blumberg, who is in the Medical Scientist Training Program and will soon finish his Ph.D. in biophysics before returning to medical school, are prime examples. Unlike Saigal and Battistich, Blumberg hasn’t taken part in an overseas medical mission, but his motives and passion for the work fit the profile.

As an engineering and applied science major at the California Institute of Technology, he began to seriously consider medicine as a career only after he had to take a year off for cancer treatment. But, as with many of his colleagues in what could fairly be described as a movement, Blumberg was thinking more globally than locally. “As a cancer patient, I discovered I was on the receiving end of a lot of community service efforts,” he says. “I was really blown away by the generosity of the community, and very appreciative too. I saw first-hand how community efforts can help people deal with various challenges and setbacks, so I was eager to take that lesson and do something positive. The purpose rather than the process became more important for me.”

As an undergraduate, he worked on a Navajo reservation in New Mexico. In his first year as a doctoral student, he tutored at-risk youth and worked with drug addicts in Philadelphia’s inner city. As a first-year medical student, he traveled with a group of other students to help out in a foster care program in St. Louis.

And, as a visitor to his parents’ native South Africa, he had also seen the international dimension of unmet needs. “Those visits left quite an imprint on me in terms of seeing the large scale of poverty,” he says. “Visiting the Soweto Township in Johannesburg and seeing a disparity of living conditions that was astronomical — then comparing that to how we live in the United States.

“All those experiences gave me a sense of the degree of inequality in access to all sorts of necessities, including housing and food as well as health care,” says Blumberg, “and made me want to do what I could to help balance the field a little bit.” For now, he’s trying to balance the field on the home front, working

“I saw first-hand how community efforts can help people deal with various challenges and setbacks, so I was eager to take that lesson and do something positive.”

—MSTP student Seth Blumberg
with Global REACH program director Kate Durand and fellow students David Lessens and Jason Cheng on ways to redistribute unused medical supplies to the places and people who need them.

“We want to partner with World Medical Relief, a nonprofit based in Detroit that picks up supplies and sends them to various international groups,” Blumberg says. “Then we want to work with faculty and staff to increase awareness of what kind of supplies can be used, and hopefully encourage better conservation and increase our ability to help international projects. Another element is to set up a way for Michigan groups, either students or faculty who are doing medical missions, to get access to supplies they need to support their trips.” Blumberg says future goals of the Student Alliance also include alumni involvement, increasing collaboration between students and faculty, and community outreach programs.

One of the students who was instrumental in building the global bandwagon is Tammy Chang, of Flint, who is now in her third year of medical school, after taking a year off to pursue a master’s in public health. She was a principal organizer of student trips to Cuba in 2003 and 2004 as well as one this spring to the Dominican Republic, and was the founder of Health in Action, a campus-wide, student-run organization that is now under the umbrella of the Student Alliance for Global REACH.

“When I entered medicine, I wasn’t really in the mind-set of becoming a researcher or someone who would focus specifically on one topic,” she says. “The very soul of why I went to medical school was that I felt passionate about using all the things I learned to help as many people as possible. In medical school, they train you very well to take care of each individual patient, but I felt the need to do more than that. We need people who are excited about basic science and the treatment of each patient individually but, for me, what would use my skills the best is to work on the level of population and community.”

That requires teamwork, a leitmotif of international ventures.

“It’s all about doctors working with politicians, economists, public health people, engineers and local community leaders; that’s how changes happen,” Chang says. “Doctors aren’t used to working on teams. Throughout their entire training, they have to depend on themselves, and I think that really holds us back in what we can do as a profession.”

Chang is decidedly not one to be held back, and Health in Action’s roster of students in engineering, social work and public health, in addition to medicine, shows that she follows her own advice.

“We have a long-term collaboration with Manos A Tiempo (Hands on Time), a nonprofit in the Dominican Republic with the objective of helping developing areas there help themselves and make themselves sustainable,” she says. Making a community “a healthy place for kids to grow up” entails a long-term commitment to long-term solutions.

“A lot of medical missions are there for only one week. What can you really do in one week?” asks Chang. “Cure everyone? Make the illiterate literate? Some people think we’re naive, going on a little vacation and patting ourselves on the back. That is absolutely not the case.

“Our purpose for the trip to Cuba is not to necessarily heal or cure,” says Battistich. “We go more as learners and partners in collaboration. Although we work very hard obtaining donations of drugs and medical supplies, our intent is not to be saviors or healers. This is a critical difference between many ‘med-
"I believe that even if they practice the rest of their lives in Ann Arbor, these students will practice better medicine because of the time they’ve been away on these missions."

—David Stern, director of Global REACH

See more photos at www.medicineatmichigan.org/magazine.

Left: Sarah Battistich, Priya Saigal (front row, second and fifth from left) and other members of Global REACH gather around the supplies they’ve brought to donate to a pediatric hospital in Havana, Cuba.

Below, left: Two girls in the Dominican Republic take a recess break following a literacy program led by Tammy Chang and the Global REACH team. Chang says, “These girls were inseparable. They were about to show us their dance routine to a current pop song.”

Below, center: Sarah Battistich administers a steroid shot to a patient suffering from a swollen wrist that prevented him from working. Global REACH students often provide care in makeshift clinics during their travels; this one is located inside a school house in the Dominican Republic.

Below, right: Ann Poznanski shares a gift — a set of Lisa Frank colored pencils — with some new friends at a clinic in Guatemala.

“Humility isn’t all they learn, and the lessons seem important enough to warrant the occasional shuffling of class and exam schedules that the trips necessitate. Says Moyer: “Having fewer resources and making do with what you have forces a degree of thinking on your feet, which is not as much of an issue here where you have all the tests, treatments and supplies you could ever need. One resident talked of being in a tent in Honduras and needing a Foley Catheter and using an empty IV bag instead — which worked perfectly. Such resourcefulness is a valuable lesson for students.”

Derek Richardson, a second-year student from Ann Arbor and a member of the Student Alliance board, spent last summer in Ghana working on an HIV therapy study led by Tim Johnson, M.D. (Residency 1979), chair of Obstetrics and Gynecology. “There’s a lot to be learned from Ghana and other developing countries that have working health care systems without spending as much as we do,” he says. “Expensive treatments are good but they need to be carefully measured. All the doctors in Ghana are very aware of how much money the hospital has, and they have more of a public-health approach to medicine.

“There’s a lot of talk of universal health care here,” Richardson says, “but if America is going to cover 45 million uninsured people, there will need to be some steps up in cost management.”
Will a Pacific Islander develop a more effective cholera vaccine? Will a Caribbean learn how to regulate immune responses to dengue? Will an Eastern European discover a better tuberculosis drug?

Will an African cure AIDS?

Programs like the Michigan Infectious Disease International Scholars (MIDIS) could help answer those questions. The program provides basic biomedical research training to students from disease-endemic nations — students whose personal convictions and experiences make them unusually dedicated to the war on infectious disease.

The MIDIS program, headed by Alice Telesnitsky, Ph.D., associate professor of microbiology and immunology, has hosted researchers from all over the world. Clement Ndongmo, for example, was born in Cameroon and graduated from the University of Yaounde in biological science, then embarked on a career as a medical laboratory scientist investigating HIV/AIDS. After graduate work at the University of Oslo in Norway and a fellowship at the Centers for Disease Control, Ndongmo came to the U-M as part of the international scholars program. “I joined the Telesnitsky lab to study how these recombinant viruses are generated in single cycle as well as spreading infection recombination assays,” Ndongmo says. “I’m particularly interested in non-homologous recombination by transduction of cellular genes.

“The people in the lab are friendly and interactive, creating an environment very conducive to good, productive science,” he says. “The opportunity to work at Michigan is extremely rewarding.”

—WH

For more information on MIDIS, visit www.umich.edu/~midis.
“What is important is to establish persevering connections that empower local resources and communities as well as utilize the resources we have to offer. In the end, it is only these types of enduring relationships that will garner real change in the world.”

—medical student Sarah Battistich

whether it predates or results from their times away, students with international interests put the practice of medicine in the context of communal ends, perceiving it as a player rather than a panacea.

“Medicine is definitely one small piece among economics, public health and social work,” says Richardson, whose team in Ghana included both undergraduates and a public health student. “It’s good training even for our careers in America,” he says. “There needs to be a lot more communication among all these different fields. It’s a whole new perspective on how to confront a lot of issues that are going to happen in America soon.”

Saigal’s self-designed undergraduate major at Duke was in public health and international development, and she also taught a course there on “the integration of public health and medicine, where they have their boundaries and turf wars as well as where they can collaborate,” she says. “The U.S. spends more per capita than any other nation in the world on health care. One of the biggest reasons why, I feel, is that there aren’t enough physicians that are involved in social change and health policy.”

David Higgs, a first-year medical student from San Diego, will be in Santiago, Chile, this summer to work on an iron deficiency project. (See “Painstaking Research Reveals Long-Term Impact on Infant Iron Deficiency,” Medicine at Michigan, Winter 2001.) He says he chose Michigan in part because of its School of Public Health, where he plans to earn a master’s in nutrition.

“International opportunities create an awareness and appreciation not only of cultural differences, but also of the importance of public health in medicine,” Higgs says. “I think a lot of medical students are more interested in public health than they think. Until I applied to medical school, I thought a degree in public health was only used in hospital administration. Students on any one of these foreign trips bring home an understanding of how broad and critical the field really is, and with it a stronger desire to help. In my opinion, this realization is otherwise very difficult to come by. For this reason, ideally I’d like to see some form of international experience eventually become a mandatory part of the curriculum.”

The vast majority of overseas trip participants are first- and second-year students. As Blumberg notes, “Once they become third-years, they’re totally overwhelmed with clinical responsibilities.” But for fourth-year students, Global REACH awarded 34 $1,000 scholarships this year for international clinical rotations, up from 10 a year ago.

“It may only pay for the airfare,” says Stern, “but the idea behind it is that these experiences help students understand what it means to be a doctor. When they see the way health care is practiced in other countries, especially if they go to developing or Third World nations, they get a greater appreciation for the responsibilities of the physician and the impact medicine can have in the lives of people.

“Michigan as a university has always been outward thinking,” Stern adds. “The Peace Corps started on the steps of the Michigan Union. Global REACH shows that the Medical School and the Health System are awakening to the realization that, whether we’ve known it or not, we’re a global player, and that we have potential resources and opportunities internationally. Other schools within the university have been out there engaging in global action and cooperation for years. It’s time for us to step up to the plate and be a part of that.”

“One of the most incredible parts of having international medical experience is realizing how resourceful people can be with very little,” says Ann Poznanski, a first-year student originally from Birmingham, Michigan. Poznanski was an associate professor of histology, embryology and anatomy at a medical college in Arizona when she was inspired to become a physician after taking part in a series of medical missions to Guatemala, first as a translator and then as co-director of the program.

“International health experiences are going to make us more conscious of being able to use the resources that we have and maybe fine-tune our clinical skills in a way that’s less reliant on technology,” Poznanski says. “It’s sort of a temptation to want to use the toys, and they are very cool toys, but physicians need to be educated about how to be more resourceful and cost-conscious.”

In an ever-shrinking world, where people — and diseases — travel as fast as jets can carry them, familiarity with other cultures is increasingly invaluable. “We can’t make a clear-cut distinction between cultures anymore,” says Saigal. “There’s a lot of world travel, there’s a lot of exchange of ideas, beliefs, practices. The U.S. is probably the world’s largest melting pot in terms of variety of cultures, and I think in order to provide the best care for our patients in the U.S., it’s very important to understand some of the cultural intricacies. And I believe the best time to develop these skills is during the medical training process.”

Says Stern: “Some of these students will continue to do international work, but I believe that even if they practice the rest of their lives in Ann Arbor, they will practice better medicine because of the time they’ve been away on these missions.”
Hubert Arthur Eaton earned his medical degree from the University of Michigan in 1942, at a time when very few African-Americans were being admitted to medical schools, much less graduating from them. And although Eaton went on to become a highly respected physician and a courageous warrior in an unending battle against racial discrimination in his home town of Wilmington, North Carolina, the ties of this social pioneer to the University of Michigan have been largely forgotten.

When Eaton is remembered, it’s usually in connection with his tutelage of Althea Gibson, a remarkably gifted athlete who became the first African-American to play her way into the rigidly segregated world of women’s professional tennis. Gibson, who died in 2003 at the age of 76, won two singles titles at Wimbledon and added two more U.S. Open championships in the 1950s before shattering another color barrier by becoming the first black person to compete on the women’s professional golf tour.

Eaton, an accomplished tennis player himself, brought Gibson to Wilmington in 1946 and helped perfect her game on the court he had built next to his home. He also convinced the somewhat rebellious teenager from New York City to continue her education by graduating from high school. Three years later the former high school drop-out was admitted to Florida A&M College in Tallahassee as a scholarship athlete in basketball and tennis. In her autobiography, I Always Wanted to be Somebody, Gibson credited Eaton with helping her “cultivate the grace and dignity (she) needed to succeed both on and off the court.”

Hubert Eaton, Althea Gibson and Hubert Eaton Jr.

"Back at the office, I got out of my car a different Hubert Eaton."

Eaton, whose father and father-in-law were also physicians, left Ann Arbor in June 1942 as a newly degreeed doctor determined to bring the highest standards of medical care to his patients. In returning to North Carolina, Eaton was painfully acquainted with the pervasive and oppressive Jim Crow laws that divided the races, but he saw himself as a healer and not a social engineer.

That changed dramatically in 1947, when Eaton was summoned to the New Hanover County Court House in Wilmington to testify regarding a patient involved in an insurance liability case (see “Healing a Nation,” Medicine at Michigan, Summer 2000). As he took the witness stand, the bailiff asked him to swear the customary oath on a Bible — a battered Bible that was wrapped
with a strip of dirty adhesive tape and labeled “Colored.”

“I was stunned,” he recalled in his memoirs. “My eyes fogged, my ears hummed and a quiver ran down my spine. I almost gasped.”

As Eaton left the courtroom, he couldn’t erase the image of that grimy Bible from his mind. “The charge built up in me by years of racial prejudice had finally exploded,” he wrote. “That my children should grow up in a community that required them to swear in court on a segregated Bible was unconscionable.

“I'm going to have to do something to change some of the things I have seen in this town if I'm going to live in it,” I said to myself. How I would accomplish this was not yet clear to me but I knew I must try. There were measly black schools, segregated hospitals, segregated tennis courts, all-white government, segregated libraries, and segregated Bibles.

Back at the office, I got out of my car a different Hubert Eaton.”

The new Hubert Eaton became a tireless figure in the struggle for civil rights and the fight to end racial discrimination in his community. He fought to eliminate segregation in a hospital where black patients were housed in a separate wing—victimized by inadequate care and substandard toilet facilities. He went toe-to-toe with the local board of education when it refused to honor the order of the U.S. Supreme Court and desegregate a school system that relegated black and white students to separate and decidedly unequal facilities.

He stood his ground against sheriff’s deputies who were members of the Ku Klux Klan, then survived a trumped-up murder charge and a politically motivated income tax audit. Eaton even learned to play golf so he could help desegregate a local course, and he persisted in a legal showdown with the local YMCA, which had refused to desegregate its facilities until the national organization threatened to revoke its charter. As Eaton recalled in his 1984 autobiography Every Man Should Try, “The examples of discrimination seemed endless.”

