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As cameras rolled for a national documentary, 249 graduating medical students of the Wayne State University School of Medicine learned where they will spend the next several years of residency training.

The annual Match Day ritual was met with whoops, hollers and tears of both joy and sorrow as medical students across the country gathered with their families to learn — individually and simultaneously — where they “matched” for their residencies.

This year at WSU, a film crew captured the event for “The Heartbeat of Detroit,” a multi-part documentary that will air on the Sundance Channel and French television. The documentary will chronicle the lives of several 25- to 35-year-olds — including residents and nurses at Detroit Receiving Hospital — who are personally invested in the city of Detroit’s future.

“Our match rate continues to be an outstanding one,” said Dr. Kertia Black, WSU School of Medicine assistant dean for student affairs, referring to the 95.2 percent of students who matched successfully. “Many of the most high-powered programs in the country demonstrated that our students are exactly what they’re looking for.”

The WSU/Detroit Medical Center program continued to be the most popular match with 44 students. About 60 percent of the class will stay in Michigan, while others will spend the next phase of their career at institutions scattered across the country, from Yale-New Haven Hospital to Stanford University Programs.

Monika Olchawa, who will be joining the internal medicine program at Loyola University Medical Center, in Illinois, said she was looking forward to the opportunities offered by her match, which featured a diverse patient population.

“I’m really happy I got my first choice,” she said.

The Match Day celebration also featured the presentation of several awards, including departmental awards, distinguished service awards and the Penfil Award. Sachin Shah received the Penfil Award, which recognizes the senior, who in the opinion of his classmates, has developed an understanding of the art of medicine as displayed by the care and understanding of patients during the clinical years of medical school.

“He is the patient’s No. 1 advocate,” said Loretta Robichaud, this year’s fourth-year counselor, as she read comments submitted by Shah’s classmates.

In addition, Dr. Diane Levine, WSU vice chair for education in the Department of Internal Medicine, was named class marshall. She will lead the class procession at commencement, June 6, an honor reserved for a faculty member whom the students believe contributed greatly to their education.
Dear Friends and Colleagues,

When I arrived in Detroit as a candidate for the dean’s position last year, I was pleased to be considered to join the faculty as the leader of one of the nation’s truly remarkable medical schools. I knew the Wayne State University School of Medicine’s solid reputation for excellence in a number of areas, particularly clinical training. I saw the potential to expand the school’s outreach as a major resource to the diverse population of the greater community. I understood the challenges of conducting the school’s various enterprises during a time of great economic pressure and within a fiscally-strained environment. I realized the existing opportunity to make great strides in directing the school toward top-tier stature in research.

Now that I have been given the opportunity as dean of medicine and senior advisor to the president for health affairs, I am energized with the prospect of helping to elevate the Wayne State University School of Medicine to greater heights in the world arenas of medical and biomedical education, technology, application and research. I am confident—given the tremendous talent, skill and dedication among the WSU faculty, students, alumni and friends—that I have started with the resources needed to lead this effort.

As dean, I envision my role as merging the existing assets of exceptional people and expansive programming throughout the school and the university in order to chart an important new direction for our future. This vision includes WSU becoming a national leader in translational approaches to research that will streamline and shorten the distance between the laboratory bench and accepted medical application. The school will seek expansion through alliances with institutions throughout the greater metropolitan area to broaden the academic base of medical education, research and patient care in the region. I remain committed to our mission of providing a major portion of the physician labor force to the state. We will remain the major advocates for improved access and provision of health care to our immediate community, and we will do so while contributing to the growth and revitalization of our medical campus in Detroit.

I approach this future with full optimism that the School of Medicine will succeed in these and many other endeavors. I am indebted to my predecessors and the faculty who have created an academic environment of excellence, especially to Robert R. Frank, who as interim dean was able to truly make a difference in the spirit of the school over the last year-and-a-half. I look forward to building relationships with our friends and benefactors who have voted their confidence in our future with their generous support.

Sincerely,

Robert M. Mentzer, M.D.
Dean
Women’s Health Initiative shows lower fat intake having little or no effect on risk of breast cancer, colorectal cancer, cardiovascular disease

Following an eating pattern lower in total fat did not significantly reduce the incidence of breast cancer, heart disease, or stroke, and did not reduce the risk of colorectal cancer in healthy postmenopausal women, according to the latest clinical trial results from the National Institutes of Health’s Women’s Health Initiative (WHI).

The study was designed to evaluate a low-fat dietary pattern’s effect on the risk of cancer. However, investigators also evaluated the data to review the effect on cardiovascular disease. The results from the largest ever clinical trial of low-fat diet are reported in three papers in the February 8 edition of the Journal of the American Medical Association.

Susan Hendrix, D.O., WSU professor of obstetrics & gynecology, was a co-author on the study, along with her fellow Women’s Health Initiative investigators.

“This is not permission to go to your local fast food restaurant and eat anything you want,” Dr. Hendrix said. “But this study shows us that a low-fat diet alone is not going to be able to reduce risk.”

The Women’s Health Initiative Dietary Modification Trial examined the effect of a low-fat diet on the incidence of breast cancer. The WHI, which began in 1992 with 48,835 postmenopausal women without prior breast cancer, included a dietary modification intervention consisting of consumption of a reduced amount of fat (20 percent of energy) and an increased amount of vegetables and fruits (5 or more servings a day) and grains (6 or more servings a day). The women, aged 50 to 79 years, were randomly assigned to the dietary modification intervention group (40 percent, or 19,541) or the comparison group, who were not asked to make dietary modifications (60 percent, or 29,294).

It has been hypothesized that a low-fat diet can reduce breast cancer risk, but previous studies have had mixed results. The average follow-up time was 8.1 years. Overall, 655 (3.35 percent) women in the intervention group and 1,072 (3.66 percent) women in the comparison group developed invasive breast cancer during follow-up.

The researchers found that there were 201 cases of invasive colorectal cancer (0.13 percent per year) in the intervention group and 279 (0.12 percent) in the comparison group. The WHI low-fat eating pattern intervention did not reduce the risk of invasive colorectal cancers. There was no evidence of reduced risk for any category of colorectal cancer outcome associated with the intervention.

Levels of low-density lipoprotein cholesterol and diastolic blood pressure were significantly reduced. Levels of high-density lipoprotein cholesterol, triglycerides, glucose and insulin did not significantly differ in the intervention vs. comparison groups. The researchers found that the diet had no significant effects on incidence of coronary heart disease, stroke, cardiovascular disease or heart attack. Trends toward greater reductions in coronary heart disease risk were observed in those with lower intakes of saturated fat or trans fat or higher intakes of vegetables/fruits.

“The results of this study do not change established recommendations on disease prevention. Women should continue to get regular mammograms and screenings for colorectal cancer, and work with their doctors to reduce their risks for heart disease including following a diet low in saturated fat or trans fat or higher intakes of vegetables/fruits,” said National Heart, Lung, and Blood Institute Director Elizabeth G. Nabel, M.D.

The U.S. Dietary Guidelines for Americans recommend that adults keep total fat intake between 20 and 35 percent of calories, and saturated fats less than 10 percent of calories, with most fats coming from sources of polyunsaturated fats and monounsaturated fats, such as fish, nuts, and vegetable oils. For people with heart disease or at high risk for heart disease, targets for saturated fats may be further lowered.

The WHI is the most comprehensive study to date of the causes and prevention of the major diseases affecting the health of older women. Over 15 years, the study’s findings on heart disease, breast and colorectal cancer, and osteoporosis have stimulated many changes in clinical practice. The WHI is also one of the largest studies of its kind ever undertaken in the United States and is considered a model for future studies of women’s health.

For more information or to read the study, please visit http://jama.ama-assn.org/cgi/content/full/295/6/629.

Susan Hendrix

WHI reports in JAMA, use of estrogen by postmenopausal women does not increase risk of breast cancer

In another Women’s Health Initiative report, researchers found that postmenopausal women treated with estrogen therapy for seven years did not experience an increased risk of breast cancer, according to a study in the April 12 issue of the Journal of the American Medical Association.

The Women’s Health Initiative (WHI) Estrogen-Alone trial, which randomized women with prior hysterectomy to conjugated equine estrogens (CEE) or placebo, was stopped earlier than planned because of increased stroke incidence and no reduction in risk of coronary heart disease. In contrast to substantial epidemiological evidence associating exogenous (originating externally) estrogens with increased breast cancer incidence, preliminary analyses found fewer breast cancers in women in the CEE group, prompting a detailed updated analysis of breast cancer incidence and mammographic reports.

Marcia Stefanick, Ph.D., of Stanford University, along with colleagues and co-authors including Dr. Susan Hendrix, analyzed the data from the CEE-alone group of the WHI study to determine the effects of CEE on breast cancers and mammographic findings. “CEE alone for seven years does not increase breast cancer incidence in postmenopausal women with hysterectomy, and may decrease the risk of early stage disease and ductal carcinomas. This result is in clear contrast to the WHI trial of CEE combined with medroxyprogesterone acetate in women with a uterus, which showed a significant increase in breast cancer incidence over a mean of 5.6 years of follow-up. Both trials showed a substantial increase in the frequency of mammograms requiring follow-up from the first year onward. However, this increase was seen only for recommended short-interval follow-up mammograms in the Estrogen-Alone trial, whereas it applied also to those with suspicious abnormality or highly suggestive of malignancy in the estrogen plus progestin (E + P) trial. Initiation of CEE alone in women after hysterectomy should continue to be based on careful consideration of potential risks and benefits for a given individual,” the authors write.
Generation-after-next technology explores the person within the brain

Most academic scholars focus on generating evidence to support a hypothesis. The Emergent Technology Research Division operates differently. This division generates the hypothesis itself and looks decades ahead of what is currently available to envision possibilities yet unexplored. It takes current technology resources and dreams big—making predictions and taking bold leaps to guess at the next generation of untapped ideas and tools.

At the moment, emergent technologies experts at WSU are looking directly into people’s brains to learn very specific things about how they think and behave. Using special tools and approaches, they can see precisely how people make decisions under stress, how they assess morality, whether or not they’ll have psychotic episodes if isolated or confined, how many tasks they can handle physiologically as drivers, how pilots multi-task, whether biosensors can help screen for terrorist activity, and how to tell with certainty whether or not someone is lying.

Dr. Genik and Green predict the future direction of science.

Is this space-age science? Absolutely, says Christopher (Kit) Green, M.D., Ph.D., executive director of Emergent Technology Research whose diverse training is rooted in forensic medicine, radiology, engineering mechanics and the Central Intelligence Agency. With functional magnetic resonance imaging (fMRI) as its major tool-of-the-moment, Dr. Green and his colleagues are working on projects for clients including the U.S. Department of Defense, National Academy of Sciences, General Motors, Thyrogen, Ltd., and other private corporations. For very different reasons, these clients are interested in real-time brain imaging to “explore the person within the brain,” Dr. Green said.

The value of fMRI technology is this: it instantly shows tiny metabolic changes in activated areas of the brain. Wayne State’s 4-Tesla magnet, the highest field MRI in the state, and one of only 10 in the country, is capable of measuring more than 40 chemicals in the brain with the greatest precision and accuracy available to date.

Most researchers using highly-sensitive fMRI are looking at isolated, specific things like the location of an epileptic seizure or the extent of brain damage after a stroke or to confirm degenerative brain function in Alzheimer’s disease. “We are exploring the whole person,” said Dr. Green. The division began in 2003 with a grant from General Motors to establish the Transportation Imaging Laboratory. “We watch how people think and react when they drive. We watch them make decisions and see where in the brain stimuli are registered and acted upon. We are learning how drivers deal with distractions, what types of warning signals are useful in vehicles, and how eye movement, tracking and driver response are cognitively regulated. We take into account, not just the physiological issues involved in driving, but the mental state, the dynamic conditions, the surroundings and other issues related to the ‘whole person.’”

This ability to see what happens in a person’s mind—not just their brain—prompted Dr. Green and colleagues to expand the division. The interdisciplinary nature of the hypothesis-generating approach has led to multidepartmental affiliations with the medical school through the Office of the Associate Dean for Research, Daniel Walz, Ph.D., and an affiliation with the Detroit Medical Center through the office of the Corporate Director, Planning and Future Studies, David Ellis. In addition to the original laboratory dedicated to transportation research, the Government Systems Lab researches new technologies for terrorist screening and other homeland security applications, and the Social and Cultural Systems Lab investigates issues like mind development through Buddhist meditation and which neural substrates are excited by violent lyrics in music.

Richard Genik, II, Ph.D., director of the Emergent Technology Research Division, and key physicist running the operation, illustrates the leap from current knowledge to generation-after-next research. From their driver distraction work with automotive companies was born a proposal to measure psychosocial health for astronauts in pre-flight training operations and in space. “We can take what we already know about cumulative stress, driver training and decision-making and then design testing modules to prepare space crews for missions that are predicted to be one-to-two years in duration,” Dr. Genik said. “Watching spaceflight crews think can reveal the efficiency of training procedures. Moreover, observing subsyndromal emotion centers may provide early detection of developing neuropsychiatric disorders. Astronauts push the envelope of cumulative stress which normal humans can be expected to absorb. Our monitoring systems could prevent dangerous conditions before they result in performance degradation that could increase the risk of human error,” Dr. Genik said. They are now discussing their ideas with the National Defense University in Washington, D.C.

Also under review is a proposal for the Michigan Technology Tri-Corridor (Michigan Life Sciences Corridor) to fund a sophisticated biosensing system that could be installed in airports to passively screen passersby and flag suspicious readings that could be linked to terrorist activity, chemical agents or even SARS or other epidemic disease transmission.

