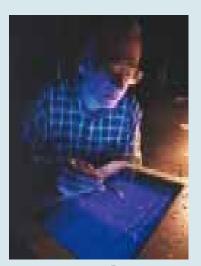
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# exploring research as a

AREER

Research is like one humongous puzzle," explains former STREAMS participant and current Year I student Michele Torres-Winburn. "Your work helps others in their work. You don't just find a miraculous cure. Everyone puts their bits and pieces into it, and the lucky person who gets that last piece may win the Nobel Prize."

Michele is one of 46 students who attended the Short-Term Research Experience Access for Minority Students (STREAMS) program at Wright State over the past five years. A nationally funded program of the Heart, Lung and Blood Institute of the National Institutes of Health, this summer program targets undergraduate students. It is designed to increase the numbers of under-represented groups in cardiovascular-related research careers. Recruited nationally, the participants spend the summer living on campus in rooms furnished by the university. In addition, the grant pays them a stipend and provides some travel expenses.

Joseph See, Year II, and Tameka O'Neal, Year I, are also graduates of the program. Of the 46 past participants, 19 are still in college; 6 in graduate research programs; 5 in medical school (3 at Wright State); 7 in graduate training programs; and 6 are employed. Twenty-five percent of Wright State's STREAMS scholars entered graduate training for research careers upon graduating from college. Only 9 percent of the STREAMS applicants who were not admitted to the program did so, indicating that the program is having an impact upon the career choice of its participants.

Robert Putnam, Ph.D., professor of physiology and biophysics, developed the original proposal funded in 1994 and has served as program director for five years. "The heart of the program is that students do research," he explains. "Eighty percent of their time, four days out of the five-day week, the students are in a laboratory with a faculty mentor doing research." On Thursdays, students are involved in career and higher education exploration, ethics in research discussions, scientific journal club seminars, problem-based learning exercises, and oral presentations. After living and working together for the summer, students form supportive networks for each other.

Twenty-seven different researchers in eight departments have served as mentors, involving students in cutting edge, funded research projects in their laboratories. Because larger institutions are able to rotate mentoring responsibilities, the percentage of participation by Wright State's faculty is commendable, claims Dr. Putnam.

Mentored by Drs. Richard White and Julian Gomez-Cambronero, Tameka, a participant for two summers, believes the program "gave me an edge over someone without research experience. It takes a lot of time and effort to do research, and I think it

"It laid a good foundation and increased my knowledge base of basic scientific principles. I also became more creative and determined." goes unappreciated. I was totally overwhelmed at what goes into finding a cure for a disease. And, the experiences I gained in this program helped me get a job in research after graduation."

Tameka, who was a Wright
State biological sciences major,
remembers that the program
offered her a chance to broaden her
horizon. "As an undergrad you are
just in your field, but STREAMS
let me see so many other different
fields. We had to take a journal
article and, like a researcher, be
able to read it and pick out the

important information. They were totally foreign to me at first, written by Ph.D.'s. At a sophomore level, that is quite a thing to master."

Joseph, who has wanted to be a physician since he was five, says that he entered the program because it sounded like an "interesting summer job." Mentored by Drs. Norma Adragna and Peter Lauf, Joseph notes that his experience in STREAMS over three summers "definitely changed the way I thought. It laid a good foundation and increased my knowledge base