And so did Eaton’s protracted battles against injustice. But his dogged persistence and unshakable faith in the legal process eventually paid off. New Hanover County schools were forced to desegregate and comply with the Brown vs. Board of Education decision. Eaton’s efforts also gained staff privileges for black physicians at James Walker Memorial after an eight-year tug of war in the courts that ended in 1964. The case attracted national attention by articulating the principle that hospitals using public funds cannot discriminate on the basis of race—a precept that became a key element in the federal Civil Rights Act of 1964.

“Dr. Eaton was an affronted and determined man. But he didn’t shout. He murmured. He didn’t go into the streets. He went into the courts. He persistently prodded Wilmington toward doing what was right. He helped make that inevitable transition peaceful and civil.”

The title of Eaton’s autobiography, Every Man Should Try, was inspired by Jacqueline Kennedy’s remarks about her assassinated husband at the John F. Kennedy Library exhibit: “John Kennedy believed so strongly that one’s aim should not just be the most comfortable life possible—but that we should all do something to right the wrongs we see. ... He believed that one man can make a difference—and that every man should try.”

—JB
U-M physicians and nurses take Michigan medicine to developing countries — and in the process remember why they practice medicine in the first place
In 1964, Susan Thoms, M.D., then a high school student at the Liggett School in Detroit, attended an event she’s never forgotten: the screening of a documentary film about the hospital ship Hope that sailed to underprivileged countries to deliver medical care to those in need. “It’s still vivid in my mind,” says Thoms, clinical assistant professor in the Medical School’s Department of Ophthalmology and Visual Sciences. “I thought, ‘I want to do that someday.’”

The idea haunted Thoms throughout medical school and the early years of her practice. “I vowed that by the time I was 50 I would do some kind of trip.” In 1996, when she turned 49, Thoms contacted several organizations that facilitate medical trips for physicians. Within a week, See International called to ask if she’d be interested in taking a laser to Mongolia; she didn’t hesitate. Thoms accompanied the laser to the hospital in Ulaan Baatar and instructed Dr. Chimgee Chuluuhuu in its use. Since then, it has saved the sight of hundreds.

Last year, Thoms returned to Mongolia through Orbis, an international organization that seeks to end preventable blindness by the year 2020. The group’s Flying Eye Hospital Plane brings top surgeons, staff and state-of-the-art equipment directly to underprivileged countries. But other Orbis missions have different goals. For her 2004 trip, Thoms was joined by Theresa Nairus, M.D. (Residency 2001, Fellowship 2002), clinical instructor in ophthalmology and visual sciences. The pair’s charge: to set up Mongolia’s mentoring program, Cyber-Sight, created to save vision while providing critical educational enrichment to physicians who are desperate to learn.

Though deeply devoted to helping people in their country, Mongolian ophthalmologists — along with physicians in most developing countries — simply do not have the advanced education and technical training of their American counterparts. Explains Nairus, “These doctors have no college education prior to attending medical school, and they study ophthalmology for only one year.” Cyber-Sight establishes a high-tech mentoring relationship between indigenous and American physicians. Nairus and Thoms took digital cameras and computers to the Mongolian capital of Ulaan Baatar and instructed local ophthalmologists in their use. Today, the Mongolian doctors can photograph a patient’s eye, send the image and their questions to a Web site, and hear back from a participating American physician within 48 hours.

But the trip also had educational and clinical elements. Thoms trained Dr. Enkhmaa Purev to perform modern cataract surgery. Nairus took three corneas donated by the Eye Bank Association of America so that she could train local physicians to perform a transplant. Working closely with Dr. Munkhsetseg “Muugii” Tsrendash, Nairus saw 60 patients over three days; 30 were candidates for a cornea transplant. Twenty-seven were turned away.
“I had to be very selective about who could get the most use out of a cornea for the longest time,” says Nairus. “One 16-year-old boy showed up three days in a row, in a suit, hoping to be picked.” The boy, unfortunately, lived too far away to receive the follow-up care that would have improved his chances for success, and could not be chosen.

Thoms and Nairus plan to continue their work in Mongolia and value the opportunity to share knowledge with physicians in developing countries. The physicians they worked with were all women — 75 percent of Mongolian doctors are female — and they impressed the American doctors deeply. “They’ve learned to work with limited resources, and they do a very good job.” Nairus is working with the Mongolian doctors she now regards as friends to set up an eye bank so that no one who needs a cornea — like a persistent teenage boy wearing a suit — has to be turned away.

Virginia Nelson, M.D., a clinical professor in physical medicine and rehabilitation in the Medical School, recently completed her fourth trip to Africa with CURE International, an organization which establishes and operates teaching hospitals in the developing world to aid disabled children and their families. Nelson has visited hospitals in Kenya, Uganda, and Malawi, working closely with doctors as well as patients. Nelson, like Nairus and Thoms, seeks to make the greatest impact possible when she undertakes a medical mission.

“CURE’s philosophy, and also mine,” she says, “is that if I can help one child, well, that helps one child. But if I can teach doctors in developing countries, that helps many children.”

Some of this teaching is practical — protocols for treating children with a wide variety of physical disabilities — and some of it reflects the need for wide shifts in a culture’s way of thinking about disability. “This is such a new idea in Africa, and in much of the developing world,” says Nelson, of the view that disabled children have both potential and a place in the fabric of society. “People with disabilities have just been put in the back room or left to die.”

In February of this year, Nelson traveled to Malawi, along with two U-M residents and others, to spend three weeks at the newly opened Beit Trust CURE International Hospital in Blantyre, “a very nice, clean city,” says Nelson. Still, while the facilities were pleasant, the team had their work cut out for them.

“We went in as consultants,” Nelson says. “The physicians had no clue what a rehab doctor does. Their cast room needed to be organized. They wanted us to look at some length-of-stay data and chart organization and administrative structure. We did some teaching of physicians and nurses in the burn unit at nearby Queen Elizabeth Central Hospital, and some morning rounds with the pediatricians there. It’s very

Virginia Nelson

“If I can help one child, well, that helps one child. But if I can teach doctors in developing countries, that helps many children.”

—Virginia Nelson, regarding her work in Africa
interesting. The surgeons did not recognize cerebral palsy, or rickets. They’d just say, ‘This kid has a crooked leg.’

It’s not only physicians who feel called to help and heal thousands of miles from home. In 2004, four Holden Neonatal Intensive Care Unit (NICU) nurses traveled to a small town in Honduras, and they came back changed and charged.

Nurse Brenda Hershberger learned of an Ohio-based relief organization called International Services of Hope/Impact which has sponsored medical and humanitarian aid throughout the world since 1958. In 2003, a Toledo orthopaedic surgeon named Glenn Carlson and his wife, podiatrist Kim Carlson, had traveled to Danli, Honduras, as part of the program and performed 19 operations in one hectic week. The couple was ready to return to Honduras but needed a nursing staff. Hershberger and her coworkers signed on and spent months raising the funds to go. In August of last year, the team arrived in Danli and almost immediately the tiny Clinicas San Lucas was mobbed with people.

“One of the patients was 19, a single mother of two who had slipped in the mud and broken both bones in her forearm five days before we came,” recalls Hershberger. “She took a bus for three hours and got dropped off at the clinic. We put pins and screws in her arm from donated kits and were able to put her arm back together.”

In one week, the team saw over 200 patients and performed five surgeries. They gave out back braces, vitamins and antibiotics — and delivered hundreds of plastic buckets filled with food throughout the town and outlying areas. But for every patient they were able to help, there were many more they could not, given the limitations of time and equipment. Then they met four-month-old Arianna. “The child had total anomalous pulmonary venous return,” says Hershberger, “an uncommon heart defect in which the blood vessels go to the left side of the heart instead of the right. Doctors in the capital had told the mother that her baby was going to die. She came to us hoping there was something we could do. Well, we work with Dr. Bove!” Edward L. Bove, M.D. (Residencies 1977, 1979), the Helen F. and Marvin M. Kirsh Professor of Cardiac Surgery, head of the Section of Cardiac Surgery and director of the Pediatric Congenital Heart Program at C.S. Mott Children’s Hospital, is a renowned pediatric cardiac surgeon and an internationally recognized expert on hypoplastic left heart syndrome.

“I watched those doctors as they just ran from patient to patient and I thought, ‘If we had just one more doctor, how many more we could see!’”

—nurse Brenda Hershberger, who plans to pursue an M.D.

“Arianna. “The child had total anomalous pulmonary venous return,” says Hershberger, “an uncommon heart defect in which the blood vessels go to the left side of the heart instead of the right. Doctors in the capital had told the mother that her baby was going to die. She came to us hoping there was something we could do. Well, we work with Dr. Bove!” Edward L. Bove, M.D. (Residencies 1977, 1979), the Helen F. and Marvin M. Kirsh Professor of Cardiac Surgery, head of the Section of Cardiac Surgery and director of the Pediatric Congenital Heart Program at C.S. Mott Children’s Hospital, is a renowned pediatric cardiac surgeon and an internationally recognized expert on hypoplastic left heart syndrome.
The nurses got busy slicing through the “tons of red tape” that prevented the child from leaving Honduras. They committed to raise $10,000 if the U-M would cover the rest of the cost of Arianna’s surgery. Back in Michigan, they raised funds aggressively. And, in late December 2004, mother and child arrived in Ann Arbor where Bove and assistant professor of cardiac surgery Richard G. Ohye, M.D., repaired Arianna’s heart. Two weeks later, the infant was back home and doing well.

Hershberger says she’s a different person from the one who first arrived in Honduras. The 43-year-old mother — and grandmother — is took her MCAT boards in April. “I want to go to medical school,” she says. “I watched those doctors as they just ran from patient to patient and I thought, ‘If we had just one more doctor, how many more we could see!’”

The Holden NICU nurses are heading back to Danli later this year.

The rate of spina bifida and other neural tube disorders in Guatemala is the highest in the world, according to the International Federation for Spina Bifida and Hydrocephalus. While there is a clear genetic basis for this, another factor is believed to be the prevalence of fumonisin, a toxin caused by corn mold. When ingested, fumonisin builds up in the body and blocks the absorption of folic acid — critical to fetal development. In countries like Guatemala, where poverty is rampant, corn is often improperly stored, grows moldy, and is eaten by people for whom the concept of wasting food is incomprehensible. The U-M’s Project Shunt was created to help Guatemalan babies and children born with neural tube defects.

In 1997, Nick Boulis (Residencies 1995 and 2001) was a U-M neurosurgery resident trying to figure out how to link his passions for medicine, health and human rights. After graduating from Yale in 1988, and entering Harvard Medical School, he had done human rights work in Haiti and relief health care in Nicaragua, Costa Rica, and the Dominican Republic. He recalls, “I had always wanted to do relief work in Latin America, but I didn’t know how to do it as a neurosurgeon.”

The answer came to him in the form of Kathy Kentala, then a U-M trauma nurse. Kentala had worked with a relief organization called Healing the Children, which has branches in 14 states. She asked Boulis if he was interested in going to Latin America to work on hydrocephalus cases.

“I said, ‘absolutely,’” says Boulis, who today serves as associate staff physician for the Center for Neurological Restoration at the Cleveland Clinic. “I began long term work with Healing the Children. I raised money for a fact-finding mission, to see if this was even feasible. I got $3,000 from Elekta and Cordis — neurosurgery device companies — and arranged to fly to Guatemala to hook up with the Pediatric Foundation of Guatemala. I spent a week evaluating patients in the foundation clinic — mostly kids with neural tube defects (hydrocephalus, spina bifida and tethered cord syndrome).” Anesthesiology resident and operating room nurse joined him to tour local hospitals where the foundation had hosted missions in the past, to determine what would be needed to deliver quality care. “We all reached a conclusion that yes, this was something we wanted to do and that it was absolutely an ethical thing to do.”

Ethical? In fact, the debate about the appropriateness of such expeditions has only recently died down. “Is it ethical to go there and implant a ventricular peritoneal shunt and then leave?” muses Boulis rhetorically. The availability of follow-up care, which patients receive treatment and which do not, the economic impact of the program, the safety of relief workers in areas of instability — these issues and more have demanded discussion. “Whenever we as a First World country intervene in the Third World, we have to ask ‘Can we do this in a culturally sensitive fashion?’ Instead of going there and saying, ‘Gosh, we’re from the U.S. and we’re going to fix everything for you.’”

Boulis returned to Ann Arbor and began to “beg, borrow or steal” for the trip to Guatemala. “All we would have there was a ward,” he recalls. “A room with a table, and maybe a light. Shunts, gauze, saline solutions, cautery, sutures, suction instruments, the equipment to sterilize —
none of that existed, or we couldn’t count on it.” Medical supply and shunt companies agreed to donate equipment and shunts. Boulis learned that the Detroit Veterans Administration had closed its Allen Park hospital and the building was abandoned with all its equipment intact. With permission to take whatever he needed, he loaded it all into his Chevy Blazer and stored it in his basement. At the end of the year, his basement was filled with surgical equipment which Healing the Children then shipped to Guatemala.

Early on, Boulis asked Karin Muraszko, M.D., now chair of the Department of Neurosurgery, to lead the medical team. Muraszko said yes. “She trusted this midlevel resident and was willing to go to a country where war had just ended two years before!”

In 1998, the physicians of Project Shunt performed 18 surgeries in Guatemala, with no mortalities. Says Boulis, “The mothers come to you off the backs of trucks having ridden down mountains, carrying their children, smelling like wood smoke. When we first got there, they lit fireworks and gave us a standing ovation. People had been waiting all night for us to arrive. We operated non-stop, ate and slept very little.

“It was one of the most powerful experiences we had ever had.”

Boulis left Michigan in 2001, but continues his involvement with Project Shunt. “Every year it becomes harder to find the time, but when I get down there I realize that it’s the most important part of my career. When I think that it started with donated equipment in my basement and a vague idea, it makes me so proud. It rejuvenates my spirit and makes me glad to be a doctor,” says Boulis.

Still primarily a resident-organized effort, the scope of Project Shunt has grown under Muraszko’s watch. In addition to the surgical component — nearly 200 operations since the project started — the team distributes vitamins for at-risk mothers and works closely with local physicians and surgeons. “We’ve trained and helped to train some pediatric general surgeons so they can take care of these kids,” says Muraszko. “The foundation now has a surgeon who can do some of these procedures. We spend time educating their nurses, doctors and pediatricians. We give lectures. And we work very hard with industry vendors to provide them with supplies — suture

“The mothers come to you off the backs of trucks having ridden down mountains, carrying their children, smelling like wood smoke.”

—Nick Boulis, who founded Project Shunt as a U-M resident

Three women look on from a boat in the lake district in Guatemala, where Muraszko’s team traveled on one of their missions.
Mothers hold their children tight as they wait to be seen by doctors at the CURE Bethany Crippled Children’s Centre of Kenya, where Virginia Nelson practiced in February 2003. The porch functions as a waiting room for the clinic, which was held in a cramped room in an abandoned hospital with one light bulb and no running water. Nelson eventually started seeing patients on this porch, where there was more room and better light.

Angel, a patient of Nick Boulis’ in Guatemala, rests in his hospital bed.

Theresa Nairus and Susan Thoms take a much-deserved break from their clinical duties in Mongolia.

A garbage dump in Danli, Honduras, where the poor went to look for food. Brenda Hershberger’s team provided the locals with white 5-gallon buckets (shown) containing corn, dehydrated barley soup, or dehydrated chicken/rice meal.