According to Dr. Green, infrared biosensors could automatically record the body temperature and heart rate of people passing by. Medical evidence already confirms that people who are lying, anxious or sick with the flu have elevated temperatures and heart rates. “If a group of people get off a flight from China with elevated body temperatures, it might be cause for additional scrutiny,” Dr. Green said. “That’s a non-malicious threat to public health that we could immediately prevent.”

The technology also applies to contrived terrorist plots. Dr. Green once ran the CIA’s polygraph testing unit, so he is aware of precise changes in a person’s body as he or she tries to conceal information or deceive. He knows what nonverbal cues suggest suspicious activity. “Cameras and infrared biosensors at international ports could help officials spot trouble,” Dr. Green said. “We already know the technology works. It seems to be a fiscally responsible way to invest in prevention.”

Winners of the homeland security grants are expected to be announced this spring. In any case, however, all these projects give us further insight into the mind, “which is what the brain does,” Dr. Green said. Additionally, all this information contributes to more traditional translational medical research related to traumatic brain imaging, neurologic conditions, hot flashes, cancer and psychiatric illnesses, as well.

Regarding return on investment, the Emergent Technology Research Division boasts 100 percent growth its first year and 200 percent growth its second year. “Generation-after-next fMRI imaging tools promise to deliver deep-brain monitoring and rapid advances into our knowledge of how people think and act. There’s no end in sight for this type of immediate and practical knowledge,” Dr. Genik said.

From recent PET & NIRS experiments, it is known what parts of the brain cortex process familiar versus new information. The superior frontal gyrus and cingulate are more greatly activated when incorrect or hidden choices are selected. In these recent experiments, the experimenter was “blind” to the results, but able to tell, in real-time, that an incorrect pattern was chosen. The truth is on the left and the lie is on the right.
Hyperoxygenated blood holds life-sustaining promise

J. Richard Spears, M.D., professor of internal medicine, published promising results of aqueous oxygen in the March/April issue of the American Society for Artificial Internal Organs Journal. His research has led to the discovery of a potential approach to infusing large amounts of oxygen into blood which may one day improve treatments where oxygen is critical to sustaining life, and other means of receiving oxygen are inadequate. Potential applications include infusing aqueous oxygen into the aorta to supply oxygen to poorly functioning lungs in patients on a ventilator with severe pneumonia; shock from any cause where blood flow to major organs is low; reperfusion problems such as renal failure after shock; severe infections; and tumors that are resistant to radiation therapy because they are hypoxic.

Dr. Spears and his research team published the article “Aqueous Oxygen Near the Homogeneous Nucleation Limit of Water: Stabilization With Submicron Capillaries.” They discovered that small capillary tubes can be used to deliver water supersaturated with oxygen and other gases into host liquids without bubbles. This technique has been so successful that oxygen-supersaturated water, termed aqueous oxygen, is being used in clinical trials to hyperoxygenate blood for improving results of angioplasty and stenting of blocked coronary arteries in patients suffering heart attacks.

Dr. Spears and research associate Petar Prcevski, a veterinarian, and Michigan State University engineering professor Giles Berreton, have taken this approach one step further, and have been investigating how to eliminate the main drawback to this approach -- the need to remove excess water associated with prolonged infusions of aqueous oxygen. The latest research done by this team could provide a potentially practical result by reducing the amount of water needed when aqueous oxygen at high concentrations is used to hyperoxygenate the whole blood volume. When a champagne bottle is uncorked, or when water is brought to its boiling point, the result is predictable -- profuse bubbles appear. This is a result of the rapid growth of bubbles have always been noted in water at values less than ones predicted for homogeneous nucleation. Now, this research team has demonstrated that water can be supersaturated with helium up to a record-breaking level without bubble nucleation when the water is released to atmospheric pressure. At this pressure at room temperature, 2.4 kbars (1 kbar = a thousand atmospheres), water contains 15 ml of helium per gram of water despite its very low solubility. For oxygen, which is much more soluble than helium, only 0.7 kbars was required to deliver 13 ml per gram of water in a bubbleless manner into host liquids.

This research has been funded by grants from the Michigan Life Science Corridor.

Blind mice recover visual responses using protein from green algae

erve cells that normally are not light sensitive in the retinas of blind mice can respond to light when a green algae protein called channelrhodopsin-2 (ChR2) is inserted into the cell membranes, according to a study published in the April 6, 2006 issue of the journal Neuron by Zhuo-Hua Pan, Ph.D., associate professor of anatomy and cell biology. The study was conducted with mice that had been genetically bred to lose rods and cones, the light-sensitive cells in the retina. This condition is similar to the blinding disease retinitis pigmentosa (RP) in humans.

Vision normally begins when rods and cones, also called photoreceptors, respond to light and send signals through the retina and the optic nerve to the visual cortex of the brain, where visual images are formed. Unfortunately, photoreceptors degenerate and die in some genetic diseases, such as RP. Both mice and humans go progressively blind because with the loss of rods and cones there is no signal sent to the brain.

This study, funded by the National Eye Institute of the National Institutes of Health, raises the intriguing possibility that visual function might be restored by conveying light-sensitive properties to other surviving cells in the retina after the rods and cones have died. Principal investigator, Dr. Pan, and his colleagues, using a gene-transfer approach, introduced the light-absorbing protein ChR2 into the mouse retinal cells that survived after the rods and cones had died. These cells became light sensitive and sent signals through the optic nerve to the visual cortex.

“This innovative gene-transfer approach is certainly compelling,” said Paul A. Sieving, M.D., Ph.D., director of vision research at the NIH. “This is a clever approach that offers the possibility of some extent of vision restoration at some time in the future.” In addition to RP, there are many forms of retinal degenerative eye diseases that possibly could be treated by gene-based therapies.

The researchers determined that the signals reached the visual cortex in a majority of the ChR2-treated mice. The light sensitivity persisted for at least six months. Did the mice regain usable vision? Probably not, but the investigators suggest a number of technical improvements to their experiments which might make that possible.

“This study demonstrates the feasibility of restoring visual responses in mice after they lose the light-sensitive photoreceptor cells,” said Dr. Pan. He and his colleague, Alexander Dizhoor, Ph.D., of Pennsylvania College of Optometry, another of the study authors, think that expressing ChR2 in other types of retinal cells may help to improve this approach. In addition, the authors state it would be interesting for further study to modify the light sensitivity and/or wavelength selectivity of ChR2, or use similar microbial proteins, to produce diverse light-sensitive channels to improve outcomes for the possible restoration of normal vision.
Six recent PNAS papers indicate productivity of biochemistry faculty

The Proceedings of the National Academy of Sciences (PNAS) boasts six publications in just a few months from WSU faculty in the Department of Biochemistry and Molecular Biology (BMB). Coverage in PNAS spans the biological, physical, and social sciences and includes BMB researchers—Robert Johnson, Barry Rosen, Timothy Stemmler and Serge Vinogradov—in its recent author index.

BMB highlights include the following citations, all of which can be viewed online at www.pnas.org/.

- Om Parkash Dhankher, Barry P. Rosen, Elizabeth C. McKinney and Richard B. Meagher published "Hyperaccumulation of Arsenic in the Shoots of Arabidopsis Silenced for Arsenate Reductase 2 (ACR2); in the March 27 online early edition. They seek to construct plants that would mobilize more arsenate aboveground. Reducing expression of ACR2 homologs in tree, shrub, and grass species should play a vital role in the phytoremediation of environmental arsenic contamination, authors said. (See detailed story on page 7.)

- Jie Qin, Barry P. Rosen, Yang Zhang, Gejiao Wang, Sylvia Franke and Christopher Rensing published "Arsenic Detoxification and Evolution of Trimethylarsine Gas by a Microbial Arsenite S-Adenosylmethionine Methyltransferase" in volume 103, Feb. 14, pages 2075-2080. The article describes a mechanism of arsenite [As(III)] resistance through methylation and subsequent volatization, which could impact the global arsenic cycle.

- Samy O. Meroueh, Kristzina Z. Bencze, Dusan Hesk, Mijuon Lee, Jed F. Fisher, Timothy L. Stemmler and Shahriar Mobashery published "Three-dimensional Structure of the Bacterial Cell Wall Peptidoglycan" in volume 103, March 21, pages 4404-4409. This article proposes a model of the 3D structure of the bacterial peptidoglycan, the major constituent of the cell wall.

- Robert M. Johnson, Tom Prychitko, Deborah Gumucio, Derek E. Wildman, Monica Uddin, and Morris Goodman published "Phylogenetic Comparisons Suggest That Distance from the Locus Control Region Guides Developmental Expression of Primate Alpha-type Globin Genes" in volume 103, Feb. 14, 3186-3191. Authors use phylogenetic comparisons to suggest that the locus control region (LCR)—the area that regulates transcription—interacts with primate β-type globin genes to mediate different developmental expression patterns in different branches of the evolutionary tree. (See detailed story on page 7.)

- Serge N. Vinogradov, David Hoogewijs, Xavier Bailly, Raül Arredondo-Peter, Michel Guertin, Julian Gough, Sylvia Dewilde, Luc Moens, and Jacques R. Vanfleteren published "Three Globin Lineages Belonging to Two Structural Classes in Genomes from the Three Kingdoms of Life" in volume 102, Aug. 9, pages 11385-11389 (2005). Authors show that all globins appear to be distributed among three lineages: (i) the 3/3 plant and metazoan globins, single-domain globins, and flavohemoglobin; (ii) the bacterial 3/3 globin-coupled sensors and proteoglobins; and (iii) the bacterial, plant, and ciliate 2/2 globins. They say the three lineages may have evolved from an ancestral 3/3 or 2/2 globin.

Congratulations to WSU faculty for an impressive display of research talent.

Moving arsenic from roots to shoots for environmental clean-up

A rsenic ranks first on the U.S. government’s Priority List of Hazardous Substances, (http://www.atsdr.cdc.gov/cercla/03list.html) both because of its toxicity and its prevalence in the environment. Wayne State University researchers have been collaborating with others for years to genetically create “arsenic-eating” plants that could be grown in polluted soil for clean-up. Until now, however, the arsenic sequestered from soil remained largely in the roots of the plant, making it difficult to harvest for safe disposal.

For the first time, researchers including Barry Rosen, Ph.D., professor and chair of the Department of Biochemistry and Molecular Biology at the Wayne State University School of Medicine, have discovered a way to move the arsenic from roots to shoots, the next step in their quest for plants that can clean up arsenic. The payoff could be a new and effective tool in cleaning up thousands of sites where arsenic presents serious dangers to human health.

Dr. Rosen and his colleagues have published their findings in the April 4 issue of the Proceedings of the National Academy of Sciences (PNAS). This and related studies were carried out in collaboration with Richard Meagher, Om Parkash Dhankher and Elizabeth McKinney from the department of genetics at the University of Georgia.

“We are continually exposed to arsenic, both from natural sources and from the use of man-made arsenical compounds in herbicides and pesticides. Exposure to arsenic produces a wide range of health effects, the most serious of which is as a carcinogen. There are high levels of arsenic in soil and in drinking water in the United States and elsewhere in the world, and cleaning up arsenic contamination is very expensive,” Dr. Rosen said.

The most serious problems are found in West Bengal, India and in Bangladesh. During the so-called “green revolution” of the ’60s and ’70s, the cultivation of rice in flooded fields became pervasive in those areas, and workers dug open wells through soil and rocks with naturally occurring arsenic. The result was widespread arsenic pollution in contaminated water. The World Health Organization (WHO) predicts that long-term exposure to arsenic could reach epidemic proportions, the PNAS paper reports. The WHO says a staggering one in 10 people in northern India and Bangladesh may ultimately die of diseases resulting from arsenic-related poisoning.

The new strategy employing genetic engineering is part of what researchers call phytoremediation—the cleaning of polluted soils through the use of plants that sequester poisons, make them less harmful. This has the potential to be used on millions of acres of arsenic-polluted lands world-
Complexity of primate gene regulation revealed in β-type globin expression and distance, report WSU researchers in PNAS

Phylogenetic comparisons suggest that the locus control region (LCR)—the area that regulates transcription—interacts with primate β-type globin genes to mediate different developmental expression patterns in different branches of the evolutionary tree. The primates more distantly related to humans, prosimians (like the African Bush Babies) and New World monkeys (flat-nosed monkeys with prehensile tails), express embryonically the α globin gene neighboring e. In contrast, catarhines (Old World monkeys and apes, including humans) express these genes primarily during fetal development.

The globin genes, labeled e, γ, δ, β, fall into a cluster in this order located just downstream of the LCR. A short distance between e and γ allows the LCR to drive embryonic expression in both genes, whereas a longer distance impedes embryonic activation of the downstream gene.

A report in the February 14 issue of the Proceedings of the National Academy of Sciences uses phylogenetic reconstructions to show that in prosimians, the LCR acts to fully turn on a single γ gene along with e during embryonic life and then repressors act to shut both genes off at the beginning of fetal life at which time the LCR acts to fully turn on the β and δ genes. In simian primates, with their duplicated γ genes, two distinct patterns are seen: in New World monkeys, the γ gene closest to the LCR is predominantly embryonically expressed, whereas in catarhines, it is predominantly fetaly expressed. Furthermore, in New World monkeys, the γ gene furthest from the LCR is the major fetally expressed gene, whereas in catarhines, it is the γ gene closest to the LCR that assumes this pattern. These differences can be attributed to the varying distances of these genes from the LCR: in New World monkeys, the first γ gene is approximately 6-7 kb from e, whereas in catarhines, it is 13-14 kb.

The article is authored by Robert Johnson, Ph.D., professor of biochemistry and molecular biology at Wayne State University, and was contributed by Morris Goodman, Ph.D., distinguished professor, who is a member of the National Academy of Sciences. The full article, “Phylogenetic Comparisons Suggest That Distance from the Locus Control Region Guides Developmental Expression of Primate β-type Globin Genes,” can be viewed online at: http://www.pnas.org/. Co-authors are: Tom Prychitko, Deborah Gumucio, Derek Wildman and Monica Uddin.

“Our approach is to examine the hemoglobin changes in primate species closely related to humans, in which the switching program is subtly different. By examining promoters from regions that turn on at different points in embryogenesis, we are able to pinpoint promoter changes that mediate the timing of the developmental switch,” Dr. Johnson said.

During embryonic life, the β and γ genes switch on to encode α-type chains and the e gene switches on to encode β-type chains. At about the sixth to eighth week of prenatal life—approximately the beginning of the fetal period—the γ and e chains switch off. In higher primates, the α genes remain on, but as the e gene switches off, the two γ genes switch on. In contrast, there is only one γ gene in tarsiers (the small nocturnal arboreal primates with large round eyes and a long tail), but the γ gene is duplicated in simians.

Past collaborations among Drs. Johnson, Goodman and their colleagues have revealed that e, the gene at the beginning of the globin cluster, had all the regulatory sequences that would characterize an embryonically expressed gene. The downstream β gene had all the regulatory sequences for a post-embryonically expressed gene. These results have been confirmed in Australian marsupial mammals, where the e gene remains embryonic for about a day as the embryo migrates to the pouch, rapidly becomes fetal and then post-fetal. After the one day migration, the e hemoglobin gene is turned off and the β gene is turned on. Regulatory sequences in the proximity of each of the two genes play key roles in the switching, although the mechanism was not well understood until this publication that reports the importance of the LCR, whose relative distance can greatly enhance expression of each functional gene at the appropriate developmental stage.

These results reveal more than the complexity of factors regulating developmental expression patterns in primate β-type globin genes. They also provide treatment clues for hemoglobinopathies like sickle cell anemia and thalassemia.

“We want to put our finger on those cis-regulatory elements that are part of the ancient machinery of hemoglobin switching and those cis-regulatory elements that are part of the recent machinery that causes these γ genes not to be expressed in embryonic life but rather fetal life. If we could understand the elements that control the expression of the γ gene, then we could play around with how to manipulate these elements so that we can get the γ gene expressed after birth for patients with hemoglobinopathies,” Dr. Goodman said.

This work is supported by the National Institutes of Health and the National Science Foundation.

WSU CO-AUTHORS HOLD FACULTY APPOINTMENTS IN THE FOLLOWING DEPARTMENTS:

• Robert Johnson–Biochemistry and Molecular Biology
• Tom Prychitko–Anatomy and Cell Biology
• Derek Wildman–Center for Molecular Medicine and Genetics; Obstetrics and Gynecology
• Monica Uddin–Anatomy and Cell Biology; Center for Molecular Medicine and Genetics
• Morris Goodman–Anatomy and Cell Biology; Center for Molecular Medicine and Genetics
New theory of placental evolution in humans reported in PNAS

The placenta is the lifeline for mammalian reproduction and a complex organ that provides clues about natural selection and evolution. Through phylogenetic analysis of molecular and anatomical data, researchers from Wayne State University and the Perinatology Research Branch (National Institute of Child Health and Human Development/National Institutes of Health) have presented evidence describing the evolutionary history of the placenta of eutherian mammals—the group that includes all mammal species except marsupials and the egg laying monotremes (for example, the duck billed platypus). The authors conclude that the human placenta—although different from the ancestral type—resembles the original eutherian placenta in many aspects.

In contrast to most theories, the PNAS authors say the disc-shaped, hemochorial placenta of many primates, including humans, existed throughout the eutherian lineage from the last common ancestor of placental mammals to the emergence of humans. These findings are published in the February 28 issue of the Proceedings of the National Academy of Sciences (PNAS) and suggest that evolutionary pressures shaped mammal placentas to be an organ that must meet the demands of both the mother and the developing fetus during pregnancy.

Primary author Derek Wildman, Ph.D., assistant professor in WSU’s Center for Molecular Medicine and Genetics and Department of Obstetrics and Gynecology and member of the Perinatology Research Branch, NICHD/NIH, says, in the past many biologists assumed that the placental structures of humans and other “higher” primates were advanced among mammals and other classes. This newly published evidence, however, reconstructs the ancestral eutherian placenta to be similar to the human placenta in terms of its disc-like shape and its ability to invade deeply into the maternal uterus (this maternofetal interface is called hemochorial in technical language). However, unlike the placentas of ancestral mammals, human placentas transfer nutrients, gases and other materials through a tree-like branching system of villi. The placenta of marsupials (kangaroos and koalas, for example) is different than that of eutherians, because the presence of the placenta is very short-lived and contributes more to embryonic than to fetal nourishment. Differences and variations also exist within the eutherian group. For example, the placenta of rodents differs from primates in that rodent fetuses have a much shorter gestation and may use maternal resources at a more rapid rate. The evolution of the primate placenta required some changes necessary to sustain a longer pregnancy without depleting maternal resources and energy, the authors said.

The report, “Evolution of the Mammalian Placenta Revealed by Phylogenetic Analysis,” was contributed to the PNAS by Morris Goodman, Ph.D., WSU distinguished professor, who is a member of the National Academy of Sciences. It can be viewed online at: http://www.pnas.org/. Co-authors are: Caoyi Chen (WSU Center for Molecular Medicine and Genetics); Offer Erez (Perinatology Research Branch, NICHD/NIH; WSU Department of Obstetrics and Gynecology); Lawrence I. Grossman (WSU Center for Molecular Medicine and Genetics); and Roberto Romero (Perinatology Research Branch, NICHD, National Institutes of Health; WSU Department of Obstetrics and Gynecology; Center for Molecular Medicine and Genetics).

“...the effects of selection pressures on the efficiency of placentation may stem from changes in nutritional demand, gestational length, number of embryos per pregnancy, uterine shape and maternal body constitution,” Dr. Wildman said.

“There may be more variability in placenta structure than any other mammalian organ,” said Dr. Goodman. A pioneer of molecular phylogenetics, Dr. Goodman rocked the scientific world in 1962 by suggesting that gorillas and chimpanzees are more closely related to humans than to other great apes and monkeys. Throughout the decades, he and his colleagues have built substantial evidence to show that the DNA of chimpanzees and humans makes them more than 99 percent identical.
Douglas Czajkowski to direct fundraising efforts at School of Medicine

Wayne State University School of Medicine awarded $3 million grant

An additional $17 million is needed before construction can begin on the Medical Education Commons.

Wayne State University
School of Medicine awarded $3 million grant

Wayne State University’s School of Medicine has been awarded a $3 million grant by The Kresge Foundation toward the construction of the Richard J. Mazurek, M.D., Medical Education Commons.

The grant, offered on a challenge basis, is designed to assist the medical school in raising the balance of $17 million required to complete the building’s construction by July 1, 2007. To date, $13 million has been raised towards the total project goal of $30 million as the university gears up for the second phase of its “Wayne First!” capital fundraising campaign.

“The Kresge Foundation has offered a strong vote of confidence to our School of Medicine, and the university, through its generous grant,” said Wayne State University President Irvin D. Reid. “These funds will move us closer to developing the Medical Education Commons—a facility that will play a key role in supporting Wayne State medical students, the medical community, and the residents of our community,” Reid said.

The 34,000-square-foot, two-story building and complex will serve as the nucleus of all programs for undergraduate, graduate and continuing education in the School of Medicine. Students will have “one-stop shopping” for all of the administrative, support and learning services they need to assure their success.

Community residents will benefit from the resources available through the commons such as educational programming, health information services and the demonstrated commitment of Wayne State medical students to programs that reach out to those in need.

The Kresge Foundation is an independent, private foundation created by the personal gifts of Sebastian S. Kresge, and is not affiliated with any corporation or organization. Grants are made toward projects involving construction or renovation of facilities and the purchase of major capital equipment or real estate. Grant recipients have raised initial funds toward their respective projects before requesting foundation assistance. Grants are then made on a challenge basis, requiring the raising of the remaining funds, thereby insuring completion of the projects.
“Work hard, travel far,” counsels student

Salt Lake City is a great place to be a photographer with its mountains, canyons and rivers. It’s not a bad place to study neurosurgery either.

“Work hard, travel far,” is the motto of fourth-year medical student Ramin Eskandari, who matched to the University of Utah Hospitals and Clinics for residency training. It was his first choice and he’s proud of his academic achievement. But what he’s most excited about is the Utah landscape and the opportunity to snap pictures of nature in all its grandeur, to snowboard, to hike and to explore. An exemplary and motivated student, Eskandari always knew he wanted a career in medicine. It wasn’t until recently that he discovered his two other passions: travel and photography. Although it seems difficult for a medical student or a neurosurgeon to find time for hobbies, Eskandari counsels incoming students that it can be done.

“You can lead a balanced life and you can do what you love—even if it involves more than one discipline,” Eskandari said. “Discipline, however, is exactly what it takes to succeed.” He says some of the most talented physicians he’s met are equally passionate in other creative outlets. Perhaps there’s something unique about the career like neurosurgery. Perhaps there’s a necessary balance between the pressure of medicine and the peace of art.

After earning his bachelor’s degree in biology from the University of Michigan, Eskandari took three years off to travel and explore career options. He worked as a sports camp counselor in Zurich and fell in love with landscape photography. “I guess you could say I’m mountain-driven,” he admits. “I don’t like to photograph people outside, capturing life through the lens is the next best thing,” says photographer and future neurosurgeon, Ramin Eskandari.

With guidance from his father, who’s an amateur photographer, he began to learn about cameras, lenses and composition. He began traveling to places that fulfilled his passions for photography and medicine: a month-long neurosurgery internship in Vienna, a stint at a rural hospital in Honduras, and a couple of rotations at the General Hospital and University Hospitals in Fortaleza, Brazil. “All these experiences provided learning opportunities as a doctor and a photographer,” he said.

Others have taken note of his artistic talent as well. Eskandari’s photographs are currently displayed (and available for purchase) at the International Café and at Beans and Bytes—both on the WSU campus in Detroit. Some of his favorites, he says, are the seascapes taken in New Zealand’s Marlborough Sounds region. Top destinations on his list for the near future include Antarctica (his dream location), Africa, and after that, he hopes to have hit every continent.

“I think sometimes people are afraid to step outside their comfort zone, but whether you’re alone on a mountaintop waiting for the sunrise or on a jungle safari, you learn that it’s one big adventure. It’s insane not to take advantage of every opportunity.”

Unsuspecting medical student turns from snowboarder to paramedic on the scene

When medical student Chih Chuang set out to Boyne Mountain to do some snowboarding over the holiday vacation in December last year, he had no idea he’d become part of the honorary ski patrol and administer life-saving first-aid.

He was just starting his last run of the night when he heard somebody screaming for help. He sent a bystander for the ski patrol, then went down the hill and found a 17-year-old male in trouble.

“I saw a foot-long, half-inch diameter steel rod crank sticking out of one of the pillars for the ski lift. My fears were quickly realized when I lifted up his bloodied shirt and saw a penetrating wound where he had been impaled in his left upper quadrant. I quickly interlocked my hands and put direct pressure on the wound after checking for a through and through wound in his back,” Chuang said.

He did a quick survey, ensuring consciousness, noting a laceration on the head and confirming movement in the victim’s extremities. “He started complaining of shortness of breath and I started to become concerned about a possible tension pneumothorax, so I watched his chest expansion and his trachea for deviation,” Chuang said.

After the ski patrol arrived, Chuang helped stabilize him, cut his clothes off, packed and wrapped the wound, put on a C-collar, gave him oxygen and strapped him to a backboard to transport him down the hill to an awaiting ambulance.

“People have asked me if I was scared and I wasn’t, I just did what I was trained to do,” said Chuang, a fourth-year medical student, who recently matched to the Detroit Medical Center/Wayne State University to specialize in internal medicine and pediatrics.

The victim, whose name is Joey Schwab, broke six ribs, ruptured his diaphragm and had a left lower lobe lobectomy, losing 15 percent of his lung function. In addition, he bruised his spleen and sustained a compound fracture to the right ulna, but was very lucky to have missed his heart and aorta.

Joey’s parents believe Chuang’s actions saved their son’s life. “He’s going to make an excellent doctor,” they said.
### Flashcards go high-tech for ambitious medical students

The frayed, rubber-banded and highlighted index cards that have been used as study guides for students everywhere are becoming a thing of the past. Replacing them are computerized flash cards—similar in spirit and function—but highly improved in flexibility, portability and durability.

Medical students at WSU are making and sharing flashcards on their personalized digital assistants (PDAs) and creating virtual study groups with the use of practical technology. Second-year students Dan Barkmeier, Lesley Lawrenson and Ralph DiLisio turned lemons into lemonade when some of their classmates complained about having to buy expensive PDAs as part of the standard curriculum and school-supply list.

Although the handheld devices are used extensively during third- and fourth-year clinical rotations, they are less integral during the first two years of medical school. Three students, who traditionally relied on three-by-five-cards to review their course material, asked Matt Jackson, Ph.D., assistant dean for basic science education, if they could get some technical support to develop their PDA flashcard idea. He put them in touch with CampusMobility, the software, networking and information company that manages the medical school’s technolog-enhanced learning projects and mobile initiatives.

“We are piloting the program among friends first to work out the kinks, but we are able to create our own flashcards for various classes and subjects, and then share stacks with others online,” Lawrenson said. “You can use the software to create and organize your own stacks, and then you can choose whether or not to share them.”