Theresa Nairus screens an ophthalmology patient in Mongolia.

See more photos at www.medicineatmichigan.org/magazine.
Almost everyone who has been on this trip has come away with the same reaction,” says Muraszko. “You remember why you’re a doctor.”

There’s something almost miraculously unifying about these missions. On one side: some of the world’s top physicians — people with years of expensive education and experience, people comfortable with the most advanced medical technology and familiar with the latest research, people who love their kids and would do anything for them. On the other side: people with little more than the clothes they’re wearing, people for whom any education at all is deemed a valued prize, people who work with simple, humble tools and grow their own food — people who love their kids and would do anything for them. On these missions, they meet in the middle and everybody wins.

“Almost everyone who has been on this trip has come away with the same reaction,” says Muraszko. “You remember why you’re a doctor.”

In the United States, the surgeries the team does in one week would total, Muraszko estimates, between $2-3 million. Yet the price tag for sending some of the world’s top doctors and nurses thousands of miles to operate on some of the world’s poorest — and most desperately ill — children, totals not quite $30,000. Muraszko and Suresh Ramnath, clinical instructor in neurosurgery, are currently the key fund-raisers for the project. “I don’t accept honoraria for lectures,” she says. “Instead, I just put them into Project Shunt.” Each year, she adds, the team brings back goods from Guatemala and sells them to raise money. Bake sales help, as do contributions from others in Muraszko’s department and elsewhere in the Health System.

Karin Muraszko with a patient in Guatemala

Almost everyone who has been on this trip has come away with the same reaction,” says Muraszko. “You remember why you’re a doctor.”
“When immune systems go awry, virtually without exception the problem begins with the triggering of a strong inflammatory response,” Ward says. “All autoimmune diseases — such as rheumatoid arthritis, psoriasis, lupus or multiple sclerosis — are diseases in which the inflammatory response is unregulated, excessive and out of control. So understanding the inflammatory system from A to Z will have huge applications in any number of diseases or clinical situations.”

Over six feet tall with the posture and presence of a military officer, Ward is a distinguished looking gentleman who always wears a dress shirt and tie under his freshly pressed white lab coat. Not one for rash statements or hyperbole, Ward is as precise and methodical when talking about his research as he is doing the work itself.

Peter Ward’s fascination with inflammation began more than 45 years ago while he was a student at the U-M Medical School. During a two-year research fellowship at California’s Scripps Institute, then five years of service in the U.S. Medical Corps and nearly 10 years as head of pathology for the University of Connecticut Health Center, Ward concentrated on learning how acute inflammation affects the lung.

Ward says he focused on inflammation in the lung because so little was known about what caused it or how to treat it effectively. While at the University of Connecticut in the 1970s, Ward made many important contributions to the field, including developing animal models with injuries that trigger an inflammatory response. Many of these models are still used in research by scientists today. In addition, Ward published hundreds of papers describing how substances produced by immune cells called macrophages and neutrophils contribute to lung damage during an inflammatory attack.

In 1980, Ward returned to the U-M to become professor and chair of the Medical School’s Department of Pathology, serving also as interim dean from 1983 to 1985. Since then, he has continued his focus on inflammation in the lung, especially the importance of messenger molecules called cytokines and chemokines, and the complement system — a group of about 25 related proteins that patrol the bloodstream ready to assist or “complement” the immune response.

Mediating the inflammatory frenzy

The inflammatory response has one all-important goal: respond immediately to detect and destroy infection or toxic material in damaged tissue before it can spread to other areas of the body. In its zeal to protect the body, it will destroy as much tissue as necessary to accomplish this goal. Left unchecked, a hyperactive inflammatory response can even react to the traumatic effects of accidents, burns or surgery on the body and start attacking healthy tissue.

Like everything else in the human immune system, the inflammatory response is controlled by an incredibly complicated communications network made up of multiple cells, cascading signal pathways and feedback loops. It starts when scavenger cells called neutrophils arrive at the site of injury or infection. They surround and engulf toxins, microbes or damaged tissue and broadcast biochemical “SOS” signals calling for reinforcements. Complement proteins join the fray triggering the production of powerful, pro-inflammatory molecules and tissue-destroying enzymes. This intensifies the response and causes inflammation to spread to surrounding tissue. Once activated, the feeding frenzy will continue until the immune system sends an all-clear signal to indicate that the crisis is over.

One of the most important discoveries made by Ward and other scientists over the last 20 years has been the identification of a network of natural anti-inflammatory mediators, produced by the immune system to offset activity of pro-inflammatory agents. This network of “chill out” signals keeps inflammation focused on the area of local infection or injury, and prevents a runaway response that can spread through the body.
In the normal lung (left), very thin walls in the upper and lower airways allow the normal exchange of gases between blood vessels and the airspace. The diseased lung (right) shows pathological changes. Upper airway diseases, like asthma, produce an influx of inflammatory cells, increased fibrosis and constriction of the bronchiolar airways. In lower airway diseases, such as interstitial pulmonary fibrosis, fibroblasts and mononuclear inflammatory cells lead to collagen deposits and a thickening of the lung walls.
“When you trigger an inflammatory response,” Ward explains, “some are strong pro-inflammatory mediators, while others tend to suppress or balance the inflammatory process. Most of our work has involved acute inflammatory responses in the lung, but we don’t believe pathways of inflammation in the lung are unique. So learning more about these natural anti-inflammatory agents should provide information that can be applied to many situations where you hope to suppress the inflammatory response.”

Out-of-control inflammation has different effects on different types of tissue. In the respiratory system, these effects can be disabling, as is often the case with asthma; or lethal, as in chronic obstructive pulmonary disease. COPD, which includes emphysema and chronic bronchitis, is caused by an inflammatory reaction which modifies the upper airways and makes it difficult to breathe.

According to a 2001 study conducted by the National Heart, Lung and Blood Institute, more than 12 million Americans ages 25 and older have been diagnosed with COPD and as many as 24 million show signs of impaired lung function. It is the fourth leading cause of death in the United States.

“Patients with COPD typically have a slow, progressive loss of pulmonary function over a period of many years,” Ward says. “It’s been linked to smoking and industrial air pollution. COPD is difficult to treat because, for reasons we don’t understand, patients don’t respond to the anti-inflammatory effects of steroid drugs like cortisol. Non-steroidal anti-inflammatory drugs treat symptoms, but do little to stop the progressive tissue destruction.”

Then there’s idiopathic pulmonary fibrosis — another group of progressive lung diseases, in which inflammation slowly destroys air sacs in the lung and replaces them with scar tissue. Both the cause and a cure for pulmonary fibrosis are unknown, and 40,000 people die from its effects every year.

According to Stewart C. Wang, M.D., Ph.D., an associate professor of surgery in the Medical School who treats critically ill patients in the U-M Trauma/Burn Center, the lung is particularly vulnerable to collateral damage from the immune system’s attempts to fight infection elsewhere in the body.

“The lung is such a vital organ, and it must function at high capacity at all times. As you get sicker, your body has to work harder, which means the lung has to work harder to provide more oxygen,” Wang explains. “Also, because all blood passes through the lung, it’s exposed continually to inflammatory signals carried in blood from other parts of the body. This makes the lung especially prone to damage from sepsis, which can lead to acute lung failure.”

THE INFLAMMATORY SYSTEM IS SO COMPLEX THAT PETER WARD BELIEVES IT COULD TAKE A DECADE OR MORE OF INTENSIVE RESEARCH BEFORE SCIENTISTS UNDERSTAND EXACTLY HOW IT WORKS.

The enigma of sepsis

Sepsis is the most dramatic example of what can happen to the human body when it is attacked by an out-of-control inflammatory response. In the United States this year, more than 600,000 Americans will experience the deadly combination of symptoms — high fever, elevated white blood cell count, rapid heartbeat, falling blood pressure and confusion — that physicians call sepsis. Even with the best possible intensive care, mortality from the most severe forms of sepsis can be as high as 40 percent. Sepsis kills more people each year than breast cancer and prostate cancer combined.

“The key is to detect sepsis early, before the infection gets out of control,” says Wang. “We need to figure out ways to treat the complications of sepsis to reduce the mortality rate. That’s what is so promising about the work Dr. Ward is doing. His research is giving us potential future therapies to prevent the damage that occurs from infection, especially during sepsis.”

Even though it’s a major killer, doctors know little about what triggers sepsis and even less about how to treat it successfully. Patients at highest risk are those recovering from traumatic injuries or surgery, and those with serious infections or chronic diseases. Unless it’s caught early, sepsis can kill a formerly healthy adult in just a few days.

“Essentially, it’s a waiting game,” says Ward. “There is no diagnostic test and only one drug approved for treatment of patients with severe sepsis. All we can do is give broad-spectrum antibiotics with traditional supportive therapy, and hope it doesn’t progress to the stage where organs start to shut down. If you’re still alive after 28 days, you’ll probably be OK.”

Four years ago, Ward expanded his research on the inflammatory response to include what he calls “the enigma of sepsis.” Since then, he has discovered that the complement system in laboratory rats with sepsis is hyperactive, and the rats have abnormally high amounts of a pro-inflammatory protein called C5a in their bloodstream. When the animals are given drugs to block C5a’s effects, their survival rates improve substantially.

“C5a is an intriguing protein,” Ward says. “It’s vital to the immune system’s ability to fight infection in tissue, but if it starts cascading out of control and enters the bloodstream, it’s an indication that bad things are going to happen.”

In recent research, Ward and his team discovered that, once C5a is in the bloodstream, it blocks all the receptors on circulating neutrophils — preventing them from attacking invading bacteria and effectively paralyzing the immune response.
“We hope to find a way to block the activity of C5a in animals with sepsis,” Ward says. “If we are successful, it could be an effective therapeutic intervention in humans. We also are investigating how to measure the C5a receptor content of neutrophils. This could be the basis of an early diagnostic test for sepsis to help physicians identify patients who need immediate aggressive treatment.”

The pharmaceutical approach

Considering the number of people affected by inflammatory diseases, it’s surprising that few new pharmaceutical drugs have been developed to treat these medical conditions. The mainstays of treatment are still corticosteroids, aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen. Aspirin’s anti-inflammatory properties were discovered in the early 1900s. Steroids, the first class of drugs with generalized anti-inflammatory effects, were developed in the 1950s.

In the 1990s, several new anti-inflammatory drugs called COX-2 inhibitors, which are sold under trade names like Celebrex, Bextra and Vioxx, were approved by the Food and Drug Administration. They were hailed as miracle drugs for the treatment of chronic inflammatory diseases, because they don’t irritate the stomach lining, like aspirin or other NSAIDs often do.

“NSAIDs are effective at treating symptoms, but we’ve learned they don’t have much ability to suppress the inflammatory response. The disease continues to progress,” says Ward. “Steroids are very effective, but they have serious side effects. And long-term use of COX-2 inhibitors is now associated with a higher risk of strokes and heart attacks.”

Recently, pharmaceutical companies introduced a new type of anti-inflammatory drug, which works by preventing the biological function of tumor necrosis factor (TNF) — an important pro-inflammatory molecule. When TNF binds to immune cells, it triggers the inflammatory response. Ward says these drugs reduce symptoms and can be effective, especially in rheumatoid arthritis, but their cost per patient ranges from $12,000 to $20,000 each year.

“So here we are, 50 years after the anti-inflammatory effects of steroids were discovered, and there’s still no new powerful, reasonably priced drug that can be used across the board for these inflammatory diseases,” Ward says. “It’s a real dilemma. There are serious questions about where the pharmaceutical industry will go from here in relation to anti-inflammatory drugs.”

According to Ward, the pharmaceutical industry has traditionally developed drugs that interfere with the immune system’s pro-inflammatory pathway by binding to a cell receptor or blocking the actions of specific proteins or signaling molecules. He suggests it may be time for a different approach.

“We need to explore novel strategies using nature’s own inflammatory regulatory apparatus,” Ward says. “This means concentrating on finding mediators with anti-inflammatory effects.”

The trick to Ward’s approach is figuring out how to turn on genes that control production of these anti-inflammatory molecules. Right now, he has hopes for a protein called Stat3. Stat3 has a strong anti-inflammatory effect, and scientists in Ward’s lab have shown that it reduces tissue damage in rats with acute lung injuries.

Ultimately, Ward believes the answer to controlling inflammation’s dark side will be found in basic scientific research conducted jointly by scientists from academic and corporate research laboratories. The inflammatory system is so complex that Ward believes it could take a decade or more of intensive research before scientists understand exactly how it works.

“It’s just like investing in the stock market,” he says. “You can’t look for short-term returns. It’s a long-term investment.”
In Support of Medical Research with Human Embryonic Stem Cells

AN INTERVIEW WITH ROBERT KELCH

In his roles as the University of Michigan executive vice president for medical affairs and CEO of the U-M Health System, and as a physician and scientist, Robert P. Kelch (M.D. 1967, Residency 1970) has carefully considered the topic of human embryonic stem cell use in medical research from many perspectives. As the debate intensifies at the state and national levels, Kelch shares his views and explains why he’s arrived at the conclusions he holds.

Why is it important to talk about research with human embryonic stem cells?
Research with human embryonic stem cells raises important, complex and sensitive questions that should be considered carefully and discussed widely. It is a particularly important issue for us at the U-M Health System, because several of our scientists are studying human embryonic stem cells. Everyone has an obligation to learn the facts about this important social and scientific issue, so they can make an informed decision.

Why are you so excited about the potential for this type of research?
I think about the therapeutic potential for treating disorders like diabetes, Alzheimer’s disease, Parkinson’s disease or ALS. I’ve been in science long enough to know that sometimes we get so excited we over-promise. But I am very excited about this, and I am, by nature, a pretty cautious guy. It is certainly well within my imagination that we can have, for certain diseases, much more effective treatments in a reasonable period of time, if we enhance our ability to do embryonic stem cell research now.

I ask people to imagine a woman in Michigan who has a disorder that could be cured with a cell line that is genetically identical to her own body. Let’s say she is paralyzed, and these cells could be differentiated into motor neurons for transplant into her spinal cord, which might allow her to walk again.

Under current Michigan law, she would not have the right — in fact, it would be illegal — for her to use one of her ovaries — or implant the nucleus from one of her skin cells into one of her egg cells, or into an embryonic stem cell — to create this cell line. She would be totally denied that opportunity.

During my 40-plus years in medicine and science, I’ve seen some of the most startling discoveries, and I’ve seen society be appropriately very skeptical initially. I think if we can work together to really understand this complex topic and its potential, we will reach a consensus to move forward in a safe manner.

What have you found to be the biggest misconception people have about human embryonic stem cells?
First of all, a lot of people simply don’t understand the terminology. I find that it takes at least a half-hour to an hour to explain this complex subject, so if anyone thinks you can do it in a 30-second sound bite, beware. And if you hear slogans designed to cause an emotional reaction, beware. It’s much more complicated than you can convey with the usual mass media messages.

If you believe human life begins at conception, the destruction of an embryo to create a new cell line is very troubling. How do you respond to this objection to the research?
I know there are people who, because of their moral, ethical, religious or philosophical beliefs, believe that a human life begins the moment an egg is fertilized in the Fallopian tube, which occurs several days before it implants in a woman’s uterus. I respect their position and beliefs. And I don’t disagree that this early stage of development, which we call a blastocyst, has the potential for human life.
I think if we can work together to really understand this complex topic and its potential, we will reach a consensus to move forward in a safe manner.