A similar application is available at the University of Utah Medical School where students have begun building a database of review materials to pass on to one another through the years. Wayne State medical students can access posted flashcards with their username and password by logging in to the CampusMobility site at: http://wsu.campusmobility.com.

“Everybody studies differently, but sometimes it helps to use somebody else’s notes to quiz yourself or make sure you don’t miss key points,” Barkmeier said. “Plus, it’s easier to trade flashcards online than handing around boxes full of cards that can get lost or mixed up.”

### MEDICAL STUDENTS AT WSU ARE MAKING AND SHARING FLASHCARDS ON THEIR PERSONALIZED DIGITAL ASSISTANTS (PDAS) AND CREATING VIRTUAL STUDY GROUPS WITH THE USE OF PRACTICAL TECHNOLOGY.

WSU has purchased and obtained other relevant software for students including Stedman’s Medical Dictionary, the Tarascon Pharmacopoeia, and Physician’s Desk Reference, and a Spanish medical dictionary—all downloadable to the PDA, eliminating heavy, over stuffed pockets for physicians-in-training. The Shiffman Medical Library has created “Library to Go” services containing electronic books and other reference tools usable on PDAs. (www.lib.wayne.edu/shiffman/pda/)

PDA flashcards are valuable, because they can be customized for each student. You can sort by keywords, mask certain areas of the card to test yourself, and create your own personalized study session with your own cards or somebody else’s. “The WSU administration is happy to see our students taking initiative and using technological resources to enhance learning,” Dr. Jackson said.

“Eventually, we’d like to organize stacks as study guides to review for the various steps in our United States Medical Licensing Examination,” DiLisio said. “That’s the great thing, though. You can create the cards once, and then organize them every which way, depending on your needs. We’re excited about this application that has practical relevance for very busy students.”

### Children’s books promote diversity, literacy

The well-traveled Miss Panda tells tales of riding an elephant in India, drinking tea with the Queen of England, exchanging rubles in Russia and exploring temples in Japan. Although not an actual WSU faculty member, Miss Panda is the brainchild of one. Ambika Mathur-Kamat, Ph.D., is director of programmatic grants and director of the M.D./Ph.D. program at WSU, but she is also a published author of children’s books and creator of the seven-part Miss Panda series.

A native of India, American citizen and nearly life-long resident of the Midwest, Dr. Mathur is appreciative of diverse cultures and lands. She developed the idea for the Miss Panda travel books when her twin children, Amol and Aarti, were young. She and her husband, Dr. Deepak Kamat, WSU professor of pediatrics, have always read to their children and taught them about diversity and acceptance.

“Miss Panda is the brainchild of one. Ambika Mathur-Kamat, Ph.D., is director of programmatic grants and director of the M.D./Ph.D. program at WSU, but she is also a published author of children’s books and creator of the seven-part Miss Panda series. A native of India, American citizen and nearly life-long resident of the Midwest, Dr. Mathur is appreciative of diverse cultures and lands. She developed the idea for the Miss Panda travel books when her twin children, Amol and Aarti, were young. She and her husband, Dr. Deepak Kamat, WSU professor of pediatrics, have always read to their children and taught them about diversity and acceptance.

“This seemed like an interesting way to get kids excited about the culture and heritage of people from other countries,” Dr. Mathur said. The Miss Panda books are published by Little Blue Works and are available at: www.amazon.com and www.bar-nesandnoble.com.

Although she has a doctorate in immunology and microbiology among several other degrees, Dr. Mathur has compassion for children and adults who are unable to take advantage of educational opportunities. She is an active literacy advocate and has established popular literacy programs and partnerships. While at the University of Minnesota, she successfully developed a relationship with the Minnesota Vikings Football team and the Cops ‘n Firefighters organization to promote literacy among inner-city children. She is currently working with the Detroit Pistons basketball players to collaboratively promote reading programs with the Reach Out and Read literacy campaign at the Children’s Hospital of Michigan.

“Literacy is essential to success,” Dr. Mathur said. “We are lucky at WSU to attract bright students with promising futures. I am interested in giving young children an early start at those same opportunities.”
Integrative medicine becomes more mainstream

Dr. Anju Sawni became interested in alternative therapies the way most people do: by word of mouth. When her mother began singing the praises of herbal remedies to relieve her arthritis pain, Dr. Sawni took interest.

“I got to thinking. All of our drugs initially came from plants. We modernized them, isolated the active chemicals and made them more potent, but in essence, everything we use is an herb-based product,” she said. “I decided I wanted to learn more—for myself, my own family and my patients.”

A medical doctor who is a sound believer in the necessity of immunizations, antibiotics and evidence-based medicine, Dr. Sawni says she won’t abandon the benefits and progress of conventional Western practices, but she also sees the benefits of “integrative medicine,” as she prefers to call it. “I don’t think you can replace Ritalin with herbs or nutritional supplements, but you can certainly add them to your regimen,” she said. “Why not use all the tools that are available?”

Dr. Sawni’s own interest in these therapies flourished after a continuing medical education conference on botanical medicine. She began reading, researching and finding elements to incorporate into her own practice. As an assistant professor of pediatrics at WSU and Children’s Hospital of Michigan, she saw the benefits of visualization for her anxious adolescent patients; she saw practicality in nutrition counseling and vitamin use for teens; and she saw value in combining, rather than separating, mind-body-spirit and health.

In the mid 1990s, she sought other WSU faculty who had related interests and published data about physicians’ experiences and attitudes in complementary and alternative medicine (CAM). Her reports of southeast Michigan doctors paralleled national data, showing that interest among physicians is growing, and usage among patients is growing.

In 1994, WSU added an elective to its medical curriculum, introducing medical students to therapies including acupuncture, prayer healing and yoga. Dr. Sawni has been running that program since 1997 and has witnessed growing acceptance of these practices.

Another study published by Dr. Sawni in Ambulatory Pediatrics in 2002 gauged the use of CAM among children in urban and suburban pediatric offices across the region. Again, usage rates followed national trends, with about 12 percent of pediatric patients reporting the use of CAM in some form. Also, as predicted, parents who used CAM personally were more likely to use CAM with their children.

The surprising result, according to Dr. Sawni, was that 60 percent of the parents/caretakers of these pediatric patients did not inform the pediatrician about using CAM in the children. However, 76 percent of pediatricians believe their patients would disclose usage. “This suggests to me that adequate communication is not occurring between doctors and patients,” she said.

She sees two reasons for the discrepancy. Most importantly, doctors aren’t asking the right questions. When they ask patients, “What medications do you take, they don’t often get information on herbal, nutritional supplements. This may be because patients don’t see herbs as medications. But the answer from patients is much different when the questions are asked: ‘Do you take vitamin supplements? Do you see a chiropractor? Do you meditate? Do you do anything else to feel better?’ Patients don’t necessarily view those things as part of their health history.”

Additionally, she says, patients may be intimidated by physicians’ negative attitude toward these therapies. Dr. Sawni has since implemented new Children’s Hospital patient intake forms that ask specifically about CAM practices. “We need to change the way we take routine histories for two reasons. First, there can be herbal-drug interactions that can cause problems. Second, when medical information is hidden from the physician, the doctor-patient relationship is attenuated. Open communication strengthens the health and relationship at the same time.”

In 1992, the National Institutes of Health established the program to learn more—for herself, her own family and her patients. “Why not use all the tools that are available?”

Urinary tract infection can cause kidney damage in young kids

Urinary tract infections can have serious side effects in children. “Making sure that the urine infection is not a result of some underlying urinary tract abnormality and treating it appropriately are critical in preventing serious long-term consequences that include renal failure,” said Tej Mattoo, M.D., professor and chief of pediatric nephrology.

Dr. Mattoo was awarded more than $2.2 million from the National Institute of Diabetes & Digestive & Kidney Diseases of the National Institutes of Health to examine if long-term antibiotics are necessary in children with vesicoureteral reflux (VUR), a common congenital abnormality that is associated with recurrent urinary tract infections in children. With normal urination, the bladder contracts and deposits the urine through the urethra. In children with VUR, some urine goes back up into the ureters and sometimes up to the kidneys. The reflux of infected urine into the kidneys can cause serious kidney damage in younger children. The injury to the kidney may result in renal scarring, which could cause high blood pressure later in life, or even kidney failure, which may require dialysis and renal transplantation.

According to Dr. Mattoo, “To prevent such damage and long-term effects, patients are currently treated with daily low-dose antibiotics for many years depending on the severity of their abnormality. Our study’s main aim is to test the hypothesis that prolonged antibiotic prophylaxis does not reduce the risk of renal damage in children with VUR.”

He adds, “We propose using antibiotic prophylaxis or a placebo in all eligible children across the country less than six years old and follow them carefully under a strict management protocol.”

The current treatment method may not be necessary and may cause some harm, including resistance to antibiotics, requiring children to have expensive and painful radiology tests and surgical procedures and causing parental anxiety. This study will determine if long-term antibiotics and the current management practices are necessary.

“We care about kidneys and want to make sure that no child with a preventable renal disease suffers from devastating renal damage,” he said.

Office of Alternative Medicine to fund research into CAM therapies. Its budget has increased each year since its inception. This is promising to Dr. Sawni, who is happy to see a patient-driven interest receive great attention.

“The most provocative thing about CAM modalities is that they really empower patients. They encourage patients to play an active role in their own health. And patients don’t want to mask symptoms. They are actively looking at ways to remedy them. That is an encouraging trend in health care.”
Fellowship prepares student for career in academic medicine

Fear is what prompted third-year student JaVar Myatt-Jones to apply for and win the Doris Duke Clinical Research Fellowship Program at the University of North Carolina at Chapel Hill. For a medical student, he has built quite an extensive CV and knowledge base, working in biomedical research laboratories through research programs and summer internships. Those experiences, although exciting, were also eye-opening.

"Becoming an independent investigator in clinical research, writing grants, constructing a fundable proposal, leading a research team and publishing meaningful data seems insurmountable. Nevertheless, I would like to gain credible experience in understanding the correlation between clinical research and patient care. I want to develop the skills needed to become a clinical investigator," Myatt-Jones said.

He will get that opportunity when he completes an intense one-year fellowship with Dr. Alan Hinderliter in UNC’s cardiology division. Myatt-Jones will be part of a team to establish a cardiovascular evaluation for patients with chronic kidney disease and start a registry to learn more about the epidemiology and pathophysiology in these patients.

"My research interest is centered on metabolic syndrome (characterized by high cholesterol, high blood pressure, high glucose levels and obesity), specifically as it relates to cardiovascular disease complications and type-2 diabetes. Having metabolic syndrome predisposes individuals to a list of acute and chronic complications; one in particular is heart disease. It is my belief that in the coming years, more individuals taking on a less energetic lifestyle at a younger age will lead to an overwhelming population diagnosed with metabolic syndrome or one of its components," Myatt-Jones said.

He is particularly interested in applying his work to underrepresented communities in an effort to improve public health and reduce health disparities. To that end, he has been actively involved as a coordinator in the Young Doctors of Detroit program which mentors school age children attending Detroit Public Schools. During his second year of medical school, Myatt-Jones founded WSU’s Each One Teach One program, which offers mentors to Detroit high-school students to encourage them to pursue technical/professional careers and higher education.

"JaVar Myatt-Jones is a highly motivated young man who sets high standards for his personal performance. He is a bright, dedicated, mature individual who is an excellent candidate for the Doris Duke Clinical Research Fellowship," said Kertia Black, M.D., assistant dean of student affairs.

"My goal in medicine is not only to treat patients’ illnesses, but also to have an influential impact on health care that can help future patients," he said. The Doris Duke Foundation supports medical students to spend a year learning clinical research. The General Clinical Research Center at the University of North Carolina (UNC) is one of 10 centers nationally offering this program and provides for the first time a formal mechanism, and dedicated resources, for a year-long experience in patient-oriented research.

Improving public health for ethnic minorities is goal of neuroepidemiologist

An aging American is one thing; an aging African American is another; and an aging Latino American is still another. With increased age comes increased health risks, but with ethnicities come others, says Hector González, Ph.D., newly recruited WSU researcher in the Department of Family Medicine and the Institute for Gerontology. With five well-funded studies, Dr. González is helping to discover more about the diseases that plague elderly ethnic minority groups.

"I have an interest in Latino health, personally and because of the absence of current empirical evidence needed to implement public health efforts," Dr. González said. He believes more ethnic minority participants are needed in large-scale research studies, because they’ve been excluded in the past.

"In the Alzheimer Disease Centers, for example, people with diabetes and hypertension were excluded. Those criteria inadvertently excluded many older ethnic minorities from Alzheimer’s disease research. A lot of what we currently know about dementia is based on select groups of white, highly educated people," he said.

With grants from the National Institute on Aging and the National Institute of Mental Health, Dr. González is looking at the causes and incidence of dementia in Mexican Americans—an important, formerly overlooked non-white population that is rapidly increasing in the United States.

He is passionate about refining predictors and treatment for Mexican Americans who suffer significantly high rates of diabetes, depression, hypertension, cerebrovascular disease and dementia. To do so, he is drawing in part upon data from nearly 2,000 older Mexican Americans from the Sacramento Area Latino Study on Aging (SALSA). He hopes to identify modifiable risk factors for dementia to ultimately decrease the burden of dementia in part upon data from nearly 2,000 older Mexican Americans from the Sacramento Area Latino Study on Aging (SALSA). He hopes to identify modifiable risk factors for dementia to ultimately decrease the burden of dementia.

In addition, he is also exploring how ethnic minorities pursue and utilize health services using nationally representative samples of over 10,000 African- and Asian-Americans and Latinos. He is examining how these major U.S. ethnic populations access and use the mental health services and means for improving service delivery.