But I disagree about what we ought to do with these very early products of conception, especially if they are not going to serve a useful purpose. What do I mean by that? I’m talking about literally hundreds of thousands of frozen blastocysts or early embryos, as some would call them, which were created for in-vitro fertilization. They are going to be discarded by people who no longer have a need or the desire to implant them into either their own uterus or someone else’s uterus. These discarded embryos have tremendous potential. I feel morally obligated, for the sake of the greater good, to try to take advantage of this potential by allowing scientists, under strict ethical guidelines, to use these frozen embryos to propagate new human embryonic stem cell lines. And, of course, we would like to do that here.
What we would like to do is take these very early products of conception, before the implantation phase, and propagate cells from them in ways that will not stimulate them to develop into implantable embryos. We are trying to generate therapeutic cell lines of embryonic cells with all this broad potential, but do it in a way that creates cell lines and not embryos.

Embryonic stem cells give us the opportunity to study, at the earliest stage, disorders caused by a specific gene defect to see if we could find a way to cure the disease. Let’s take another example, which to me is very meaningful. Let’s say a couple is going through in-vitro fertilization, but they want the early blastocyst to be tested for a genetic disease like Tay-Sachs disease, for example.

We can do that now. We can take one little cell out of the blastocyst to make that diagnosis. If we could use genetically abnormal embryos to produce a stem cell line for research on Tay-Sachs disease, we might learn how to correct the genetic defect.

Most embryos are discarded simply because they are no longer needed and people do not want to put them up for adoption, or because they have an abnormality. Both types have a useful purpose, if studied ethically — and they would be studied ethically — by good scientists.

Why is it so important to the future of the university, the Health System and the state of Michigan to have more embryonic stem cell research here? One reason is that we have a remarkable group of scientists working in the area of stem cell or developmental biology. We were one of the first of three federally

“It’s inconsistent to say we have aspirations of becoming a leading state in life sciences research, and then prohibit the development of new lines of human embryonic stem cells.”
funded human embryonic stem cell research centers. It is just logical for us to want to expand our work and productivity and not be restricted to a greater degree than our peer institutions.

Second, we have the ability now to generate new stem cell lines and that is a tremendous step forward. But current laws make it impossible to do this in the state of Michigan. This gives Michigan a national reputation of being a place that is less supportive of science. That makes it more difficult to recruit and retain the best and brightest scientists and students.

It’s inconsistent to say we have aspirations of becoming a leading state in life sciences research, and then prohibit the development of new lines of human embryonic stem cells. We are being viewed as a state with very restrictive rules that is less supportive of science and scientists than other states.

Why not just put more funding into research with adult stem cells?

We should put a lot of money into cancer stem cells, cord blood stem cells, tissue-specific [adult] stem cells, because we are going to learn a lot from them. But everything we know — and we know more today than we did just a few years ago — indicates that tissue stem cells don’t have the potential of embryonic stem cells. Remember an embryonic stem cell has the amazing potential to give rise to all the tissues in the entire body.

Are there areas of research that should legitimately remain off-limits to scientists?

Yes. I’ve read a summary of the ethical guidelines recommended by the National Academy of Sciences. They sound very, very wise. Doing things in humans that we might do in animals would be unethical to me. Making what we call chimeras — mixing different genetic cell lines to develop an embryo with genetic backgrounds from different species. This is unethical when you are talking about human beings. Working on human embryos that are well beyond the implantation phase is unethical.

Do you agree that researchers should be required to only use excess embryos from in-vitro fertilization clinics? As opposed to South Korean scientists who have created new embryos using donated human eggs.

[The South Korean research] troubles me to some degree. First of all, there’s really no need to do that in America, if we agree to use discarded embryos from fertility clinics, because there are so many of them. Estimates indicate there are 300,000 to 400,000 excess frozen embryos in fertility clinics. That’s more than enough to meet our needs.

I think it would be highly unethical to recruit someone, pay someone, or give them financial incentives to donate an egg. That would trouble me greatly. On the other hand, if a woman wants to donate her own egg, or donate an egg to someone who is genetically related to her, that’s something for us to discuss. Personally, I don’t find that unethical.

It’s important to keep in mind that society’s idea of ethical behavior does change over time. We are doing things today that might have been considered very unethical in the past, and we are considering other things as we look to the future. All the organ transplantation we do now at one point in time was considered unnatural and unethical. Donation of organs from a healthy person to a person with an illness — all that has evolved over time. When the techniques for in-vitro fertilization were first developed, many people considered it to be unethical. Now many of us, including my own family, have been positively affected by that technology.

What area of medicine has the greatest therapeutic potential for human embryonic stem cell research?

It’s hard to know where the first, most dramatic, breakthrough will come. I hope it comes for a disease like diabetes mellitus, because it takes such a toll — not only on the patient, but on their families. We know it’s curable. We can cure it in inbred mice by transplanting islet cells. We know it’s an autoimmune disease. So we know we need to have islets that won’t be rejected by the host. Another good example would be spinal cord injuries. There are investigators in California who have used stem cells to help rodents move better after spinal cord injuries. We have to be cautious about extrapolating from other species to man, because we are much more complicated, but we know it can be done. This is not Star Wars research.
The annual ritual of residency matching landed the U-M Medical School’s Class of 2005 at the following locations for the next stage of their training. This year’s Match Day event was held on March 17.

### Anesthesiology

<table>
<thead>
<tr>
<th>Name</th>
<th>Hospital/University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catherine Bluteau</td>
<td>University of Virginia, Charlottesville</td>
</tr>
<tr>
<td>Matthew Charous</td>
<td>McGaw Medical Center - Northwestern University, Chicago</td>
</tr>
<tr>
<td>James Gephart</td>
<td>Mayo Graduate School of Medicine, Rochester</td>
</tr>
<tr>
<td>Mark Gjolaj</td>
<td>Stanford University Hospital and Clinics, California</td>
</tr>
<tr>
<td>Patrick Guffey</td>
<td>University of California - San Francisco</td>
</tr>
<tr>
<td>Bishr Haydar</td>
<td>Massachusetts General Hospital, Boston</td>
</tr>
<tr>
<td>Spencer Heaton</td>
<td>University of Michigan Hospitals</td>
</tr>
<tr>
<td>Daniel Johnson</td>
<td>Massachusetts General Hospital, Boston</td>
</tr>
<tr>
<td>Hannah Kwon</td>
<td>University of California - San Francisco</td>
</tr>
<tr>
<td>Daniel LaValley</td>
<td>Duke University Medical Center, Durham</td>
</tr>
<tr>
<td>Clayton Smith</td>
<td>University of Wisconsin Hospital and Clinics, Madison</td>
</tr>
<tr>
<td>Andrew Suh</td>
<td>New York Presbyterian Hospital, Cornell University, New York City</td>
</tr>
<tr>
<td>January Tsai</td>
<td>University of Texas Medical School at Houston</td>
</tr>
<tr>
<td>Cynthia Woods</td>
<td>Cleveland Clinic</td>
</tr>
<tr>
<td>Lily Young</td>
<td>Emory University School of Medicine, Atlanta</td>
</tr>
</tbody>
</table>

### Dermatology

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Mohiba Khan</td>
<td>New York Presbyterian Hospital, Columbia University, New York City</td>
</tr>
<tr>
<td>Katalin Kovalszki</td>
<td>University of Michigan Hospitals</td>
</tr>
<tr>
<td>Heh Shin Kwak</td>
<td>Stanford University Hospital and Clinics, California</td>
</tr>
<tr>
<td>Laurie Linden</td>
<td>Henry Ford Health Sciences Center, Detroit</td>
</tr>
<tr>
<td>Missale Mesfin</td>
<td>University of Michigan Hospitals</td>
</tr>
<tr>
<td>Asma Rafeeq</td>
<td>University of Michigan Hospitals</td>
</tr>
<tr>
<td>Igor Siniakov</td>
<td>University of Michigan Hospitals</td>
</tr>
</tbody>
</table>

### Emergency Medicine

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>William Bagley</td>
<td>St. Luke's-Roosevelt Hospital Center, New York City</td>
</tr>
<tr>
<td>Benjamin Bassin</td>
<td>University Hospital, Cincinnati</td>
</tr>
<tr>
<td>Ian Butler</td>
<td>Robert Wood Johnson Medical School, Camden</td>
</tr>
<tr>
<td>Lauren Butz</td>
<td>University of Alabama Hospital, Birmingham</td>
</tr>
<tr>
<td>Evelyn Chow</td>
<td>Mount Sinai Hospital, New York City</td>
</tr>
<tr>
<td>Gregory Folkert</td>
<td>Barnes-Jewish Hospital, Saint Louis</td>
</tr>
<tr>
<td>Senai Kidane</td>
<td>Alameda County Medical Center</td>
</tr>
<tr>
<td>Daniel Korn</td>
<td>University of Michigan Hospitals</td>
</tr>
<tr>
<td>Russell Rae</td>
<td>William Beaumont Hospitals, Michigan</td>
</tr>
<tr>
<td>Dorian Ramirez</td>
<td>Harbor-UCLA Medical Center</td>
</tr>
<tr>
<td>David Somand</td>
<td>University of Michigan Hospitals</td>
</tr>
<tr>
<td>Renee Theisen</td>
<td>University of Pittsburgh Medical Center</td>
</tr>
</tbody>
</table>

### Family Practice

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Benjamin Tsai</td>
<td>Maimonides Medical Center, Brooklyn</td>
</tr>
<tr>
<td>Danielle Turner-Lawrence</td>
<td>Carolinas Medical Center, Charlotte</td>
</tr>
</tbody>
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### General Surgery

<table>
<thead>
<tr>
<th>Name</th>
<th>Hospital/University</th>
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<tbody>
<tr>
<td>Ashley Agerson</td>
<td>Temple University Hospital, Philadelphia</td>
</tr>
<tr>
<td>Alexander Bondoc</td>
<td>University Hospital, Cincinnati</td>
</tr>
<tr>
<td>David Costantino</td>
<td>Emory University School of Medicine, Atlanta</td>
</tr>
<tr>
<td>Kristopher Deatrick</td>
<td>University of Michigan Hospitals</td>
</tr>
<tr>
<td>Catherine Lewis</td>
<td>University of California - Los Angeles Medical Center</td>
</tr>
<tr>
<td>Beth Narasimhan</td>
<td>University of Vermont College of Medicine</td>
</tr>
<tr>
<td>Robyn Sackeyfo</td>
<td>Emory University School of Medicine, Atlanta</td>
</tr>
<tr>
<td>Chad Stasik</td>
<td>Shands Hospital at the University of Florida, Gainesville</td>
</tr>
</tbody>
</table>

### Internal Medicine

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Suma Amarnath</td>
<td>Boston University Medical Center</td>
</tr>
<tr>
<td>Julia Becker</td>
<td>Hospital of the University of Pennsylvania, Philadelphia</td>
</tr>
<tr>
<td>Neel Chokshi</td>
<td>New York University School of Medicine</td>
</tr>
<tr>
<td>Timothy Egan</td>
<td>New York Presbyterian Hospital, Columbia University, New York City</td>
</tr>
<tr>
<td>Jeremy Fields</td>
<td>University of Iowa Hospitals and Clinics, Iowa City</td>
</tr>
<tr>
<td>Hemal Gada</td>
<td>Barnes-Jewish Hospital, Saint Louis</td>
</tr>
<tr>
<td>Rahwa Ghermay</td>
<td>Emory University School of Medicine, Atlanta</td>
</tr>
<tr>
<td>Laura Heyns</td>
<td>Hospital of the University of Pennsylvania, Philadelphia</td>
</tr>
<tr>
<td>Noa Holoshitz</td>
<td>New England Medical Center, Boston</td>
</tr>
<tr>
<td>Christopher Howell</td>
<td>University of Michigan Hospitals</td>
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<tr>
<td>Jennifer Huang</td>
<td>McGaw Medical Center - Northwestern University, Chicago</td>
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### Internal Medicine

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Eric Weaver</td>
<td>St. Joseph Regional Medical Center, South Bend</td>
</tr>
</tbody>
</table>

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Jocelyn Kim
Johns Hopkins Hospital, Baltimore
Melissa Kovach
University of Michigan Hospitals
Keith Leung
University of Pittsburgh Medical Center
Keith Naylor
University of Chicago Hospital
Heather Osborn
University of Iowa Hospitals and Clinics, Iowa City
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Danny Fahim
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Eric Peterson
University of Washington Affiliated Hospitals, Seattle
Mahesh Shenai
University of Alabama Hospital, Birmingham

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University of California - Los Angeles Medical Center

OBSTETRICS – GYNECOLOGY
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Jennifer Mankowski
University of California - San Diego Medical Center
Kara Markham
Ohio State University Medical Center, Columbus
Kirsten Salmeen
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David Starks
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Bo Yu
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Emily Yu
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Mark Dacey
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Katherine Danek
Cook County John H. Stroger Hospital, Chicago
Reheena Kamyar
University of Michigan Hospitals
Jesse McKey
Wills Eye Institute, Philadelphia
Daniel Owens
Loyola University/Hines VA Hospital, Illinois
James Pauw
Texas A&M University - Scott & White Regional Health Sciences Education Center, Temple
Cynthia Puro
University of Miami - Bascom Palmer Eye Institute
David Wu
University of Michigan Hospitals

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Henry Ford Health Sciences Center, Detroit
Seth Jerabek
Massachusetts General Hospital, Boston
Robert Kohen
University of Michigan Hospitals
Jeffrey Krempc
Carolina Medical Center, Charlotte
Scott O’Neal
Jackson Memorial Hospital, Florida
Rajiv Rajani
Emory University School of Medicine, Atlanta

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Jason Bloom
Hospital of the University of Pennsylvania, Philadelphia
Cameron Budenz
New York University School of Medicine
Andrew Heaford
University of Iowa Hospitals and Clinics, Iowa City

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University of Texas Southwest Medical School, Dallas
Katherine Bates
University of Michigan Hospitals
Carey Chicorei
University of Chicago Hospital
Natalie Davis
University of California - San Francisco
Joshua Friedland-Little
University of Chicago Hospital
Michael Ginsberg
Albert Einstein College of Medicine - Jacobi Medical Center, New York City
William Johnson
University of Chicago Hospital
Philip Zald
Oregon Health & Science University

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John Miedler
University Hospital of Cleveland
Bret Mobley
Stanford University Hospital and Clinics, California
Michael Roh
Brigham & Women’s Hospital, Boston
Woojin Yu
New York Presbyterian Hospital, Columbia University, New York City

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Alice Han
Stanford University Hospital and Clinics, California

PLASTIC SURGERY
Robert Maniker
University of Michigan Hospitals
Andrew Watt
Stanford University Hospital and Clinics, California

REHABILITATION

Physical Medicine at Michigan 49

Keith Naylor: “University of Chicago Hospital!”
INCOMING RESIDENTS 2005

The University of Michigan Health System welcomes the following residents from other medical schools who begin their training at the U-M this year.

PSYCHIATRY
Charles Ashbrook
University of California - San Diego Medical Center
Lindsay Boynton
New York Presbyterian Hospital, Columbia University, New York City
Paul Dellemonache
Brown University Psychiatric Residency, Providence
Philip Saragoza
University of Michigan Hospitals
Srijan Sen
Yale-New Haven Hospital, Connecticut

RADIATION – ONCOLOGY
Siavash Jabbari
University of California - San Francisco
Philip Schaner
University of Alabama Hospital, Birmingham

RADIOLOGY – DIAGNOSTIC
Michael Fatt
Johns Hopkins Hospital, Baltimore
Jaime Grimley
Virginia Mason Hospital, Seattle
Anastasia Hryhorczuk
University of Michigan Hospitals
David Karow
University of California - San Diego Medical Center
Kenneth Meng
University of California - Irvine Medical Center
Bethany Niell
Massachusetts General Hospital, Boston
Edward Oliver
Hospital of the University of Pennsylvania, Philadelphia
Habib Rahbar
University of Washington Affiliated Hospitals, Seattle
Minchul Shin
Morristown Memorial Hospital, New Jersey
Jonathan Walter
University of Alabama Hospital, Birmingham
Andrew Woodrow
University of Michigan Hospitals

SURGERY – PRELIMINARY
Raymond Bailie
University of Michigan Hospitals
Kunjan Bhakta
University of Michigan Hospitals

TRANSITIONAL
Jared Blum
Brooke Army Medical Center, San Antonio

UROLOGY
Emilie Johnson
University of Michigan Hospitals

ANESTHESIOLOGY
Sarabjit Bedi
University College of Medical Sciences, Delhi, India
Spencer Bertram
Ross University, West Indies
Julia Caldwell
University of Cincinnati College of Medicine
Trenton Davis
Ohio State University College of Medicine
Tara Doherty
Lake Erie College of Osteopathic Medicine
Michael Drelles
Michigan State University College of Osteopathic Medicine
Arkady Dubovy
Chimac Medical Institute, Ukraine
Douglas Fetterman
State University of New York at Buffalo School of Medicine
Pankaj Guglani
St. Eustatius School of Medicine
Razmig Halajian
American University of Beirut, Lebanon
Carl Heine
Creighton University School of Medicine
Paul Hilliard
Wright State University School of Medicine
Nicole Jeffreys
University of Utah School of Medicine
Brian Kopitzki
Michigan State University College of Osteopathic Medicine
Joanna Kountanis
Wayne State University School of Medicine
Mackenzie Kuhl
Michigan State University College of Osteopathic Medicine
Charles Liu
University of Utah School of Medicine
Chhaya Patel
Michigan State University College of Human Medicine
Kellie Reading
Michigan State University College of Human Medicine
Scott Russell
Wayne State University School of Medicine

DERMATOLOGY
Evans Bailey
University of Alabama School of Medicine

ROLAND SHORT III
University of Alabama School of Medicine
Ashish Sud
Wayne State University School of Medicine
Alejandro Tapia
Universidad Central del Este, Dominican Republic
Jennifer Thomas-Goering
University of Health Sciences College of Osteopathic Medicine, Kansas City
Victor Truong
Creighton University School of Medicine, Nebraska
Jacob Waidelich
University of Wisconsin Medical School
Nicole Wilder
University of California - San Diego School of Medicine
EMERGENCY MEDICINE

John Burkhardt
Case Western Reserve University School of Medicine

Patrick Carter
Tufts University School of Medicine

Kent Collin
Albany Medical College

Jennifer Frankel
University of Connecticut School of Medicine

Samantha Hauff
University of Washington School of Medicine

Kurt Hessen
University of Minnesota - Minneapolis School of Medicine

Nada Khogaili
Michigan State University College of Human Medicine

Ashley Kinsey
University of Kansas School of Medicine

Rockefeller Oteng
University of Cincinnati College of Medicine

Rebecca Prepejchal
Wayne State University School of Medicine

Brett Russell
Loyola University of Chicago Stritch School of Medicine

Melinda Turner
Johns Hopkins University School of Medicine

FAMILY MEDICINE

Susan Bettcher
Ohio State University

Andrea Breese
Wayne State University School of Medicine

Andrew LaFleur
Michigan State University

James Lim
Temple University

Kassandra McGehee
Wayne State University

Tanika Pinn
Brady School of Medicine at East Carolina University

Carla Recker
Medical College of Ohio

Margaret Riley
The David Geffen School of Medicine at UCLA

John Stracks
University of Chicago - Pritzker School of Medicine

INTERNAL MEDICINE

Zahra Afsahi
University of Illinois at Chicago College of Medicine

Ahsanuddin Ahmad
University of Medicine & Dentistry of New Jersey - New Jersey Medical School

Silk Ang
University College Dublin

Haritha Avula
Andhra Medical College - University of Health Sciences, India

Dhiman Basu
Calcutta National Medical College

John Betjemann
Albany Medical College

Ashish Bhimani
University of Chicago - Pritzker School of Medicine

Abhay Bibolikkar
Wayne State University School of Medicine

Thomas Boyden
Loyola University of Chicago Stritch School of Medicine

Deborah Bradley
University of Cincinnati

Sanders Chae
Harvard Medical School

Paul Chan
Johns Hopkins University School of Medicine

Tae-Hwa Chun
Kyoto University, Japan

Candace Correa
University of Pennsylvania School of Medicine

Cotant Casey
University of Utah School of Medicine

Stephanie Davis
Baylor College of Medicine

Mittal Desai
Rush University Medical College

Parimala Dommeti
Andhra Medical College - University of Health Sciences, India

Badhik Elinunzer
University of Miami School of Medicine

Syed Fehmi
The Aga Khan University Medical College

Joey Fernandez
State University of New York at Brooklyn College of Medicine

Bradley Fields
Indiana University

Sameer Gafoor
Northwestern University - The Feinberg School of Medicine

Gabriel Galang
Ohio State University College of Medicine

Tejal Gandhi
Northwestern University

Garth Garrison
University of Utah School of Medicine

Natasha (Ghazii) Bagdasarian
Wayne State University School of Medicine

Mark Gibbs
University of Pittsburgh School of Medicine

Saliil Goorha
University of Tennessee

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University of Chicago

Seth Hartung
University of Minnesota - Minneapolis School of Medicine

Israel Hodish
Hebrew University

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Rush Medical College

Sucharit Joshi
Mount Sinai School of Medicine of the City University of New York

Robert Keenan
University of Mississippi

Kian Keyashian
University of California - San Francisco School of Medicine

Gazala Khan
Kilpauk Medical College

Edward Kim
State University of New York Stony Brook School of Medicine

Yanping Kong
Hebel Medical College

Yong Kwon
University of Alabama School of Medicine

Eric Langewisch
University of Iowa College of Medicine

Allen Lee
New York Medical College

James Lin
Vanderbilt University School of Medicine

Kenneth Lyn-Kew
St. Louis University

Anne Maliszewski
Michigan State University College of Human Medicine

Aaron Mammosser
State University of New York at Buffalo School of Medicine

James Mangan
Temple University School of Medicine

Kristin Manteuffel
Loyola University of Chicago Stritch School of Medicine

Matthew Moeller
Saint Louis University Health Sciences Center

Mohan Monika
Michigan State University

Ana Montoya
Universidad Nacional Mayor de San Marcos, Lima, Peru

Jason Morda
University of Virginia

Guy Mulligan
Medical College of Ohio

Mark Naftanel
Duke University School of Medicine

Rebecca (Naglik) Northway
Michigan State University College of Human Medicine

Duyhuu Nguyen
Rush Medical College

James Passinault
Loyola University, Chicago

Uday Paul
University of Illinois College of Medicine

Kristy Phillips
Wayne State University School of Medicine

Robert L Pompa
Ohio State University College of Medicine

Michael Rajala
Albert Einstein College of Medicine - Yeshiva University

Khairi Reed
University of Jordan, Amman, Jordan

Eric Rich
University of Washington School of Medicine

Nadia Robertson
Duke University School of Medicine

Reena Salgia
University of Chicago - Pritzker School of Medicine

Shelley Sanetti
The David Geffen School of Medicine at UCLA

Michael Savona
Wake Forest University School of Medicine

Alexis Shanahan
University of Washington School of Medicine

Pratima Sharma
University College of Medical Science, Delhi, India

Megan Shaughnessy
University of Minnesota - Minneapolis School of Medicine

Rosemarie Shim
Ohio State University College of Medicine and Public Health

Hadas Shiran
Dartmouth Medical School

Heather Simpson
Saint Louis University Health Sciences Center

Marvin Singh
Virginia Commonwealth University School of Medicine

Gabe Solomon
Wayne State University School of Medicine

John Starling III
University of Tennessee Health Science Center College of Medicine

David Stephenson
Oregon Health Sciences University School of Medicine
### Internal Medicine continued

Jennifer (Svoboda) Vedewedi  
Medical College of Ohio

Christine Veenstra  
Wayne State University School of Medicine

Terrence Welch  
Washington University School of Medicine

Madhuri Yagalla  
Michigan State University

Justin Tax  
Kirkville College of Osteopathic Medicine

Esther Yu  
Medical College of Wisconsin

Yevgeny Zolotarevsky  
Wayne State University School of Medicine

Donna Zulman  
The David Geffen School of Medicine at UCLA

### Neurology

Olga Bogdanova  
Nizhny Novgorod State Medical Academy, Russia

Tiffany Braley  
Wayne State University

Maureen Ceresney  
University of British Columbia, Canada

Lisa Cook  
University of Illinois

Mark Garwood  
Loyola University of Chicago Stritch School of Medicine

Tariq Irfan  
Dow Medical College, Karachi, Pakistan

David Kuhlmann  
Kansas University

Raj Kumar  
Government Medical College, Jammu, India

Purvi Saray  
B.J. Medical College, Ahmedabad, India

Mihai Teodorescu  
Carol Davila University, Bucharest, Romania

Jackie Whitesell  
Indiana University

### Obstetrics – Gynecology

Courtney Barr  
University of Missouri

Mitchell Berger  
University of Pennsylvania

Shah Divya  
Columbia University

Aimee Eyvazzadeh  
University of California - Los Angeles

Ryan Longman  
Jefferson Medical College of Thomas Jefferson University

Rebecca Margulies  
University of Washington

Katie Toft  
University of Minnesota

### Ophthalmology

Deborah Chong  
Harvard University

Paul Conrad  
Case Western Reserve University

Jared Parker  
University of Utah

Garrett Scott  
University of Southern California

Alexander Taich  
Case Western Reserve University School of Medicine

### Pathology

Bryan Coffing  
Dartmouth Medical School

Jonathan Cutlan  
Medical College of Wisconsin

Farnaz Hasteh  
Iran University of Medical Sciences

Julie Jorns-Grandzielowski  
Medical College of Wisconsin

Cohra Mankey  
University of Texas Southwestern Medical School at Dallas

Julianne Purdy  
University of Cincinnati College of Medicine

Tarek Rahmeh  
Damascus University School of Medicine, Syria

Lindsay Schmidt  
Medical College of Wisconsin

### Pediatrics

Sana Ahmed  
Medical College of Ohio

Jeremy Adler  
University of South Florida

Drew Ammons  
Emory University School of Medicine

Brian Benneyworth  
University of Tennessee

Win Boon  
Wake Forest University School of Medicine

Aghiad Chamdin  
Damascus University School of Medicine, Syria

Chad Connor  
Harvard University

James Galas  
State University of New York

Byron Gann  
Medical College of Wisconsin

Fauzyah Hassan  
Nalanda Medical College, India

David Jeong  
Case Western Reserve University

Shefali Karkare  
LTM Medical College, India

Katherine Kormanik  
University of Wisconsin

Katrina Kotyarevsky  
Dnipropetrovsk State Medical Academy, Ukraine

Amanda Long  
Wayne State University

Jeffrey Magee  
Washington University

May Ling Mah  
University of North Carolina

Anjali Pawar  
Karnataka Medical College, India

Kerril Randall  
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Meredith Riebschleger  
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Fozia Saleem-Rasheed  
University of South Carolina

Sandhya Sasi  
Syracuse College of Medicine

Kristin Schultz  
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David Selewski  
Rush University Medical College

Christine Stahle  
Loyola University Chicago Stritch School of Medicine

Michelle Villarta  
Michigan State University

Scott Walters  
Michigan State University

Lubna Warsi  
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### Physical Medicine & Rehabilitation

Zachary Abbott  
Touro University College of Osteopathic Medicine

Rishi Bakshi  
Des Moines University

Tony Bogess  
Chicago College of Osteopathic Medicine

Sarah Carter  
University of Minnesota

Timothy Lavis  
University of Texas, Southwestern Medical School

Balaaj Singaracharlu  
Michigan State University

Timothy Yoon  
Wayne State University

### Psychiatry

Sara Bobak  
Wayne State University School of Medicine

Sara Dumas  
George Washington University School of Medicine and Health Sciences

Kalyani Gawri  
University of Selesia, Poland

Bardia Gholami  
Tehran University of Medical Sciences

Victor Hong  
Loma Linda University School of Medicine

Sohail Makhdoom  
Dow Medical College

Christina Mueller  
University of Cincinnati College of Medicine

J. Richard Navarre  
University of North Carolina

Ahsan Nazee  
Rawalpindi Medical College, Pakistan

Amit Patel  
Philadelphia College of Osteopathic Medicine

Vasilis Pozios  
Tufts University School of Medicine

Diy Riawindranath  
University of California – San Francisco School of Medicine

Chandra Srupada  
University of Texas

Mustafa Warsi  
Baqai Medical College, Karachi, Pakistan

David Williams  
University of Alabama School of Medicine

Anthony Wolf  
Dartmouth Medical School

Michael Yoo  
Wayne State University School of Medicine

### Radiology

Sameer Ahmad Ansari  
Jefferson Medical College of Thomas Jefferson University

Jefferson Balin  
Jefferson Medical College of Thomas Jefferson University

Ryan Dvorak  
Creighton University School of Medicine

Leandro Espinosa  
Stanford University School of Medicine

Aaron Friedkin  
Case Western Reserve University School of Medicine

Carrie Hoff  
Mayo Medical School

Tausha Hope  
University of Utah School of Medicine

Sadashiv Kamath  
Bangalore Medical College

### Surgery

Rishi Bakshi  
Des Moines University

Sarah Carter  
University of Minnesota

Timothy Lavis  
University of Texas, Southwestern Medical School

Balaaj Singaracharlu  
Michigan State University

Timothy Yoon  
Wayne State University

### Surgery continued

Sameer Ahmad Ansari  
Jefferson Medical College of Thomas Jefferson University

Jefferson Balin  
Jefferson Medical College of Thomas Jefferson University

Ryan Dvorak  
Creighton University School of Medicine

Leandro Espinosa  
Stanford University School of Medicine

Aaron Friedkin  
Case Western Reserve University School of Medicine

Carrie Hoff  
Mayo Medical School

Tausha Hope  
University of Utah School of Medicine

Sadashiv Kamath  
Bangalore Medical College
### Incoming Residents 2005

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<th>Name</th>
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<tr>
<td>David Lambert</td>
<td>Boston University School of Medicine</td>
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<td>Jacob Livermore</td>
<td>Wayne State University School of Medicine</td>
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<td>Prakash Manoharan</td>
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<td>Tahir Mohamed</td>
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<td>Waleska Pabon-Ramos</td>
<td>Boston University School of Medicine</td>
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<td>James Shirley</td>
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<td>Levi Sokol</td>
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<td>Anthony Charles</td>
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<td>Daniel DeGare</td>
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<td>Arnold Etame</td>
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<td>Eric Ferguson</td>
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<td>Thomas Gernon</td>
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<td>Amir Ghaferi</td>
<td>Johns Hopkins University School of Medicine</td>
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<td>Jeremiah Hayanga</td>
<td>Royal College of Surgeons, Ireland</td>
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<td>Kyros Ipakchi</td>
<td>Justus Leibig Universitaet, Giessen, Germany</td>
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<td>Benjamin Levi</td>
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<td>James Lindner</td>
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<td>Mark Lorenz</td>
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<td>Raymond Lynch</td>
<td>Yale University</td>
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<td>Paul Maggio</td>
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<td>Nicholas Makhoul</td>
<td>McGill University</td>
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<td>Amit Mather</td>
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<td>Bret Mettler</td>
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<td>Nicholas Osborne</td>
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<td>Christopher Pannucci</td>
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<td>Walter Parker</td>
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<td>James Phillips</td>
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<td>Mary-Anne Purtili</td>
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<td>Matthew Romano</td>
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<td>Sean Skinner</td>
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<td>Giselle Tan</td>
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<td>Thomas Varghese Jr.</td>
<td>University of Kerala, India</td>
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<td>Wheat Jeffery</td>
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<td>Kevin Wilson</td>
<td>Washington University</td>
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<td>Troy Wolter</td>
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<td>John Ziewacz</td>
<td>Johns Hopkins University School of Medicine</td>
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Members of the class of 2005 and their families gathered at the Four Points Sheraton in Ann Arbor to learn of their residency match fate.