"This is important work for individuals, their families and communities that has implications for how priorities are set for national health policies. It brings together research studies with outreach and education to make a profound and urgent impact on the health and functioning of large and growing segments of the U.S. population," Dr. González said.
Wayne State researchers are conducting nano-studies with the potential to affect medical care for everything from vision and hearing disabilities to Alzheimer’s disease, diabetes and cancer. Called nanoscience or nanotechnology, this relatively new field concerns the scale of individual chemical molecules and the atoms of which they are made up.

Wayne State already has two major multidisciplinary nano-research programs in its NanoBioScience Institute, centered in the School of Medicine, and its Smart Sensors and Integrated Microsystems (SSIM) program, housed in the College of Engineering. To increase this already significant research presence, Irvin D. Reid, president, is investing $1.2 million in the university’s nanoscience/nanotechnology initiative through the 2006 President’s Research Enhancement Program.

Nature works at the molecular level. If we understand how atoms interact with one another, then we can understand basic chemical processes of how life works, such as how DNA functions or how proteins are synthesized in the right order says Bhanu Jena, Ph.D., George E. Palade University Professor in the Department of Physiology and director of the university’s NanoBioScience Institute.

"A fundamental understanding at that level is important to not only curing diseases, but to designing and developing new tools that will detect these diseases when they are in their primordial, or very early stages," Dr. Jena said. These interactions and chemical processes occur on the scale of nanometers. A nanometer is one-billionth of a meter, or roughly the size of three atoms lined up in a row.

A primary reason Wayne State has taken a place at the forefront of the emerging nanoscience revolution is that its researchers have formed interdisciplinary teams involved in developing the materials and methods to manipulate single atoms and molecules, and in generating prototype devices, says Gregory Auner, Ph.D., SSIM director and professor, Department of Electrical and Computer Engineering.

"We do what is called nano-micro-interfacing, and that is the interfacing of nanostructures, both organic and inorganic, with microsystems, like electronic chips, so that they actually form a functional device," Dr. Auner said. One of these prototype devices is an implant for delivering low doses of drugs to people fighting various diseases.

For a cancer patient, such an implant would be an electronic chip coated with chemotherapeutic drugs and designed to release low levels of its medicine on demand and at the specifically targeted site in the body, even if that site is in a hard-to-reach location, such as an inoperable tumor in the brain. Under this system, the implant’s drugs are effectively locked into place until a certain chemical molecule or other trigger releases them.

"It offers very precise control of dose and location of the drug molecules," Auner says. This represents a considerable improvement over currently used drug-delivery systems, such as oral or intravenous drugs, which often have much higher doses and affect broad areas of the body.

The implications of the implants extend to drugs for other diseases, and even for vision loss. For the vision work, Dr. Auner explains that a device would deliver chemicals called neurotransmitters to the retina at the back of the eye. As light strikes the neurotransmitters, they send a signal to the brain, which translates it into a visual picture, or sight.

SSIM researchers in the College of Engineering and School of Medicine are extending the vision work to implants that tie into the body’s own light-sensitive nerve cells. They also are working on other neural implants for people with hearing disorders and with Parkinson’s disease.

“We’re looking at a more advanced version of a cochlear implant that would be able to treat people who couldn’t be treated with a (currently available) cochlear implant and would perhaps give much higher fidelity in any event," Dr. Auner says of the hearing project. The Parkinson’s-related implant would assist with control of bodily movements. At the NanoBioScience Institute, Dr. Jena has drawn worldwide attention for his discovery of a new cell structure, which he named a porosome. It explains for the first time a foundation of biology: how cells communicate.

"An understanding of the basic principles of how these cells secrete can have applications in the design and development of drugs," Dr. Jena said. "The amelioration of Alzheimer’s disease, diabetes, neurological disorders, schizophrenia, digestive disorders, growth disorders, and so on; and can also help in designing and developing drug-delivery systems."

Besides leading the institute, Dr. Jena has written two nanoscience books and created what he says is the state’s only nanoscience courses. He also has set his sights across the globe. The institute hosted a 2002 international symposium and has taken a leading role in the formation of other nanotechnology institutes in India, South Korea, Georgia, the former Soviet Union and Romania. This past summer, Dr. Jena hosted an international symposium on nanotechnology, Nanoscience in the Understanding of Nature, which was sponsored by Wayne State at the 2005 World Expo in Aichi, Japan.

"Wayne State University researchers are among the important contributors to new knowledge and technology in nanosciences and nanotechnology, through their research in materials science, biotechnology and medicine," says Reid. "Funding from the President’s Research Enhancement Program for nanotechnology initiatives will further strengthen our research efforts and allow us to continue to develop high-level interdisciplinary research in this area."

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**A FUNDAMENTAL UNDERSTANDING AT THAT LEVEL IS IMPORTANT TO NOT ONLY CURING DISEASES, BUT TO DESIGNING AND DEVELOPING NEW TOOLS THAT WILL DETECT THESE DISEASES WHEN THEY ARE IN THEIR PRIMORDIAL, OR VERY EARLY STAGES.**
Opening of palliative care program allows patients to live with vitality, die with dignity

Just one year after the controversial death of Terri Schiavo (March 31, 2005), and after heated national discussion about medical ethics, Wayne State University has launched a palliative care center to promote quality end-of-life care for terminally ill patients and their families.

Pain, suffering, death and loss are universal to the human condition, but are most often not adequately addressed by the health care community. Wayne State University’s newly established Center to Advance Palliative-care Excellence (CAPE) is an interdisciplinary group of health care professionals and other researchers from throughout the campus. Their philosophy is that excellent medical care offers patients relief of suffering, healing and wholeness even as death approaches.

CAPE’s grand opening, ribbon-cutting and dedication ceremony took place at Wayne State University’s Cohn Building, where administrative space has been made available.

CAPE Director Robert Zalenski, M.D., WSU Brooks F. Bock Endowed Professor of Emergency Medicine, says that too often patients, though terminally ill, are led to believe that death is optional rather than inevitable; doctors trained to save people are uncomfortable “allowing” them to die in a way consistent with the patients’ wishes; and families faced with the mortality of loved ones hear the word “hospice” and mistakenly believe that it means “no treatment and no hope.”

The CAPE mission is to integrate palliative medicine early in the treatment course, while disease modifying therapy is still being given. “The contemporary physician should be able to assess patients’ needs and support their wishes regarding either time extension and/or a comfort-based approach, whether such decisions need to be made in the emergency department, ICU, medical ward or outpatient setting,” Dr. Zalenski said.

Wayne State University faculty from the School of Medicine, College of Nursing, and College of Liberal Arts and Sciences are treating patients, counseling families and training health care professionals to address issues of humanistic medicine, pain management, medical ethics, advocacy and end-of-life research.

“The research we do, the care we provide and the physicians we train will make a significant difference in the way that life, death and illness are experienced. We’d like to see that model extended throughout the medical community and the entire society to reverse our general avoidance of these difficult issues,” said Michael Stellini, M.D., CAPE’s associate director for clinical palliative care and WSU assistant professor of internal medicine.

Dr. Richard Gallagher appointed to national cancer education committee

Richard E. Gallagher, Ph.D., Wayne State University professor of family medicine, has accepted an invitation to chair the National Cancer Institute Subcommittee G-Education. Subcommittee G sets the scientific and research agenda for cancer education by reviewing training grants, proposed curricular programs and career development applications for scientists and health administrators around the country.

Dr. Gallagher, who is director of the Division of Medical Education in the Department of Family Medicine and adjunct professor at the Barbara Ann Karmanos Cancer Institute, is no stranger to National Institutes of Health study sections, having served on them continuously for more than 25 years. He has had a career-long interest and involvement in cancer education at Wayne State University School of Medicine and at the national level. He is an active researcher in the WSU/Karmanos Population Studies and Prevention Program and he is interested in physician training and community health education.

Dr. Gallagher is a pioneer in the teaching of cancer prevention concepts and skills to undergraduate medical students. He has served as the principal investigator on one of five national contracts that was funded in 1979 by the National Cancer Institute to test the feasibility of teaching cancer prevention to U.S. medical students. He is a lifetime fellow and recent past-president of the American Association for Cancer Education.

“Dr. Gallagher is not only a pioneer in the content area of cancer prevention and education, but he has also set the gold standard in delivery methodology and evaluation of education interventions. Ultimately, physicians, patients and communities want to use--and fund--what works. Dr. Gallagher has demonstrated the effectiveness of both new and established cancer education programs and has extended our knowledge to include testing of these programs in diverse populations,” said Maryjean Schenk, M.D., WSU chair of family medicine.

In the letter of invitation sent to Dr. Gallagher, Sonya V. Roberson, Ph.D., the National Cancer Institute scientific review officer assigned to Committee G, noted that Dr. Gallagher was selected for this role because of his particular expertise and insights in methods of learning, instruction, curriculum development, program evaluation, cancer prevention and community health. Dr. Roberson further noted that the position of study section chair that Dr. Gallagher has accepted will provide him an “incomparable overview of cancer research in educational programs in the United States and will provide an opportunity to shape the nature of cancer education grant reviews.”
Kids experience the fun of medicine at Future Docs

Dr. Steve Smith, a 1993 WSU alumnus, brought his 5-year-old daughter, Katie, to Future Docs for a chance to show her what it’s like to be a doctor. Wearing surgical mask and cap, fingers bound in a cast and sporting a bag of event goodies, Katie seemed to have overcome the initial reluctance and apprehension her father said she had about coming. “She didn’t like the idea at first,” he said. “I was scared,” confirmed Katie. Now, she reports considering medicine as a career. “That’s something she would never have said a couple of hours ago,” her dad said.

More than 500 children explored a wide array of topics such as examining the genetics of the brain tissue of a mouse; understanding and tracking family traits; dissecting cow eyes; finger casting; brain mapping and much more at Future Docs, an annual event at the School of Medicine.

For instance, 5-year-old Stephanie and her cousin Courtney, 6, barely allowed grandfather Dr. Boyd Savoy, acting chair of dermatology, to keep pace. The enthusiast duo could barely make out a favorite of the activities and offerings, citing the baby seal petting experience, balloons, clown and face tattoos to be among the top. Best, though, according to Stephanie, was the ambulance tour. “She really liked that one,” reported cousin Courtney.

The slightly-older crowd was mesmerized by the opportunity to learn about and touch the human brain and cow eyes. John Griffith, 13, his brother Evan, 10, and friend Amber Johannes, 12, were on their way for pizza when stopped and asked about their experience. “It’s fun,” said Evan. “I liked getting the cast best.” The boys’ dad, David Griffith, and Amber’s grandmother, Mary Jacob, both from Kresge Eye Institute, were helping with the “Eyes Have It” exhibit, which provided slimy cow eyeballs and eye screenings.

Last year’s Future Docs program was honored with an Award of Distinction from the Association of American Medical Colleges Group on Institutional Advancement Awards for Excellence Competition. The school was one of three institutions recognized for an outstanding special program or project implemented between Jan. 1, 2004, and June 30, 2005. Those recognized for this achievement are: Donna Dauphinas, chief of staff; Kathy Fitzgerald, director of public affairs and publications; Sue Holderup, special events manager for development and alumni affairs; Lori Herman, executive assistant for development and alumni affairs; Janus Landrum, development officer; and Susan Miller, associate director of development and alumni affairs.

Scott Hall Patio Building Project

by Friends of Wayne State University School Of Medicine

The project includes the construction of two beautiful brick pavered patios, each with three courtyard benches, set under the trees on either side of Scott Hall’s entrance for use by students and staff.

This is the first phase of the program to aesthetically enhance the surroundings of the school with the new Medical Education Commons in progress.

This is a great opportunity to create a lasting legacy at the medical school by purchasing a paver engraved with your name, the name of a loved one, a student, a favorite professor, or a personal message for all to see.

Perhaps you would rather donate an elegant bench fitted with a brass plate (plaque) for engraving the donor’s name or the name of a loved one.

Donations are accepted without the purchase of an engraved paver or bench. The entire dollar amount goes directly to the Patio Project.

All donations are 100 percent tax deductible and also have special Michigan State tax benefits. Friends is a registered non-profit organization. See your tax consultant.

The Patio Project will be constructed and serviceable by spring 2006 with all the purchased engraved pavers and bench plates in place by the fall.

Only 10 benches are available at this time on a first-come basis. Six benches will be installed by spring 2006, the other four later in the year. More benches will be available for donations upon completion of the Medical Education Commons.

Wayne State University School of Medicine is growing and our goal is to continually improve and modernize its facilities to better serve the staff and students. Everyone can be involved in the effort.
ORDERING INSTRUCTIONS

1. Orders received by May 15, 2006 will be part of the construction project that summer. Orders received later will be part of next year’s improvements.

2. You should receive a confirmation letter within 30 days of your order. If you do not receive a confirmation letter or a correction is necessary, please call us.

3. If you purchase more than one brick and wish them to be placed together, these orders must be received together and so designated.

4. Your message must fit within the spaces provided on each of the three sizes of bricks.

5. Messages will be centered automatically. Specify use of upper and lower case letters. Otherwise uppercase letters will be used.

SAMPLES OF ENGRAVED MESSAGES

WITH LOVE AND REMEMBRANCE OF DR. PHILLIP

GRADUATING CLASS OF 2006

IN HONOR OF OUR DAUGHTER MARY JONES

PRICES

Buy-a-Brick Supporter

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NOTE: Buy one or any combination of bricks. Quantity is not limited.

Bench Benefactor (Limited Quantity)

Your donation of $1,750 sponsors an elegant metal bench with a 4 x 6 brass plate for engraving. (Three lines, 16 spaces per line)

Friends of Wayne State University Medical School Patio Building Project

PERSONALIZED ORDER FORM

Please complete an inscription form for each paver you purchase, copying the form as needed. Punctuation and blank spaces are considered characters. All donations are tax-exempt under IRS guidelines.