See more photos from Match Day at [www.medicineatmichigan.org/magazine](http://www.medicineatmichigan.org/magazine).
When will type 1 diabetes be cured?

For more than 80 years, regular injections of insulin have made it possible for type 1 patients to cope with the disease. A few, like Dee Brehm of McLean, Virginia, have lived into their 70s with type 1 diabetes (formerly “juvenile diabetes”) without developing the complications usually expected. However, that’s very rare. Moreover, multiple insulin injections every day present the constant peril of unpredictable plummeting of blood sugar level that can produce dangerous insulin shock. While science and industry have introduced better tools to help patients control their blood sugar more comfortably, insulin is still the only therapy for type 1 diabetes. Science still does not know how to prevent or cure type 1 and its potentially devastating complications. Type 1 diabetes thus remains a serious chronic disease that challenges both the patient and every member of the patient’s family.

Diabetes’ grim scenario has been for many decades the impetus for the search for prevention and cure, involving dedicated researchers around the world. Now, Dee Brehm and her husband, Bill, want to strengthen the work of those researchers. Their $44 million gift to the University of Michigan Medical School to create a new center for type 1 research and analysis is aimed at accelerating the pace of type 1 diabetes research. Their gift is the largest in the school’s history and the second largest for the university.

Bill Brehm, a scientist himself, knows full well that no one can schedule discovery. He also knows that the research pathways to a cure will have many branches and loops. However, it is clear

“Start with the universe; connect the apparently unrelated facts; defy the conventional wisdom; become curious, naive and courageous; foster unity of thought, purpose and spirit.”

—Bill Brehm
that the search is also an administrative and business process that includes much more than research, and Brehm is convinced that better understanding of that process will reveal ways to quicken the pace and lead to earlier translation of research results into effective and available therapies.

Born in Dearborn, Bill Brehm received his bachelor’s and master’s degrees from the U-M, concentrating in math and physics. In 1952 he began a career in advanced systems development in the California aerospace industry. In 1964 he moved into defense-related government service, eventually serving three presidents (Johnson, Nixon, and Ford). In 1978, convinced of the huge potential of information science and systems analysis to solve major management problems, he helped found SRA International in Fairfax, Virginia. SRA serves government clients by providing complete solutions to complex system problems. Brehm now serves SRA as chairman emeritus, and devotes a major portion of his time to the non-profit world.

As Dee Brehm tells the story, their determined search began one evening five years ago. She was in the kitchen preparing dinner when her husband appeared and asked in his quiet way, “What may I do to help you?” “I don’t know where it came from,” she says as she recalls that defining moment, “but I looked at him and said, ‘You can find a cure.’ He paused for a moment, and then replied simply, ‘Okay...’”

For Bill Brehm, whose career spans engineering systems development, defense preparedness, crisis management, and the entrepreneurial challenge of building a company in the highly competitive information technology business arena, his wife’s challenge was not one he took lightly. Together, the Brehms began an odyssey to discover more about diabetes research and to develop a personal plan of involvement. Four years of persistent inquiry went into their development of a concept proposal. Their journey ultimately led them to Michigan. The university responded with an ambitious plan that amounts to a frontal assault on the disease.

The Brehms’ involvement will not stop with their $44 million gift. As an example, Bill Brehm suggested that the university begin by bringing an eclectic group together to develop and discuss ways of accelerating the pace of the search for type 1 diabetes prevention and cure. More than 90 participants from across the country gathered in Ann Arbor March 23-25 to generate and distill guiding ideas. The meeting, held in a “charrette” interactive format, included several of the nation’s top diabetes researchers as well as leaders from industry, information science, engineering, private and government funding entities, patients, and the U-M faculty and senior management team. Together this group represented the thousands of players in the complex search and decision process. Brehm told the participants that he believes that an essential first step in the University’s initiative is to develop a far better understanding of the roles of these players — and how those roles interact and fit together. To facilitate that kind of inquiry he emphasized that the new center will incorporate modern systems analysis and robust medical informatics to help inform and enhance the creative work of the researchers dedicated to this mission.

Brehm also admonished the charrette participants to approach their task with open minds: “Start with the universe; connect the apparently unrelated facts; defy the conventional wisdom; be curious, naive and courageous; and foster unity of thought, purpose and spirit. We must not allow this moment to be lost to the conventional wisdom.”

For Dee Brehm, an Ypsilanti native who has lived with diabetes since 1949, the small victories of beating diabetes one day at a time have been a part of her life for 55 years. But she dreams of a larger victory of protecting all people, young and old, from the discomfort, fear, and devastating experience of type 1 diabetes, now and in the future — a dream she would love to see fulfilled in her lifetime.
Alumni: Update your classmates!

Send class notes to:
Class Notes, Medicine at Michigan, 301 E. Liberty St., Suite 400, Ann Arbor, MI 48104-2251, frostm@umich.edu, or submit online at www.medicineatmichigan.org/classnotes.

1940s

Ray C. Anderson, M.D., Ph.D. (Residency 1947), wrote a number of papers in the field of human genetics and, in March of 1951, became the first pediatric house officer at the heart hospital that was opened that year adjacent to the main University of Minnesota Hospital. Upon completion of his residency, Anderson was appointed assistant professor and devoted himself to pediatric cardiology. He became associated with the Lillehei-Varco surgical team that is now viewed as the founder of open-heart surgery. The 50th anniversary of the first operation (on a patient of Anderson’s) was celebrated with a two-day symposium at the University of Minnesota last November, to which he was invited to return as a speaker. Anderson retired in 1980 as professor emeritus of pediatrics (cardiology) and now resides in Sun City, Arizona.

1960s

Glenn W. Geelhoed (M.D. 1968), professor of surgery, international medical education, and microbiology and tropical medicine at George Washington University Medical Center in Washington, D.C., was unanimously elected as a 2005 recipient of the Medical Mission Hall of Fame Award. The award was given on behalf of Geelhoed’s “exceptional, exemplary, and significant contributions to medical mission activities throughout the world.” Geelhoed and a group of students he recruits spend several months each year on international trips to places like Southeast Asia, Sudan and Haiti to provide medical services to people who would otherwise have no access to health care.

Save the Dates: Reunion Weekend is October 7-8, 2005!

Invited to this year’s reunion are all those who received their medical degrees from the University of Michigan in any years ending in “0” and “5,” all those who earned their medical degrees in any year prior to 1955, and all those who, in any year, completed their residencies, fellowships or doctorates within the University of Michigan Health System.

The weekend’s activities — which include a bus tour of the medical campus and new construction, an awards luncheon, and class dinners — will culminate in the Big House on Saturday as the Wolverines take on the Minnesota Gophers.

You may register online at www.medicineatmichigan.org/alumni. Deadline for registration and purchase of football tickets is August 31. Confirmation packets will be mailed in September. Football tickets will be available for pick-up throughout Reunion Weekend.

Questions? Contact B.J. Bess, director of Alumni Relations, at bjbess@umich.edu or (734) 998-6044.

See you in Ann Arbor!

White Coat Ceremony on the Web

View a videotape of the August 7 White Coat Ceremony for the Class of 2009 on the Web at: www.medicineatmichigan.org
1970s

Edward B. Feinberg, M.D. (Residency 1977, Fellowship 1978), has been appointed professor and chair of the Department of Ophthalmology at the Boston University School of Medicine and chief of ophthalmology at Boston Medical Center where he has practiced since 1999. After completing his fellowship training at the U-M, he practiced retina surgery as a member of the faculty at the University of Tennessee College of Medicine. He spent 1997-98 at the Harvard School of Public Health and 1998-99 at Massachusetts Eye and Ear Infirmary and Harvard Medical School.

Thomas E. Price (M.D. 1979), an orthopaedic surgeon from Roswell, Georgia, was elected in November 2004 to the U.S. House of Representatives from Georgia’s 6th Congressional District. Price, originally from Lansing, served in the Georgia State Senate from 1996-2004. After completing his residency at Emory University, Price started an orthopaedic surgery practice in Roswell, a suburb north of Atlanta, in the 1980s. By the mid-1990s, his practice was the largest private orthopaedic practice in the United States. Price’s Congressional Web site can be found at www.house.gov/tomprice.

1990s

Jamie Stalker, M.D. (Residency 1991), was appointed medical director at Argonne National Laboratory in Illinois on November 1, 2004. Stalker has been working as an occupational health physician and internist at Argonne since 2001, and prior to that was a clinician and instructor at Rush Medical Center and Northwestern Memorial Hospital in Chicago. She was recertified in internal medicine in 2003 and became certified as a medical review officer in 2004. Stalker lives in Lemont, Illinois, with her husband, Joel Whitehouse, an attorney and private investigator, and their children, Justin and Eliana. She can be reached at jstalker@anl.gov.

LIVES LIVED

James S. Benedict (M.D. 1954), 75, died October 27, 2004. After completing his residencies at Iowa Methodist Hospital and Henry Ford Hospital in Detroit, he and his family settled in San Pedro, California, in 1963. A thoracic surgeon for 31 years, Benedict served several hospitals and was past president of the Long Beach Surgical Society and a former chief of staff at St. Mary’s Medical Center in Long Beach. After his retirement in 1994, Benedict concentrated on his hobby, painting, and in 1995 enrolled at California State University-Long Beach to study art. He completed a Bachelor of Fine Arts degree in 1999 and a Master of Fine Arts in 2002. He was a life member of the American Physicians Art Association and served as editor of its newsletter for 24 years. He also belonged to the San Pedro Art Association and was a life member of the Long Beach Arts.

Karl R. Brinker, M.D. (Residency 1975), a kidney transplant specialist in Dallas, died on January 22 when the plane in which he was a passenger crashed near Brownwood, Texas. He was 58. His friend and colleague Paulose Mathai, M.D., 50, a lung transplant specialist who was piloting the plane, was also killed. Brinker was clinical associate professor with the University of Texas Southwestern Medical Center for more than 20 years and also held positions at Methodist Medical Center in Dallas. He served as director of dialysis with Dallas Nephrology Associates and was a founding member of the Texas Transplant Society. Brinker earned his medical degree from McGill University in Montreal and, after his residency at Michigan, served as a surgeon in the military with the U.S. Public Health Service Center for Disease Control at Fort Collins, Colorado, from 1975-77. He completed a fellowship in nephrology at the University of Texas Health Science Center. Brinker was an avid outdoorsman who loved dry fly-fishing, enjoyed hockey, and coached youth baseball.

Homer C. Brown (M.D. 1948), 81, died on December 25, 2004, at his home in Defiance, Ohio, after a long illness. Brown graduated from Ohio State University with a bachelor’s degree in 1944, received his M.D. from the U-M Medical School, performed an internship at Mt. Carmel Mercy Hospital in Detroit, and did his residency in surgery and obstetrics at St. Francis Hospital in Hamtramck, Michigan. He also served with the U.S. Army Medical Corps, U.S. Army Reserve, and was honorably discharged with the rank of captain in 1962. He held various positions during his long career at Defiance Hospital, including chief of staff, and was honored by the Ohio State Medical Association in 2000 for his 50 years of medical practice. A dedicated Wolverine with, in the words of his daughter Rebecca, “a burning passion for all things Michigan,” Brown made frequent trips back to Ann Arbor to attend U-M football games. Gifts in Brown’s memory may be made to the University of Michigan C.S. Mott Children’s Hospital Building Fund, 301 E. Liberty, Suite 400, Ann Arbor, Michigan, 48104-2251.

MPulse

E-news to keep alumni informed!

In May, the Medical Center Alumni Society launched the first issue of its bimonthly e-newsletter, MPulse.

Intended to keep alumni up-to-date on news of other alumni, special events, awards, reunion activities, volunteer opportunities and more, MPulse is distributed to all U-M Health System alumni (former medical, graduate and doctoral students, as well as former residents and fellows) for whom the Medical School has working e-mail addresses. Alumni are encouraged to go to the Alumni Directory at www.medicineatmichigan.org/alumni to add or update their e-mail addresses, or to contact Chris Anne McCartney in the Office of Medical Development and Alumni Relations at chrism@umich.edu or (734) 998-7584.

Alumni with ideas for future issues of MPulse should contact McCartney with their suggestions.
Remembering George Morley

George W. Morley (M.D. 1949, Residency 1954), 81, professor emeritus of obstetrics and gynecology, founding member of the gynecologic oncology subspecialty, and beloved teacher and mentor to hundreds of U-M students and residents, died on February 20 after a brief illness.

Morley's history with the U-M and the Medical School is a long and illustrious one. In addition to earning his medical degree and completing his residency here, he also received his bachelor's degree (1944) and Master of Science (1955) at the U-M. His University Hospital career spanned more than five decades and included the titles of chief of the Gynecologic Oncology Service, director of the Gynecologic Oncology Fellowship, and the Norman F. Miller Professor of Gynecology. He also served as president of the American College of Obstetricians and Gynecologists, the Society of Pelvic Surgeons, the Society of Gynecologic Oncologists, the Central Association of Obstetricians and Gynecologists, the Society of Gynecologic Surgeons, and the Norman F. Miller Gynecological Society.

Morley was a true Michigan man. In a written statement to the University community following Morley’s death, Medical School Dean Allen Lichter said, “In 2002 I presented the Distinguished Alumni Service Award to Dr. Morley, and I can’t think of anyone more deserving. [He] exemplified the very best in Michigan traditions.”

John O.L. DeLancey, M.D., the Norman F. Miller Professor of Gynecology, in his words of remembrance at the memorial service, said of Morley, “His enthusiasm for surgery was infectious, and many of us were infected for life. Throughout this country and around the world, his trainees take better care of their patients because of what they learned from his teaching wisdom. So many surgical careers were launched by his unique combination of surgical mastery, stimulating excitement and personal support. His influence will be felt for generations because of the young people he encouraged and stimulated to pursue careers of surgical excellence.”