Name __________________________ Day/Evening Phone __________________________

Address __________________________

City __________________________ State _______ Zip __________________________

Brick Selection

Each paver is sealed for lifetime clarity of lettering and protection. Please indicate size below.

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_____ I have enclosed a check made payable to Friends of WSU Medical School

_____ Please bill my Master Card / Visa

Account # __________________________ Exp Date __________

Cardholder’s Signature __________________________

Please remit all order forms and personal checks to: Mrs. Lawrence Weiner

If you have any questions contact: Dr. Gertraud Wollschaeger

4955 Malibu Drive (248) 761-1640

Bloomfield Hills, MI 48302 (313) 822-7153

Please complete an inscription form for each paver you purchase, copying the form as needed. Punctuation and blank spaces are considered characters. All donations are tax-exempt under IRS guidelines.

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Bloomfield Hills, MI 48302 (313) 822-7153
WSU among first in country to integrate M.D./Ph.D. curriculum

Continuity is the key to comprehensive learning. It is also the core of the highly rated, unique M.D./Ph.D. integrated degree program at the Wayne State University School of Medicine. Although many schools offer combined degree programs, the Wayne State curriculum is unique because it eliminates the choppy chunks of disparate coursework and instead provides overlapping, integrated learning that continually blends laboratory studies with hands-on clinical experience. “This immediate application from bench to bedside is what shapes the most engaged and attuned physician-scientists,” said Ambika Mathur, Ph.D., director of the program.

Most M.D./Ph.D. programs are generally arranged to provide two years of M.D. training, followed by three years of Ph.D. lab work toward a dissertation, and then two years of clinical rotations to finish the medical degree—with no room for overlap among disciplines. WSU’s program begins necessarily with two years of basic science work to introduce pre-requisite concepts. The difference starts in year three when the graduate Ph.D. program and the clinical training occur simultaneously and continue until the end of the program, which requires seven-eight years for completion. Students spend at least a half-day in a clinical setting of their choice throughout the curriculum.

“In our program, the clinical training—which used to be held until the very end of the program—will be provided throughout the graduate training years. Consequently, the final years will have blocks of time opened up for research projects. This novel swapping of clinical and research training time blocks permits students to maintain continuity in all areas of their studies,” Dr. Mathur said.

In the past, combined-degree students have complained that during their graduate research training, they lost touch with clinical care. This puts them at a disadvantage when they enter the clinical training years, especially because the medical students they are studying with have just completed their Physical Diagnosis course and this knowledge is fresh for them.

“Our objectives are to alleviate these concerns, provide a truly integrated experience that prevents loss of clinical skills, and to develop a nationally recognized program of integrated training,” Dr. Mathur said.

With 13 M.D./Ph.D. students currently in the program and four more entering in the fall, WSU is proud of its recruitment efforts and the caliber of students admitted to the school. All four top-choice students who were offered positions at WSU accepted, and they are among the top 5-10 percent in the nation in terms of their MCAT scores. Higher MCAT scores are positively correlated with future performance in medical school and to develop a nationally recognized program of integrated training,” Dr. Mathur said.

Dear Graduate Students and Alums,

In this issue of Scribe and alum notes, we focus attention on the achievements of several graduate students, M.D./Ph.D. students and a recent alumnus. As a group, scientists seem to be uncomfortable publicly heralding their successes, preferring instead to let their research and teaching accomplishments speak for them. Our graduate trainees develop a similar reticence to publicize their deeds, so our task is to identify and highlight those outstanding student and graduate alum activities, so the university community and Michigan residents can appreciate their value!

We can begin by telling you that the School of Medicine recently nominated 23 graduate students, postdocs or alumni for the American Association for the Advancement of Science (AAAS) 2006 Excellence in Science Award. An annual award, the Excellence in Science program honors exceptional scientific and academic performance by students and postdocs. Each of the named individuals received high praise for their academic and research accomplishments from their respective department, mentor or supervisor. Those selected for recognition by the AAAS will receive a full association membership and a one-year subscription to the weekly journal Science at no charge. Our AAAS/Science nominees are listed in the sidebar. Congratulations to each of them on their nominations!

Our M.D./Ph.D. students also are making stellar contributions to the academic and service life at Wayne. One of our second-year students, Leslie Lawson, was recently recognized at the WSU Campus Life Leadership Awards. The award honors students who have made outstanding contributions to WSU in leadership and service. Leslie and her group, Amigos Medicos, were recognized with the Service to Detroit Award. The Amigos Medicos student group seeks to improve the health and well-being of underserved members of the local Hispanic population by providing free health education in the community as well as Spanish language instruction for future physicians. Dan Barkmeier, together with Leslie, was cited for work on the school’s PDA Committee, implementing new ideas such as a flashcard program and audio files of the physical exam. Alison VanDyke, another second-year M.D./Ph.D. student, had two more scientific papers published, while our most recent M.D./Ph.D. graduate, Gerald Morris, will be starting a rigorous clinical pathology residency at Barnes Jewish Hospital (Washington University) in St. Louis, Mo.

Lastly, a companion article in this issue of alum notes profiles Terrence Carmichael, a recent graduate of the Molecular Biology and Genetics Masters program. Terry, who earned his degree in 1995, went on to found GeneTree DNA Testing Center two years later. He worked to build it into a multi-million dollar enterprise, using a nearly exclusive online advertising strategy. His company provides DNA testing collection kits at no cost to consumers. Terry is proof that successful entrepreneurship can be a career direction for WSU biomedical science graduates!

As always, your keen interest in WSU School of Medicine and the progress of our graduate biomedical science training is warmly appreciated.

Kenneth C. Palmer, Ph.D.
Assistant Dean for Graduate Programs

AAAS/Science Nominees - 2006 Excellence in Science Award

Elizabeth Szliter
Muthukheka Swamydas
Zimei Zhou
Kajana Satkonendararajah
Jia Yin
Christopher Jedeszko
Mona Mostafa Mohamed
Anne Kazy
Janice Speshock
Hung-Chi Yang
Darian Kotis
Sandra Mur-Thumar
Kalyan Kondapalli
Fathima Kona
Rose Chirca
Yijuan Deng
Newton Hurst
Sriram Krishnamoorthy
Bernadette Palazzolò
Omíd Saeed Tehrani
Bryan Thibodeau
Stephanie Colton
Nicole Diotto

Graduate Programs

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Theodore Barber, M.D., urology resident, received one of three CapCURE Awards from the CapCure Foundation at the annual meeting of the Society of Urologic Oncology and the American Urological Association in Atlanta in May. His award is based on collaborative work among the WSU Departments of Urology and Pathology and the Genitourinary Cancer Multidisciplinary Team of the Karmanos Cancer Institute. The abstract sheds light on the controversial practice of treating only part of the prostate gland when a small amount of cancer is present.

Kerita Black, M.D., assistant dean for student affairs, has received the Philo T. Farnsworth Award for Excellence in Community Programming for her cable television show, *To Your Health*. The award was presented in the Electronic Media category by the Alliance for Community Media, Central States Region. To Your Health is a consumer health program that focuses on the prevention, diagnosis and treatment of many common medical problems, such as hypertension, diabetes, stroke and osteoporosis. Dr. Black, who has hosted the program for more than a year, interviews various local experts for segments that air as part of Southfield’s City Cable 15’s news program.

Seemant Chaturvedi, M.D., associate professor of neurology and director of the WSU/DMC Stroke Program, has been appointed to a committee for the American Heart Association on “Definition and Diagnostic Evaluation of Transient Ischemic Attack.” He also received a grant from the Blue Cross Blue Shield Foundation of Michigan titled “Application of a Structured Vascular Risk Factor Intervention Program to an Urban High-Risk Population.”

Bhavin Dalal, M.D., third-year internal medicine resident at Sinai Grace, presented “Determinants of Central Sleep Apnea with Sleep-Disordered Breathing” at the 2006 American College of Physicians annual session in Philadelphia in April.

John Flack, M.D., chair of internal medicine, co-authored an article in *Psychosomatic Medicine* on “Violence and Optimism” that focuses on inner city black youth. WSU co-authors are Rodney Clark, professor of psychology, and Ramona Benker, professor of nursing. The article discusses the association of youth being exposed to violence in their home and neighborhoods and how their outlook was related to changes in blood pressure and pulse rate resulting from exposure to violence. Despite the fact that most inner city areas have disproportionately higher rates of violence and high blood pressure, the article found that the youth in the study have a way of buffering blood pressure responses to violence.

Jaya Grandhi, M.D., third-year internal medicine resident at Sinai-Grace, is a poster finalist for the 2006 American Society of Clinical Oncology national meeting to be held in Atlanta in June 2006. Grandhi will present “A Retrospective Review of Anal Squamous Cell Carcinoma in HIV Positive and HIV Negative Patients.”

Internal medicine residents represented Michigan in “Doctors’ Dilemma,” similar to the Jeopardy game show but with all medical topics, at the 2006 American College of Physicians annual session in Philadelphia in April. Comprising the team are third-year residents: Drs. Raghu Thirumula, Jaya Grandhi, Bhavin Dalal and Ramesh Kotihal.

Peter Karpawich, M.D., professor of pediatric medicine and director of cardiac electrophysiology services at Children’s Hospital of Michigan, has been appointed section editor for Pediatric Cardiology in *Pacing and Clinical Electrophysiology*, the official journal of the International Cardiac Pacing and Electrophysiology Society. He has also been appointed chairman of the section on Resynchronization Pacing in Children for the upcoming 27th Annual Scientific Session of the Heart Rhythm Society in Boston in May.

Ken Kish, university counselor/advisor, will conduct several small-group sessions at the 16th International Congress of Group Psychotherapy in Sao Paulo, Brazil, in July.

Ramesh Kotihal, M.D., third-year internal medicine resident at Sinai Grace, presented “A Rare Presentation of Pulmonary Sarcoidosis” at the 2006 American College of Physicians annual session in Philadelphia in April.

Frederick Locke, M.D., WSU chief medical resident at Detroit Receiving Hospital, was selected to serve on the 2006 STATRef Advisory Board. STATRef is a cross-searchable, electronic medical reference that integrates authoritative core texts with evidence-based information, such as the American College of Physicians PIER, and innovative tools, such as Aniatomy.tv. Dr. Locke was appointed to the board because of his strong interest in improving medical education and his savvy technological skills.

Kavitha Potluri, M.D., third-year internal medicine resident, under the guidance of Dr. John Flack, presented “Blood Pressure Response to Renal Angioplasty in African Americans with Renal Artery Stenosis” at the 7th Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke in Washington, D.C., in May.

Ananda S. Prasad, M.D., Ph.D., distinguished professor of internal medicine, has been appointed by the Fogarty International Center and the National Institutes of Health to serve as a consultant to the Bill and Melinda Gates Foundation for the study of zinc as it relates to human health and immunity. The foundation intends to address the existing literature to answer fundamental questions on the therapeutic uses of zinc. Growth retardation, immune dysfunction and cognitive impairment are some of the major effects of zinc deficiency worldwide.

Michael S. Simon, M.D., associate professor of internal medicine and member of the Breast Multidisciplinary Team, Karmanos Cancer Institute, was appointed to the African-American National Advisory Council by the Susan G. Komen Breast Cancer Foundation.

Raghu Thirumula, M.D., third-year internal medicine resident at Sinai Grace, presented “Predictive Ability of Lymphocytic Bronchiolitis (LB) in Lung Transplant Recipients” at the 2006 American College of Physicians annual session in Philadelphia in April.

Saad Usmani, M.D., second-year internal medicine resident at Sinai Grace, presented “A Rare Case of Post-Infectious Glomerulonephritis Caused by Pneumococcus in an Adult Patient” at the 2006 American College of Physicians annual session in Philadelphia in April.

Alex Tselis, M.D. Ph.D., associate professor of neurology, co-edited “Epstein-Barr Virus,” along with Hal Jenson of Tufts University School of Medicine and Bay State Medical Center. The book is a comprehensive review of the Epstein-Barr Virus including history, laboratory testing, clinical manifestations, as well as basic molecular and cellular biology, immunology and oncology. In addition to Dr. Tselis, other WSU faculty co-authors of chapters include Kumar Rajinami, M.D., assistant professor of neurology, and Joseph Merline, Ph.D., assistant professor of pathology.

WSU, DMC negotiate nine-month agreement

The Detroit Medical Center’s board of trustees recently voted to approve a nine-month agreement with Wayne State University and its physician group to continue its longstanding partnership for education and clinical care.

The agreement, which also has been approved by the governing boards of WSU and the WSU Physician Group, calls for an extension of existing contracts through the end of 2006. However, the new contracts exclude the services of the Department of Orthopaedic Surgery faculty.

The relocation of the academic orthopaedic faculty and the affected residents is currently being evaluated. Wayne State University and the faculty physicians of University Orthopaedics will forge a bold new path consistent with the School of Medicine’s vision for the continued expansion of graduate medical education and patient services into the broader metropolitan community; this effort will build upon existing relationships with the hospitals of the Southeastern Michigan Center for Medical Education.

This action also provides an opportunity for the School of Medicine’s new dean, Robert M. Mentzer, Jr., M.D., to participate in future negotiations, which will be shaped by Dean Mentzer’s institutional vision: “I look forward to working together with the Detroit Medical Center as well as our other regional partners to find new opportunities to use the School of Medicine’s intellectual firepower in a broader way,” Dean Mentzer said. “We’re looking at all opportunities to partner with various health-care systems that bring a particular asset that’s important to the medical school.”