Visit the George Morley Memorial Web site at www.med.umich.edu/obgyn/morley.htm. To read a profile of Morley in the fall 2003 issue of Medicine at Michigan, go to www.medicinemichigan.org/magazine/2003/fall/history. Gifts in Morley’s memory may be sent to the Department of Obstetrics and Gynecology, University of Michigan, 1500 E. Medical Center Dr., L4000 Women’s Hospital, Ann Arbor, MI 48109-0276. Please write “George Morley Fund” on the memo line.
Albion College, but his education was interrupted in 1946 when he entered the Army. He served in the Medical Services Unit in Germany until 1948. While stationed in Munich he met Ingeborg G. Dinse, and they were married on November 27, 1948. The couple returned to Michigan where Humphrey resumed his college career, but he was called back to Army duty during the Korean War from 1950-51. In 1952, Humphrey completed his degree at Albion and went on to pursue an M.D. from the U-M. After completing an internship in Flint and at Butterworth Hospital in Grand Rapids, Humphrey returned to Marshall and entered into practice with his father. He was a physician and staff member at Oaklawn Hospital and held staff privileges at both Leila Hospital and Community Hospital in Battle Creek until his retirement in 1991. He also served for many years as a Calhoun County deputy medical examiner.

John R. Lewis (Ph.D. 1949), 88, died on August 10, 2004, in Pittsfield, Massachusetts. Lewis was a 1937 graduate of Ottawa University, received his master's degree in biochemistry from Michigan State University in 1940, and his Ph.D. in pharmacology from the U-M. Throughout his career he held positions at Michigan State University, Fredrick Stearns & Co., and Stearling-Winthrop Research before holding various positions with the Department of Drugs at the American Medical Association in Chicago. He retired from the AMA in 1981 but continued to serve the organization as a consultant for two more years. Lewis belonged to several pharmacological and scientific societies and authored or co-authored 33 articles published in scientific journals.

Robert G. Lovell (M.D. 1944, Residency 1950) died in his home on December 31, 2004, after a long battle with cancer. He was 84. After completing his medical degree, Lovell was diagnosed with tuberculosis, and his first published book, *Taking the Cure*, described his experiences as a tuberculosis patient during World War II. Following his recovery, he began his career at University Hospital as a research assistant in the Division of Allergy in 1948, and completed his residency in internal medicine here. He was named assistant dean of the Medical School in 1957 and served in that capacity until 1959. He held the position of clinical professor of internal medicine at the time of his retirement in 1985, when he was named professor emeritus of internal medicine. He continued to teach at the U-M and treat patients at the North Outpatient Allergy Clinic, and also entered into private practice as an allergist at St. Joseph Mercy Hospital in 1959. Lovell held consulting positions at the Veterans Administration Hospital in Ann Arbor (now the VA Ann Arbor Healthcare System), Wayne County General Hospital in Eloise, Michigan, and served on President Eisenhower's Commission on Veterans Pensions. He retired from private practice in 1990. His medical affiliations included membership in the Michigan Allergy Society, which he served as president in 1960. He achieved the rank of major during his service in the U.S. Air Force from 1955-56. He was a founding member of the John M. Sheldon Society, and his extensive community service included volunteering for the American Red Cross, YM-WCA, the Ann Arbor Parks and Recreation Department, Friends of the Library, and as University High School team physician. In 1970, Lovell fulfilled a lifelong dream by teaching himself to play the great Highland Bagpipe and was certified as a senior instructor in 1978 by the Scottish College of Piping in Edinburgh, Scotland. Widely known as an Ann Arbor bagpiper, he appeared at many special events and occasions in the area and taught piping lessons in his home until early 2004. He was also an avid stamp collector and gardener whose gardens produced many award-winning roses over the years.

Robert M. Lugg (M.D. 1952, Residency 1955) died on November 3, 2004, at the age of 80, of complications from respiratory problems. He enlisted in the Navy Hospital Corps during World War II at the age of 18, and received the Silver Star and Purple Heart during his service. After that experience, he was driven to pursue medicine. He met Margaret Shannon while attending Purdue University and they were married in 1949. The couple moved to Ann Arbor where Lugg attended the U-M Medical School and did his residency, and then settled in Port Huron where he maintained a private practice for 29 years. A pediatrician, Lugg was an active supporter of children's mental health services and, in 1983, was named Public Citizen of the Year by the National Association of Social Workers for his contributions to social service organizations in St. Clair County. In 1985, he closed his practice and accepted a position with the U.S. Army as a developmental pediatrician assessing the needs of developmentally handicapped children of military families in Stuttgart, Germany. Lugg and his wife returned to the U.S. in 1991 and moved to Silverdale, Washington, to be closer to their daughter, Lois Jane.

Harold Proctor McGinnes (M.D. 1945) died on June 29, 2004, at McLean County Nursing Home in Normal, Illinois. He was 84. McGinnes was born and raised in Charlotte, Michigan, where he graduated from high school in 1938. He graduated from Michigan State University in 1942 and from the U-M Medical School in 1945. He was a fellow of the American College of Surgeons and founding member of its Downstate Illinois Chapter, as well as a founding member of the Illinois Surgical Association. During his career he served on the staffs of Brokaw Hospital, Menomonite Hospital and St. Joseph Medical Center, all in Illinois.

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Merlin C. Townley (M.D. 1952), 77, of Plymouth, Michigan, died on December 16, 2004, after battling pancreatic cancer. Townley grew up in Jackson, where he attended a one-room country school and worked on the family farm in the summers, then went on to graduate as co-valedictorian from Jackson High School in 1945. He was active in a variety of student organizations while attending the U-M, both as an undergrad (he received his bachelor's degree in 1949) and as a medical student. He completed an internship at Wayne County General Hospital in 1953 and was a resident in psychiatry there from 1953-54. From 1954-56 he served in the U.S. Air Force as director of the psychiatric service of a 400-bed hospital in Nagoya, Japan. Townley then returned to Wayne County General as a psychiatrist and was director of the female service of the psychiatric division until the hospital closed in 1977. He became a fellow of the American Psychiatric Association in 1967, a life fellow in 1991, and a distinguished life fellow in 2003. He was active on the staff of Ardmore Psychiatric Hospital, provided consultation services at the Veterans Hospital in Allen Park, and saw patients privately at his practice in Wayne and Plymouth. He married Serena Louise Pittman in 1968 and they had three children. He retired in 1995 and purchased the farm on which he grew up, where he spent much of his free time gardening. He also enjoyed traveling, visiting more than 70 different countries in his lifetime.
During a game a few years ago in San Francisco, Giants first baseman J.T. Snow whipped a throw that second baseman Jeff Kent deflected before it banged shortstop Ramon Martinez in the head.

The stunned Martinez left the night game at SBC Park and the Giants immediately reached the team’s head physician, Robert E. Murray (M.D. 1962), at home around 10 p.m. Murray quickly called St. Francis Memorial Hospital in San Francisco, alerting the staff to call in a radiology team to perform a magnetic resonance imaging (MRI) test. An ambulance sped Martinez to the hospital, where doctors diagnosed a concussion and called Murray with the information. Murray relayed the news to the Giants within hours of the injury.

Kent now plays for Los Angeles and Martinez for Detroit, but Murray’s job remains the same.

In recent years Murray supervised ace pitcher Jason Schmidt’s treatment for rotator cuff tendinitis, first baseman J.T. Snow’s arthroscopic knee surgery and former closer Robb Nen’s four shoulder operations. In every situation, he says it’s crucial to begin treatment quickly.

“We’re very proactive,” says Murray, who also maintains a full practice as a general, vascular and thoracic surgeon. “If we suspect anything is wrong, we’ll get an MRI or treat the condition...
immediately. We try not to allow any delay between a perceived injury and the treatment.

“That’s important because the faster the player starts rehabilitation, the quicker he will heal. Also, if someone goes down with an injury we have to move players from the AAA team to the majors, and we try not to create any delay in that process.” In addition to players, Murray’s patients with the Giants include baseball Hall of Fame members Willie Mays, Willie McCovey and Orlando Cepeda, who work for the team.

Murray’s work with the Giants extends far beyond the 162-game season. It can involve 11 months of the year. “We go from December 1 through the end of October if we’re in playoffs,” he says. “If not, our work ends October 1. Truly, the only time off is in November.” The work starts again in December with a training camp for players and winter meetings for executives that doctors attend for continuing medical education.

Doctors helping Murray on the Giants staff include orthopaedists and an internist, podiatrist and ophthalmologist.

The ophthalmologist, Daniel Goodman (M.D. 1980), also received his medical degree from Michigan, and was a Phi Beta Kappa Wolverine undergraduate. Team owner Peter A. Magowan invited Goodman to join the staff after becoming Goodman’s patient.

Goodman specializes in corneal transplant, cataract and lens implant surgeries and laser vision correction. The former Chicago high school third baseman sees fewer games than Murray, and most players needing treatment come to his office.

In recent years, Goodman has performed LASIK (laser vision correction) surgery to correct contact lens problems for former Giants shortstop Rich Aurilia, who signed a minor league contract with Cincinnati during the off-season, and Robb Nen, now retired. Nen “had extremely high near-sightedness and was having difficulty with contact lenses, especially at night — to the point where he was having a hard time seeing the catcher’s signals,” Goodman says. Each player’s vision was better than 20-20 after surgery.

The team medical staff is necessary because “although these men are all under the age of 41, the wear and tear of a 162-game season carries a price,” Murray says. “They all sooner or later start breaking down a little.” Because he deals with healthy young men, Murray says, “we are just treating colds, allergies and gastrointestinal disorders. Several guys have had acute appendicitis, but most of the major problems are dealt with by the orthopaedists.” The staff’s treatment of these problems has helped the Giants register “one of the lowest number of disability days in major league baseball,” Murray says. “That’s been consistent over the last six years.”

To ensure that the Giants get proper care, Murray spends weekends in spring training in Scottsdale, Arizona, and attends about 50 of the team’s 81 home games. He arrives about an hour before the first pitch and heads for the training room in the clubhouse to see players.

When the game starts he watches from his seats behind home plate. After the game he waits in the trainers’ room, in case he’s needed, until the players leave. Murray also traveled with the Giants to the 2002 playoffs and World Series, where San Francisco lost to Anaheim in seven games. Being at the World Series tops his baseball thrills. “It’s extremely exciting,” he says. “You’re on the inside and you know everything that’s happening.

“You are at another level of competition, so your day-to-day activities with the team are greatly accelerated. In a real sense you are living in the moment. You are not thinking about tomorrow or the next day because everything is so much more intense.”

Events like the Series make him appreciate the job. When he became director of the Catholic Healthcare West Sports Medicine Team, the organization asked if he’d also direct health services for the Giants. “I jumped at the job,” Murray says.

Murray interned in San Francisco, completed a residency at St. Louis University, served two years in the Army and, in 1970, returned to San Francisco to join a practice. He immediately became a Giants fan, and today delights in taking his grandchildren to games.

“One of the biggest joys of having this job is that during game time I will bring in one or two friends’ kids, or my grandchildren, to tour the locker room,” he says. “They’ll usually bring their dad along and take a picture by one of the lockers, and look at the weight room, and I try to give them each a baseball so they usually get an autograph.

“It leaves a lasting impression. They just light up and, according to their parents, talk about it at home for days.”
James Albers (M.D. 1972), Ph.D., professor in the departments of Neurology, Physical Medicine and Rehabilitation, and Psychiatry, was appointed assistant dean for instructional faculty in December 2004. As assistant dean, Albers focuses on policies and procedures related to the instructional track, the appointment and promotion processes, as well as conducting third-year reviews and exit interviews.

James R. Baker Jr., M.D., was recently elected director of the American Board of Allergy and Immunology, a conjoint board of the American Board of Internal Medicine and the American Board of Pediatrics. As director, Baker will work to fulfill the board’s mission, including establishing qualifications and examining physician candidates for certification as allergy/immunology specialists; establishing and improving standards for teaching and practice of allergy/immunology; and establishing standards for training programs in allergy/immunology. Baker begins his six-year term as director in January 2006.

Darrell “Skip” Campbell, M.D. (Residency 1978), chief of clinical affairs and professor of internal medicine, has been selected chair of the executive committee of the American College of Surgeons’ National Surgical Quality Improvement Program, a national, validated, outcomes-based, risk-adjusted program for the measurement and enhancement of surgical care. The Veterans Health Administration created the program 11 years ago, resulting in surgical mortality decreasing by 27 percent and morbidity by 45 percent in 128 participating VA hospitals.

Andrew J. Haig, M.D., associate professor of physical medicine and rehabilitation and of orthopaedic surgery, has been elected North American vice president of the International Society for Physical and Rehabilitation Medicine for a two-year term ending in 2006. Haig was also re-elected president of the International Rehabilitation section of the American Academy of Physical Medicine and Rehabilitation for a term ending this November.

Maya Hammoud (M.D. 1996), assistant professor of obstetrics and gynecology, was appointed assistant dean for student programs in February. Hammoud has served as director of Michigan’s M3 clerkship program in obstetrics and gynecology; she is also active nationally in medical education. Hammoud’s responsibilities as assistant dean include medical student career development, individual student counseling and medical student wellness.

Rodney Hayward, M.D., professor of internal medicine and director, VA Ann Arbor Healthcare System Center for Practice Management and Outcomes Research, is the recipient of the 2005 Under Secretary’s Award for Outstanding Achievement in Health Services Research. The award recognizes a VA researcher whose work has led to major improvements in the quality of veterans’ health care, made significant contributions to the future of health services research and development through training and mentorship, and enhanced the visibility and reputation of VA research through national leadership.

Steven Goldstein, Ph.D., associate chair for research in Orthopaedic Surgery and the Henry Ruppenthal Family Professor of Orthopaedic Surgery and Bioengineering, has been elected to the National Academy of Engineering, one of the National Academies of Science. Goldstein was recognized for his contributions to the understanding of bone micro-mechanical and remodeling behaviors and their translation into gene therapies and fracture fixations.

John F. Greden, M.D., Rachel Upjohn Professor of Psychiatry and Clinical Neurosciences and chair of the Department of Psychiatry, received the University of Minnesota Medical Foundation’s 2005 Distinguished Alumni Award. The award recognizes University of Minnesota Medical School graduates who have realized extraordinary achievement in their medical careers and contributed outstanding service to their communities.

Robert P. Kelch (M.D. 1967, Residency 1970), professor of pediatrics and communicable diseases, chief executive officer of the U-M Health System, and U-M executive vice president for medical affairs, received the Joseph W. St. Geme Jr. Leadership Award at the annual meeting of the Pediatric Academic Societies in May in Washington, D.C. The award honors individuals whose broad and significant contributions are considered to be “creating the future” of the field of pediatrics.

Ormond A. MacDougald, Ph.D., associate professor of molecular and integrative physiology, was selected to present the prestigious Henry Pickering Bowditch Award Lecture at the annual meeting of the American Physiological Society this spring. The lectureship is awarded for original and outstanding accomplishments in the field of physiology. Founded in 1887, the American Physiological Society fosters education, scientific research, and dissemination of information in the physiological sciences, and has more than 10,500 members.