WSU participates in study examining aspirin-Plavix treatment for heart disease

WSU School of Medicine researchers were part of an international group of investigators examining whether a combined treatment regimen of Plavix and aspirin is more effective in treating heart disease than aspirin alone. The study’s results showed that while the therapy may be beneficial to those already diagnosed with heart disease, it may be harmful to those with multiple risk factors, such as high cholesterol or blood pressure.

“Researchers are currently evaluating the impact of aspirin-Plavix treatment,” said Dr. Jaya Grandhi, a resident in internal medicine at Wayne State University. “The results of this study suggest that aspirin-Plavix treatment may be beneficial for patients with a history of cardiovascular disease, but more research is needed to determine the best treatment for patients with multiple risk factors.”

More information about this study is available at http://content.nejm.org/cgi/content/short/NEJMoa060989.

Filters outperform diuretics in safely eliminating fluid

In a comparison of ultrafiltration vs. standard diuretic drug therapy for people with heart failure, ultrafiltration produced greater weight loss, greater net fluid loss and reduced hospitalizations. Ultrafiltration is performed with a mechanical system that can remove up to a pound per hour of excess salt and water from the blood stream without clinically significant effects on kidney function, heart rate, blood pressure or electrolyte balance.

The results of the clinical trial, dubbed the UNLOAD trial, were announced at the American College of Cardiology conference in March. Supporting the results and heading the Wayne State section of the study was Maya Guglin, M.D., assistant professor...
of internal medicine (cardiology). WSU was one of 28 participating sites (and the only site in Michigan) that studied this alternative to intravenous diuretics. Dr. Guglin was the top enroller in this trial, contributing 24 patients out of 200 total, along with co-investigator Dr. James Sondheimer from nephrology.

The study found an important option in the treatment of fluid overload. When the heart cannot pump effectively, fluid often builds up in the legs, arms, and eventually in the lungs, leading to severe and life-threatening shortness of breath.

The ultrafiltration therapy used in the trial was administered via the Aquadex FlexFlow™.

Family practice group honored with Governor’s Award

Tsveti Markova, M.D., assistant professor of family medicine and director of clinical operations at University Family Physicians-Detroit, accepted a 2005 Governor’s Award on behalf of UFP-Detroit for quality improvement in its diabetes management program. The annual award, created through a collaborative effort between MPRO and the governor’s office, recognizes primary care physician offices for quality improvement.

“We chose to follow the criteria for diabetes management due to the high prevalence in our patient population,” Dr. Markova said. “Through quarterly reports and implementation plans for improvement, we accomplished more than 90 percent compliance with the American Diabetes Association indicators for monitoring diabetic patients for better control and prevention of complications. The success was due to everyone’s involvement in this initiative: all faculty, residents, staff and office manager. Our patients deserve no less than excellence!”

UFP is the first university practice to receive this award and one of the few in the city of Detroit.

CME completes review

The Department of Continuing Medical Education has been awarded full renewed accreditation from the Accreditation Council for Continuing Medical Education.

“We take pride in the fact that there were no areas of ‘partial compliance’ and no ‘concerns,’” said David Pieper, Ph.D., assistant dean for continuing medical education. “Our next review will be in four years, which is the norm.”

CME staff members to be acknowledged for their work include: Gladys Chiarelli, Talmage Crossley, Nancy Jennett, Therese Johnson, LaCena Womack, and student assistants Vasilena (Assia) Likomanov, Ivonne Soler and Alison Spratt.

DMC named official health care services provider for four pro sports teams

Following partnerships with the Detroit Red Wings, the Detroit Pistons and the Detroit Shock, Detroit Medical Center doctors are headed “out to the ballpark” this spring for Tiger baseball. The Detroit Tigers are the latest professional sports team to name the DMC their official health care services provider.

“Like all DMC patients, world-class athletes need world-class health care. The DMC is honored to be affiliated with such high caliber teams. For us, it’s a commitment of DMC doctors that are at every home game with all four teams. For the fans, it means we’ll keep the players on the ice, on the court or on the ball field where we need them. In selecting DMC doctors to work alongside these incredible athletes, it’s clear that these premier sports teams recognize the quality of care they’ll receive,” said Michael Duggan, DMC president and CEO.

The team of DMC physicians on-call to attend to these world-class athletes include the following: Anthony J. Colucci, D.O. (Detroit Red Wings), Benjamin J. Paolucci, D.O. (Detroit Pistons/Shock), Douglas G. Plagens, M.D. (Detroit Red Wings/Tigers), Robert A. Tegtge, M.D. (Detroit Pistons/Shock), Stephen Lemos, M.D. (Detroit Tigers), and Donald W. Weaver, M.D. (DMC Professional Sports Medicine Program).

Medical Student Research Day

The WSU School of Medicine Medical Student Research Symposium awarded Raymond Esper the Sandberg Prize, the highest honor for a completed project. Esper worked with Dr. Jeffrey Loeb. Second prize for a completed project went to David Ellenberg, who worked with Dr. Gabriel Sonne. In the progress category, two students tied to the third decimal place, Paul Kim and Tamaran Kamash. Kim worked with Dr. Shang You Yang, and Kamash worked with Dr. Donald DeGracia.

Congratulations to all participants who actively make research part of their medical careers.

For more information, please contact CME at (313) 577-1180.
A simple moist swab from the inside of your cheek can determine paternity identity, trace racial ancestry, or find genetic links between surname-sharing families. Remarkably easy to collect, and precisely accurate, DNA testing has been employed by thousands of people to learn more about their own genealogy and even to help Native Americans prove their indigenous heritage.

The first company to provide direct-to-consumer DNA testing was GeneTree, founded by a graduate of WSU’s Center for Molecular Medicine and Genetics. Terrence Carmichael, who earned a master’s degree in molecular biology and genetics in 1995, founded GeneTree DNA Testing Center in 1997 and built it into a multi-million dollar business, using a nearly exclusive online advertising strategy with the GeneTree.com Web site. “By providing collection kits at no cost to consumers, we can concentrate on providing high quality DNA testing; GeneTree has never sold its kits—GeneTree only sells results,” Carmichael said. By early 1998, GeneTree was well on its way toward becoming a full-fledged force in genomics. The firm sold its first paternity test in February of the same year, allowing customers to send their swab samples discreetly in the mail to GeneTree analysts who provided prompt, accurate results. The client list continued to grow, and by 2000, Carmichael opened offices in San Jose, Calif.

While GeneTree’s initial offerings also included genetic counseling and predisposition assessments, the industry climate soon dictated a reevaluation of the company scope. “It quickly became apparent that paternity testing was where we needed to focus,” Carmichael explained. “Over 95 percent of our first-year business was in paternity testing.” Calling upon his WSU genetics training, the ever-adaptable entrepreneur was clearly ready for a professional shift-of-paradigm. Sharpening its focus on fast, high quality relatedness testing, GeneTree was soon attracting the attention of industry leaders and investors alike. In fall 2001, GeneTree sold its assets to Salt Lake City–based Sorenson Genomics, owned by the successful medical device entrepreneur and multi-bil-

continued on page 22
lionaire, Mr. James LeVoy Sorenson. This is where work soon began on building the state-of-the-art genetics research and testing laboratory that would ultimately become GeneTree’s permanent home. By July 2003, GeneTree’s San Jose offices were closed, and all operations, from research and testing to production and client services, were relocated to their current Utah home.

“Since then,” Carmichael said, “GeneTree has expanded its services to include assisting people with determining ancestry, genealogy and assessing their individual health risks.” His full-service genomics lab provides testing services for a variety of applications and high-throughput laboratory protocols have helped build a strong competitive edge in the DNA testing industry, allowing the firm to efficiently process thousands of samples per year. The dual-sample testing process concurrently examines multiple instances of genetic specimens in-parallel, yielding extremely high levels of accuracy, with inclusion probabilities regularly exceeding 99.99 percent.

“We continue to expand on our DNA testing portfolio, while focusing on developing new tests,” said Carmichael who now serves as vice president of marketing and sales for GeneTree, Sorenson Genomics. Prior to his GeneTree brainchild, Carmichael worked for QIAGEN, a company offering DNA purification solutions to the biotechnology industry. He received a professional designation in marketing and sales through UCLA and worked as a product manager for Bio-Rad Laboratories. He has also been part of other start-up companies including ETS Systems, a commercial alarm company and the Biotech Learning Institute.

He has written two books: “Ancestry DNA Toolbox” and “How to DNA Test our Family Relationships,” and he is excited about expanding into personalized and disease-specific health information. “By allowing doctors to write prescriptions based on unique DNA blueprints, science will decrease the likelihood of adverse reactions, leading ideally to less expensive, more efficient and faster-acting drug therapies,” Carmichael said. “The future of genomics is indeed a promising one.”

**Health of Florida residents is top concern for Dr. Brooks**

During the years Robert Brooks, M.D., served as secretary of the Florida Department of Health (1999-2001), West Nile was first detected in his state, Terri Schiavo’s guardianship and medical rights were in hotly contested dispute, and an aging Florida population demanded unique health care resources, with the country’s largest proportion of residents aged 65 and older.

An expert on public health and public health policy, Dr. Brooks led Florida’s health department and also served from 1994 – 1999 in the Florida House of Representatives. He left his political posts in 2001 to help establish a brand new medical school—the Florida State University College of Medicine dedicated to educating students especially in primary care, with an emphasis on underserved, rural and geriatrics populations. A 1979 graduate of WSU’s School of Medicine, Dr. Brooks knows a thing or two about this fundamental mission of service from his days as a student and resident in Detroit.

His new title is associate dean for health affairs at FSU, where he directs multidisciplinary centers of excellence in patient safety, rural health, public health and terrorism. He also directs the medical school curriculum on health policy, with a particular focus on prevention and improved public health.

“The U.S. is now spending almost $2 trillion a year on health care, yet 45 million people have no health insurance, and most of those who do have it are used to paying for treatment once diseases are established and not focused on prevention. These facts, coupled with the aging of the population will require us to rethink the whole financing system for health care. Florida, for example, with its large number of seniors, is slowly beginning to realize the importance of community-based care rather than nursing home placement,” Dr. Brooks said.

Facts such as these prompt Dr. Brooks to advocate for better education of patients in his community and physicians at his medical school. “In addition to learning about the traditional doctor-patient relationship, doctors need to learn about wise utilization of resources, community involvement and long-term health care—not just fixing short-term, patient-specific problems,” he said.

Among his many accomplishments, Dr. Brooks chaired a statewide panel in Florida which studied end-of-life care and changed state laws to remove barriers impacting quality end-of-life and palliative care. This project was prompted, in part, by the Terri Schiavo case, but also serves to aid the families of many aging Florida citizens.

As an infectious disease expert, Dr. Brooks is also leading a bioterrorism curriculum for FSU students and has established preparedness and response training for medical personnel, first responders and others in the state.

“America will continue to be faced with the possibilities of both terrorism events and natural disasters like hurricanes. Educating medical students, doctors and the public on preparedness and response to disasters is critical to save lives in these mass casualty events,” he said.

Dr. Robert Brooks, ’79, is especially interested in aging populations and quality end-of-life care.
Dr. Kenneth McMillan’s office is hardly posh and his patient population isn’t exactly upper crust. But his work is meaningful and rewarding and his patients are grateful for compassionate medical care.

From the streets of south Minneapolis, Dr. McMillan is known to his mostly Native American patients as “doc” or “kola,” the Lakota word for friend. He is director of medical services for the Kola Health Outreach Program for Homeless Native Americans, where he delivers primary care and plenty of substance abuse treatment. “A lot of what I see is a mixture of chronic and acute situations because of their chemical dependency,” said Dr. McMillan in an article in the January 2006 issue of Minnesota Medicine. McMillan graduated from the WSU School of Medicine in 1976 and completed his residency here as well. “Some are in psychological crisis; some come in with acute psychosis and are off their meds. We have schizophrenics who are too drunk to access the proper place to renew their meds.”

With issues like lack of transportation, insurance and adequate housing, his patients sometimes rely on Dr. McMillan to personally take them to area medical centers for specialty care. “We try to treat them in a culturally sensitive way here. We don’t want anyone to go out of here without feeling like we’ve done something for them.”

Born in Congo to missionary parents, Dr. McMillan served as a missionary with Cross World from 1981 to 1999. He worked as a surgeon and medical director of a 100-bed hospital in the Democratic Republic of the Congo (formerly Zaire); served as public health officer of the Rethy Health District in the eastern part of the country; and founded and directed the Rethy Nursing School. He planned to remain in Africa until the civil war broke out in 1996. Dr. McMillan and his family were evacuated to Minnesota, the homeplace of his wife, Ginny (Virginia), a nurse. They left everything behind. “I came here and thought: What do we want to do?” Interestingly, Ginny McMillan was at Wayne State University earning her M.S.N. degree to teach public health nursing in the early 1970s, but she and Ken didn’t meet until they were both doing missionary work in Africa. Together, they have treated thousands of needy patients and consider themselves “rich” in every sense.

“I remember being evacuated,” Ginny said. “We ripped some wet clothes off the line and ran for protection. Our beloved patients were waving their medical records, begging us to see them one more time before we left. It was gut-wrenching. We are filling a great need here, but our hearts are always there.”

Once in Minnesota, Dr. McMillan accepted a position to run a program for homeless Native Americans and literally set out on his bicycle to look for camps of homeless people along the Mississippi River and near the railroad tracks in south Minneapolis. Within two weeks, 100 people were depending on him for care. Over the years, he has returned many people to more functional, independent lifestyles, and he has drastically reduced the population’s reliance on emergency room visits for primary care and detox treatment. “I have tremendous respect for their level of trauma—not just present trauma, but historical trauma, being pushed off their land and in many cases, abused or mistreated or killed. I can really appreciate now why they have depression, family violence and addictions,” he said in the Minnesota Medicine article. “I would love to be part of a bigger reconciliation and rebuilding. But for now, it’s personal. I’ve learned that I’m part of a one-on-one reconciliation of whites to Indians.”

This article is based on a story by Kim Kiser in the January 2006 issue of Minnesota Medicine, which is published monthly by the Minnesota Medical Association. The full story is available online at www.mmaonline.net/publications/MNMed2006/January/facetoface.htm.
Arizona alumni find themselves among familiar faces

Jan Bertsch knows all about long-distance business partnerships as vice president of global sales and marketing finance for DaimlerChrysler Corp. It was generous of her, as a member of the WSU School of Medicine Board of Visitors, to host medical school alumni and friends in her Scottsdale, Ariz., home to discuss loyalties that extend outside the Detroit area.

This is the second time Bertsch has hosted an Arizona event for WSU. She finds herself in familiar company, since the state is home to a high concentration of WSU-trained physicians—both retired and currently in practice. Drs. Norman and Jonathan Komar, father and son, fit that bill exactly.

Jonathan Komar, M.D., ’99, practices physical medicine and rehabilitation in Scottsdale. Norman Komar, M.D., ’61, retired from his neuroradiology practice a couple years ago, but enjoyed the opportunity to meet socially at Bertsch’s home with his son and dozens of other WSU grads who reside in Arizona. “The 100-mile trip was worthwhile for me,” he said.

“I was from the last class of 75 students at WSU,” Dr. Komar said. “I know the medical school has expanded significantly, and Dr. Frank told us about plans to grow even further. I think it’s very good. WSU has lots to offer—good medical education and lots of hands-on experience. When you’re looking for doctors, you want people who can actually do things and do them well. I’m proud that WSU has trained my son and many others to be great doctors.”

The Komars attended Medical Alumni Reunion Day back at WSU and set up many gatherings with former colleagues and classmates from the area. Bertsch was pleased to bring together people with WSU ties. She holds a bachelor’s degree in finance from Wayne State University and a master’s degree in business administration from Eastern Michigan University. She provides outstanding counsel to WSU in helping many audiences achieve unified objectives.

Alumni also appreciated the opportunity to meet with Executive Vice Dean Robert Frank who told alums about how they can help serve the school and how the school can serve them in mutual partnerships. More Arizona receptions are sure to follow in the future.

Wayne First message travels to Florida

Dr. Tony Kales told WSU alumni in Florida, “The school prepared my wife and me for productive medical careers by providing us with world-class clinical training and experience. I am especially proud to be here because the School of Medicine has become one of the nation’s elite medical centers, building on its legacy of rich clinical training by also achieving a high national ranking in research funding.

Generous donors and proud graduates of the School of Medicine, Tony and Joyce Kales are taking the Wayne First campaign message and mission on the road—this time to Fort Lauderdale and Ester, Fla., where alumni met the Kales and School of Medicine Dean Robert Mentzer.

Dr. Mentzer told alumni, “Our primary mission remains, as ever, to provide the best possible education for medical students and to continue to meet the challenges and needs of the next generation of physicians.” He explained the challenges associated with predicted national physician shortages, increased class sizes and the need for training resources and facilities. He encouraged alumni to contribute to the construction of the Richard J. Mazurek, M.D., Medical Education Commons, which will give the school a new public face and will house programs and technologies that will allow WSU to incorporate the latest teaching methods and attract the brightest future physicians.
Medical suspense novel delves into alum’s experience during Detroit riots

N
developer Patricia Gussin is better known to her patients and colleagues as Dr. Patricia Stewart, 1971 graduate of the Wayne State University School of Medicine, primary care practitioner and former vice president for a pharmaceutical company. Now, she’s a published author of a debut thriller novel, "Shadow of Death."

Gussin was a first-year medical student at WSU in 1967 – the year of the Detroit riots, when the city erupted into civil violence. She recalls this time and explores its unrest, social upheaval and devastation in her novel.

"Anyone who lived in the Detroit area in 1967 will never forget the horror of the riots as the city burned for five days. I think everyone remembers where they were when it happened and how they felt. I remember that time vividly – like the protagonist in "Shadow of Death," I was a medical student with two small children. The book is not autobiographical but in some ways, I did experience what Laura experiences in the book: the scariness of Detroit at the time; the ongoing curfews; the palpable hostility," Dr. Gussin said.

The main character, Laura Nelson, experiences an instant life change when she becomes both a victim of a violent crime and a murderer. She tells a tale filled with secrets, lies and a spine-chilling glimpse of what lurks in the shadows, interwoven with complex issues such as race relations, religion, morals, ethics and consequences.

Dr. Gussin said she never planned to write a book until she found herself flying back and forth to China and Japan as vice president for worldwide research at a big pharmaceutical company. "Once I’d emptied my briefcase, eaten a meal, had a glass of wine, watched a movie, taken a nap, I pulled out an empty pad of paper and started writing. About two years and many trips later, I had a huge stack of notepads, all crammed with barely decipherable scribble," she said. "I guess I’d been thinking about my medical school days more than I consciously knew: the terror of the times; unending demands of small kids; horrendous work loads and dangerous lack of sleep. All these paved the way to ask the question: What if… ."

After medical school, Dr. Gussin completed an internship and pediatric residency at Tampa General Hospital, became board-certified in family medicine, and started a private practice at the Mease Clinic in Dunedin, Fla. She later moved to Philadelphia to do clinical research and become a vice president for a major pharmaceutical company. She continues to practice primary care medicine as a volunteer at a senior citizen clinic in Sarasota, Fla.

Her former academic affiliations include the University of the Sciences of Philadelphia as chairman of the board of trustees, University of Pennsylvania Dental School, where she was a member of the Board of Overseers and an associate trustee of the university; and membership on advisory committees of several universities. She has an honorary doctor of science degree from Duquesne University and is a member of the board of directors of the Sarnoff Corporation in Princeton, N.J. She is a fellow of the American Academy of Family Physicians, a member of the American Academy of Family Medicine, a former member of the American Pain Society, past-president of the Drug Information Association, and a former officer of the American Society for Clinical Pharmacology and Therapeutics.

Dr. Gussin and her husband, Dr. Robert Gussin, a renowned medical researcher, have seven children and 16 grandchildren. They divide their time between Longboat Key, Fla., East Hampton, New York, and their vineyard in Marlborough, New Zealand.

"Shadow of Death" is available from Oceanview Publishing at www.amazon.com. Dr. Gussin recently held local book signings in the Detroit area, and can be contacted at: PatG@PATRICIAGUSSIN.COM

California alumni greet Dean Mentzer

WSU alumni in the California area were among the first groups to welcome Dr. Robert Mentzer as dean of the WSU School of Medicine. In February, Interim Dean Dr. Robert Frank handed over to Dr. Mentzer some of the social responsibilities and perks that go along with the job, including picturesque visits to Marina del Rey and La Jolla. WSU School of Medicine leaders thanked alumni for continued support and generosity to the school.

Dean Mentzer and Dr. Tanaka get to know each other over dinner.

Dr. Harold Tanaka serves as mentor to Dean Mentzer.

Drs. Sharon Popp, Shirley Jenkins-Phelps and Bob Frank at the Grande Colonial.

Drs. Alan Frank and Robert Ellison in Marina del Rey.
Alums manage busy practice plus software company

Just as you wouldn’t trust a bank to keep track of your transactions with a paper and pen, you wouldn’t want your physician to keep your medical records that way either. We’ve all come to expect a more sophisticated, technology-enhanced system of record-keeping.

Steve Kallabat, M.D., ’97, was like many physicians in small practices who had converted to a streamlined electronic medical record (EMR) system to store, maintain and transmit patient information within the office and among laboratories, referring physicians, transcriptionists and billing departments. Although the system improved efficiency, it was getting expensive with high maintenance fees and little room for flexibility and growth.

Dr. Kallabat and his three partners, including 1996 WSU grads Drs. Greg and Ted Naman, developed their own EMR software program from scratch with assistance from Nuwell Technologies. Their product, called Nuwell Chart, is a user-friendly, comprehensive system that helps doctors communicate with their staff, colleagues and vendors in a reliable and systematic way. It began as a way to make information sharing easier within their own internal medicine-pediatrics practice in Ferndale, Mich. But it quickly grew as they saw a need for their product in other offices.

They began developing the software a couple years ago, hired a few programmers to develop their vision, and have taken Nuwell Chart to the marketplace. In just eight months, they’ve already sold it to six practices, and are getting great reviews.

“We aren’t exactly a bunch of tech heads and we never had entrepreneurial dreams of this sort, but we saw opportunities for improvement in the existing systems. We decided to take our medical experience and apply it to make the technology more useful to us and other professionals like us,” Dr. Kallabat said. “I don’t think anyone needs to convince doctors that EMR is a necessary part of business. Doctors know they need it; they just aren’t sure what products will work best for them.”

Drs. Kallabat and Naman train WSU medical students and physician-assistant students in their internal medicine and pediatric rotations. “We see the important link between patient care and technology and try to give students some exposure to EMR while they assist patients here. We show them why technology translates into better patient care,” Dr. Kallabat said. “I think technological competency is an expected skill of new doctors and we do our best as WSU alums to help WSU students feel comfortable with that expectation.”

When managing complex medical histories over the lifespan of a patient, handwritten notes in a dusty file are simply not good enough. Nuwell Chart and other programs like it, can ensure safe, accurate, permanent medical records that can be retrieved with the click of a button. “You don’t necessarily have to be technically savvy. You just have to learn some easy navigation tools to make tedious record-keeping a snap,” Dr. Kallabat said.

Medical students who are interested in learning more about electronic medical charting or to be trainers for other physicians using the software are encouraged to contact Dr. Kallabat at: drkallabat@emedped.com.
Medical students already know what they want to be when they ‘grow up,’ but they don’t always know the specialty in which they are most interested. The Medical Alumni Association tries to ease that decision-making process with its annual Alumni-Student Career Evening. Earlier this year, more than 150 students met with physicians in multiple specialties to learn more about career options and opportunities.

Leland Babitch, M.D., ’95, presented practical information about physician salaries, choosing residencies, private practice premiums and average number of work hours per week per specialty. He says these are all factors to consider seriously and honestly. “Choosing medicine is only the first in a long line of career decisions you’ll have to make,” he said.

First-year student Alexandria Conley is excited to learn more about her options.

Career exploration available

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Class Notes

1938
Martha Wells, M.D., celebrated her 100th birthday on December 4, 2005.

Dr. Martha Wells (left) pictured with WSU friend, 92-year-old Harold Longyear, M.D., ’39.

1954
William H. McAlister, M.D., received the Distinguished Service Award from Washington University.

1962
Eugene A. Gelzayd, M.D., was named a top gastroenterologist in the October 2005 issue of Hour Detroit.

1969
Stanley A. Dorfman, M.D., was named chief of staff at St. Joseph Mercy Oakland, Pontiac.

1972
Allan S. Emery, M.D., was appointed section chief of gynecology at Providence Hospital.

1977
Leslie Bricker, M.D., of Henry Ford Hospital, has been listed in America’s Top Doctors for Cancer, the guide published by Castle Connolly.

1978
John Robert Hamill Jr., M.D., was named Surgeon of the Year at the Florida Society of Dermatologic Surgeons meeting in Orlando, Fla.

1984
Diane Czuk-Smith, M.D., was awarded the Young Alumni Achievement Award from Adrian College on October 15, 2005.

Jerry Sobieraj, M.D., has taken a position in the Clinical Intelligence Department at Boston Medical Center where he will be involved in a project designed to improve health care operations.

1986
Dominic Cusumano III, M.D., is a staff member at St. Joseph’s Healthcare. He is a board-certified internal medicine specialist and completed residency at Detroit Receiving Hospital.

1987
Kevin R. Dassen, M.D., was recently appointed chief of anesthesia for The Permanente Medical Group’s North Valley Region based in the greater Sacramento metropolitan area in northern California.

1989
Bradford C. Gelzayd, M.D., was named a top hepatologist in the October 2005 issue of Hour Detroit.

1992
Mark Lybik, M.D., was named as an Indianapolis Top Doctor by the Indianapolis Monthly. This is the second time the magazine has awarded Dr. Lybik this honor.

1994
Karen Near, M.D., was appointed by the U.S. Surgeon General as a senior science advisor in the Medical Research Corps.

1996
Michael Fiore, M.D., has been appointed medical director of the pediatric intensive care unit at Covenant HealthCare in Saginaw, Mich.

2000
Robert Molloy, M.D., is finishing the Otto Aufranc Fellowship in Adult Reconstructive Surgery at the New England Baptist Hospital in Boston.

2002
Theodore Barber, M.D., Wayne State University urology resident, received one of three CaPCure Awards from the CaPCure Foundation at the annual meeting of the Society of Urologic Oncology and the American Urological Association in Atlanta in May. His award is based on collaborative work between the WSU Departments of Urology and Pathology and the Genitourinary Cancer Multidisciplinary Team of the Karmanos Cancer Institute. The abstract sheds light on the controversial practice of treating only part of the prostate gland when a small amount of cancer is present.

Frederick Locke, M.D., a WSU chief medical resident at Detroit Receiving Hospital, was selected to serve on the 2006 STAT!Ref Advisory Board. STAT!Ref is a cross-searchable, electronic medical reference that integrates authoritative core texts with evidence-based information, such as the American College of Physicians PIER, and innovative tools, such as An@tomy.tv. Dr. Locke was appointed to the board because of his strong interest in improving medical education and his savvy technological skills. Dr. Locke will begin a hematology-oncology fellowship at the University of Chicago in July.

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Leland Babitch, M.D., ’95, presents a breakout session with gritty details.