Ron Maio, D.O., professor of emergency medicine, was named assistant dean for research regulatory affairs in November 2004. Maio’s responsibilities include providing leadership, expertise and advice on regulatory issues that affect human
New Leadership for Human Genetics and Neurosurgery

THE UNIVERSITY OF MICHIGAN MEDICAL SCHOOL RECENTLY NAMED NEW CHAIRS FOR TWO KEY DEPARTMENTS

Sally Camper, Ph.D., professor of human genetics and internal medicine and a highly respected and nationally recognized geneticist, became chair of the Department of Human Genetics and the James V. Neel Professor of Human Genetics on January 1. Using genetically engineered mice, Camper has identified and elucidated the genes involved in inherited pituitary hormone deficiency diseases, deafness and skeletal defects. Her work has led to important advances in clinical research, as well as in basic science.

After a bachelor’s degree from the University of Delaware and a doctorate in biochemistry from Michigan State University, Camper undertook postdoctoral training at Case Western Reserve University in the Department of Molecular Biology and Microbiology, at the Institute for Cancer Research in Philadelphia, and at Princeton University in the lab of Shirley Tilghman, a world-renowned scholar and leader in the field of molecular biology and Princeton University’s 19th president. Camper joined the Michigan Department of Human Genetics in 1988 and, in 2001, accepted a secondary appointment in the Department of Internal Medicine. She is associate director of the Program in Biomedical Sciences, a member of the Organogenesis Steering Committee, and founding director of the U-M’s highly regarded Transgenic Animal Model Core. Camper is active in a variety of other interdepartmental programs, including the Medical Scientist Training Program, Genome Sciences Training, and Systems and Integrative Training. Her lab received a National Institutes of Health MERIT Award in 2002 and serves as the training locus for many promising graduate and post-doctoral scientists and physician-scientists. She is the author of more than 125 publications in scientific journals.

Also on January 1, Karin Muraszko, M.D., professor of neurosurgery, pediatrics and communicable diseases, and of plastic surgery, became chair of the Department of Neurosurgery. She received a bachelor’s degree from Yale University and a medical degree from Columbia College of Physicians and Surgeons. After residency in neurosurgery at Columbia’s New York Neurological Institute, she spent two years at the National Institute of Neurological Disorders and Stroke.

Muraszko came to Michigan in 1990 and maintains an active clinical practice, along with research interests in pediatric brain tumors, Chiari malformations, developmental anomalies of the spine (particularly spina bifida), and craniofacial anomalies. Muraszko became chief of pediatric neurosurgery in 1995 and vice chair for education for the Department of Neurosurgery in 2001. In addition to her clinical, research and educational commitments, she has served on important U-M committees including a term on the Advisory Committee on Appointments, Promotions and Tenure, which she served as chair, and the Medical School Executive Committee. Muraszko also holds leadership positions in multiple national neurosurgical organizations, including membership on the executive committee of the Congress of Neurological Surgeons, the public relations committee of the American Association of Neurological Surgeons, the board of directors of Women in Neurological Surgery, the health care policy steering committee of the American College of Surgeons, and the publication committee of the American Society of Pediatric Neurosurgery.
subjects and animal research in the U-M Health System. He also co-chairs the Institutional Review Board Leadership Committee.

**Steven Pipe**, M.D. (Residency 1996), assistant professor in the Division of Hematology/Oncology, is president-elect of the Midwest Society for Pediatric Research; his term begins in 2006. The society provides a constructive forum for pediatric scientists, developmental biologists, and junior faculty and trainees at various levels to present their work, and is open to active full-time faculty in academic pediatrics at teaching institutions throughout the Midwest and portions of Canada.

**Ameed Raoof**, M.D., Ph.D., lecturer in the departments of Cell Biology and Medical Education, is a member of the International Advisory Board of Editors for Gray’s Anatomy for Students, which was published in October 2004. The textbook is considered a major asset to anatomy education and “firmly relates the study of anatomy to the clinical practice of medicine,” according to its publisher, Elsevier/Churchill Livingstone.

**Yehoash Raphael**, Ph.D., associate professor of oto-laryngology and director of the Otopathology Laboratory at the U-M Kresge Hearing Research Institute, has received the 2005 Research Award from the Deafness Research Foundation for his work using gene therapy to regenerate auditory hair cells in the inner ear. Founded in 1958, the Deafness Research Foundation is the leading source of private funding for basic and clinical research in hearing science.

**Albert Rocchini**, M.D., professor of pediatrics and communicable diseases and director of the Division of Pediatric Cardiology, has been elected to serve as vice chair of the Faculty Group Practice Board of Directors. Rocchini began his three-year term in July 2004.

**Brent C. Williams**, M.D., associate professor of internal medicine, is a co-recipient with Joanne M. Pohl, Ph.D., associate professor of nursing, of the Ginsberg Center for Community Service and Social Action’s Outstanding Faculty Member Award. The award is given to university faculty members who have demonstrated excellence in providing, developing or sustaining opportunities for engaging students in community service, social action and learning. Williams and Pohl received the award for their work with the Shelter Association of Washtenaw County Health Clinics.

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**Corrections**

The Fall 2004 issue of *Medicine at Michigan*, in “Out of Africa” (pages 50-51), misspelled the name of one of Margaret Grigsby’s professors; the correct spelling is Ruth Wanstrom. In the same piece, we placed the Westminster Dog Show in England. The competition, in which one of Grigsby’s dogs won a blue ribbon, is held in New York City. Our apologies.


A. Mark Fendrick, M.D., professor of internal medicine; and Michael E. Chernew, Ph.D., associate professor of internal medicine, editors-in-chief: The American Journal of Managed Care. Medical World Communications.


Edited by Harry L. T. Mobley, Ph.D., professor and chair, Department of Microbiology and Immunology; James P. Nataro, M.D., Ph.D.; Paul S. Cohen, Ph.D.; and Jeffrey N. Weiser, M.D.: Colonization of Mucosal Surfaces. ASM Press, 2005.

Three Faculty Members Honored with Newly Established Professorships

The University of Michigan Medical School recently inaugurated three endowed professorships and installed the first holders of each in ceremonies in Ann Arbor.

The Frederick G.L. Huetwell and William D. Robinson, M.D., Professorship in Rheumatology

On October 28, 2004, Alisa Erika Koch, M.D., was installed as the first Frederick G.L. Huetwell and William D. Robinson, M.D., Professor of Rheumatology.

Koch received her medical degree from Northwestern University in 1980. She completed her residency in internal medicine at Loyola University and a fellowship at Northwestern. She was appointed assistant professor of medicine at Northwestern in 1986 and achieved the rank of professor in 1995. Since 1997, she had been the Gallagher Professor of Arthritis Research at Northwestern and has served as chief of the Section of Rheumatology at the Veterans Affairs Chicago Health Care System since 1991.

Koch is widely recognized as a leader in the field of rheumatology. She has defined cytokine and chemokine pathways in inflammatory synovitis. She has established a key role for macrophages and their secretory products to the development of rheumatoid arthritis and the angiogenesis that contributes to this disease. Her bibliography reflects more than 130 peer-reviewed articles, one book and 21 book chapters.

The Frederick G.L. Huetwell and William D. Robinson, M.D., Professorship in Rheumatology honors two men who made extraordinary contributions to the growth of the University of Michigan Medical School.

Huetwell was a great friend to the U-M and to the Medical School, and one of the University’s leading benefactors. Despite physical difficulties related to cerebral palsy, Huetwell earned a degree in history from the College of Literature, Science, and the Arts in 1938, and went on to become an active and devoted alumnus. Huetwell died in 1994. A year later, his bequest of nearly $17 million came to the University, with more than $9 million dedicated to the establishment of endowments in the Medical School.

William D. Robinson was responsible for the creation of the Division of Rheumatology in the Department of Internal Medicine. He practiced medicine, trained medical students, and expanded the horizons of biomedical knowledge in a career that spanned 54 years. When Robinson died in 1988, his department colleagues joined forces to contribute a gift in his name.

The Ravitz Foundation Professorship in Pediatrics and Communicable Diseases

On November 19, 2004, the U-M Medical School inaugurated the Ravitz Foundation Professorship in Pediatrics and Communicable Diseases. Valerie Castle, M.D., a professor of pediatrics and communicable diseases and chair of the Department of Pediatrics at the University of Michigan, was installed as the first Ravitz Foundation Professor.

A native of Toronto, Canada, Castle received her bachelor’s degree from McGill University in Montreal and her medical degree from McMaster University in Hamilton, Ontario. She completed a fellowship in pediatric hematology/oncology at the University of Michigan in 1990 and joined the U-M faculty the same year.

Castle’s primary research focus is neuroblastoma, a pediatric solid tumor. She is specifically interested in mechanisms of chemotherapy and radiation resistance and studies the control of neuroblastoma invasion and metastases. Her laboratory is funded by the National Cancer Institute and several foundation grants. Her research interests in neuroblastoma are complemented by her clinical expertise; Castle is widely regarded as one of the world’s foremost specialists in the treatment of this devastating disease. She holds leadership positions in a number of professional organizations, including the Society for Pediatric Research, the American Society of Pediatric Hematology/Oncology, the American Pediatric Society and the American Association for Cancer Research.

Edward Ravitz was born in Detroit in 1918 and grew up in the midst of the Great Depression. Although he was a brilliant young man, the eco-
nomadic devastation of the times precluded education beyond Central High School, so he worked with his father, a carpenter. He entered the army in World War II and was soon in officer candidate school, where he was commissioned a second lieutenant. Upon graduation, he was assigned to combat in the Pacific where his leadership and courage earned him the Bronze Star Medal for Valor and promotion to captain.

In 1963, Ravitz was hired by Edward Rose and Sons, a large building company, and sent to establish their Kalamazoo office which, through his leadership, grew to more than 600 employees, who built more than 15,000 single-family homes and apartment units in Michigan and more than 12,000 in other states.

Ravitz became interested in high-risk medical research, children and child development. Not long before his death in 1999, he established the Edward Ravitz Foundation. The foundation’s gift of a professorship for the chair of the Department of Pediatrics and Communicable Diseases at the University of Michigan follows earlier gifts to support construction of the new children’s hospital and research on neuroblastoma.

The Harold W. and Helen L. Gehring Professorship in Orthopaedic Surgery

December 8, 2004 marked the inauguration of the Harold W. and Helen L. Gehring Professorship in Orthopaedic Surgery. James E. Carpenter (M.D. 1984), chair of the Department of Orthopaedic Surgery, was named as the first Gehring Professor.

A third-generation graduate of the University of Michigan Medical School, Carpenter received his training in orthopaedic surgery at Harvard, where he held a research fellowship in orthopaedic biomechanics, and at Massachusetts General Hospital in Boston. He has been a member of the Section of Orthopaedics and an integral part of the U-M Sports Medicine Program since 1990. Carpenter is active in research, has presented at scientific meetings nationally and internationally, and is the author of numerous scientific articles and book chapters. His areas of interest and expertise are in shoulder, knee and arthroscopic surgery as well as sports medicine. As a team physician for athletes, Carpenter provides orthopaedic care for the Michigan Wolverines.

Since 1993, Carpenter has also taught in the U-M Biomedical Engineering Program. He was named chair of the Department of Orthopaedic Surgery in 2003.

Helping others and giving back to the community were principals that guided Harold W. Gehring (M.D. 1936, Residency 1941) and his wife, Helen, throughout their lives. During World War II, when medical services as well many other American endeavors were limited by heavy conscription to military service overseas, the Gehrings provided free medical care to Native Americans in Lapeer County as their own form of service to an American society under siege. Harold Gehring specialized in orthopaedics; Helen Gehring had earned bachelor’s and master’s degrees in bacteriology from the U-M in 1935 and 1938, respectively, and also held a research fellowship from 1935 to 1941. Subsequently, Harold Gehring practiced at Beaumont and Grace hospitals in Detroit.

Harold Gehring died in 1984. Helen Gehring later established the Harold W. and Helen L. Gehring Professorship in Orthopaedic Surgery to help train future physicians at the institution that had provided both of them with so many opportunities and the ability to make a difference in the world. —WH
The global impact of medicine at Michigan is impressive and undeniable, and the pride we all can derive from the world-wide volunteer efforts of our students, physicians, nurses and staff is enormous and gratifying. We congratulate and commend everyone within the Health System who is involved in these global initiatives. Our positive effects on developing nations would not be possible, however, without the spectacular biomedical achievements happening right here in Ann Arbor every day.

Providing the best environment and culture to enable those achievements is an ongoing responsibility of the Medical School and the Health System of which it is part. Facilities and equipment must keep pace with advances in technology for optimal progress in research, education and clinical care. Researchers, in particular, need to be able to pursue new directions at any time, as today’s newly discovered knowledge charts tomorrow’s course of scientific inquiry.

Our ability to remain a leader in biomedical research and health care delivery — and, correspondingly, in the education of future researchers and physicians — comes from a variety of strengths, not the least of which is public and private support of our institution. Though state appropriations have decreased in recent years, they still form a substantial portion of the funding that supports the University of Michigan and its Health System. As a public institution, we owe much to the state that has supported us for so many years. Funding from the National Institutes of Health helps provide a vital foundation for our research efforts, without which many of the remarkable scientific pursuits taking place throughout the Health System today simply would not be possible.

Private philanthropy forms another crucial element of our support, as illustrated by the historic gift made by Bill and Dee Brehm (see page 54) to hasten the pace of discovery of a cure for type 1 diabetes. The Brehms’ faith in us is a great testament to the caliber of research at Michigan, research that is at once commonplace and incredible, research that comprises the daily work of medical professionals as well as the extraordinary moments when a human life is saved. We salute the Brehms’ generosity, dedication and steadfast vision, and we are grateful for their partnership at this remarkable time in biomedical research.

We are also grateful for the continuing partnership of the C.S. Mott Foundation, whose $25 million gift toward construction of a new children’s and women’s hospital furthers a relationship going back 40 years when the foundation’s support helped build the existing, and now outdated, C.S. Mott Children’s Hospital. The Mott Foundation gift, as well as that of Bill and Dee Brehm and indeed so many others at so many levels, illustrates perfectly the power and progress that can be realized when those of like minds and like visions work together to accomplish a common goal. The Michigan Difference campaign for medicine at Michigan will forge more of these partnerships, and help provide the foundation upon which our work and progress will continue.

Our vision of the medical campus is revolutionizing how we do research and deliver clinical care, while providing a top education to some of the nation’s brightest students. The Biomedical Sciences Research Building, the Cardiovascular Center, the Depression Center, the new children’s and women’s hospital — all in some stage of construction or planning — will have profound benefits to future science, education and health care delivery at Michigan. And, as we’ve seen in this issue of Medicine at Michigan, those profound benefits will reach well beyond the Health System and the state of Michigan, helping to improve lives around the world.

U-M Executive Vice President for Medical Affairs and CEO, U-M Health System
“I Want to Help the Next ‘Me’ Out There …”

“I grew up in rural Michigan, in Menominee. My dad died after my first semester of medical school, and I had no money. I made it through on loans — I didn’t qualify for scholarships. I told myself at the time that when I could, I wanted to help the next ‘me’ out there, and make it a little bit easier.

“My loans are paid off now, and I’ve begun to fund a $5,000 named scholarship. I named it after my father, Kenneth James Sobeski, who was a foundry worker. I think he’d like that.”

James Sobeski, M.D., a 1993 graduate of the University of Michigan Medical School, is an orthopaedic surgeon in Champaign, Illinois, where he lives with his wife, Paddy, and their three children, Ellen, Sophia and Jimmy.