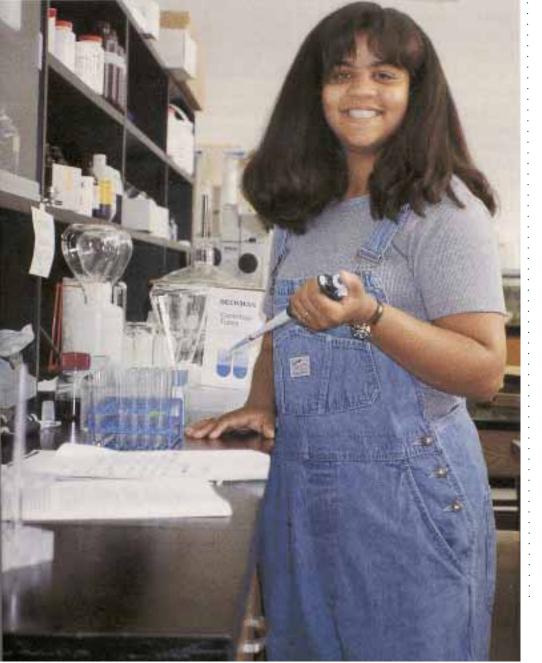


Program director, Robert Putnam, Ph.D., oversees the work of Romena Garrett, a biological sciences major at Wright State.

"The heart of the program is that students do research. Eighty percent of their time, four days out of the five-day week."



Michele Torres-Winburn at work in Dr. Michele Wheatly's lab, 1995.





Gerald Alter, Ph.D., oversees 1999 STREAMS participant Ken Ntukogu, a biology major at Ohio State.

"My dream, my fantasy, would be that more faculty would get involved in the program so they can have the kind of experiences I have had."



Brandford Towne, Ph.D. (R), with STREAMS participant Nick Munoz, a recent graduate of St. Mary's College of Maryland.

of basic scientific principles. I also became more creative and determined. When projects didn't go as planned, I'd try, try again." A graduate of Xavier, Joseph's summer experiences helped him obtain a summer American Heart Fellowship and were "a lot of the reason I came here for medical school. I knew the professors and it felt like home."

All three current medical students completed major projects and were asked to present their research findings at national meetings. Joseph and Tameka are published authors in scientific journals. Dr. Putnam notes that "the students did such outstanding work that we changed the travel budget so students could present their findings at national meetings. That level of success was a very pleasant surprise."

Michele, a Wright State chemistry major, worked for two summers with Michele Wheatly, Ph.D., chair and professor of biological sciences. Michele says, "I wanted to be able to learn a lot of concepts firsthand that I was learning in a classroom. The things you don't have to use you don't remember as well. The concepts I grasped in Dr. Wheatly's lab are still so clear to me." In addition to the science, Michele says that "one of the best aspects of the program is having a personal relationship" with a faculty member that endures after the program ends. "Dr. Wheatly is a figure that I have in my life and a pushing force for me to accomplish. This experience will definitely make me a better mentor for others."

Dr. Putnam originally "had some reservations about developing the program," fearing that it might impinge on his research and teaching efforts. Also, he continues, "I was an old, white male. I didn't know the minority experience and I wasn't sure how well I would relate to the participants." He needn't have worried. He received extremely high scores from both students and faculty mentors as program director, and all respondents to a recent survey still felt that their participation in STREAMS had been a worthwhile experience. Over the past five summers, students from 28 different universities and 12 different states participated in the program.

"My dream, my fantasy," says Dr. Putnam, "would be that more faculty would get involved in the program so they can have the kind of experiences I have had. This grant is important to our field and our institution and has heightened Wright State's visibility around the country. Students came away with a real sense that Wright State was a friendly place and that serious research is being done here. You can't let the pipeline dry up. Programs like STREAMS, Horizons in Medicine, and the Science Apprenticeship Program are vital. My hope is that we can advance to the next level and develop graduate and postgraduate training grants."

Maintaining the STREAMS program is a top priority for the School of Medicine, Mariana Morris, Ph.D., and Shumei Guo, Ph.D., recently submitted the proposal that will fund the program for another five years beginning in the summer of 2000. The proposal has been highly ranked by reviewers, and preliminary discussions for funding are encouraging, according to Dr. Morris. As co-directors, Drs. Morris and Guo will develop thematic areas within the program. Students will be organized into three general interdisciplinary areas: cellular mechanisms, endocrinology/hypertension, and cardiovascular epidemiology.



Tameka (Hayes) O'Neal (R) with fellow STREAMS participant on presentation day.

"I came out of this research program with a lot more than I thought I was going to."

Although much of the program will remain the same, Dr. Morris, professor and chair of pharmacology and toxicology, sees the subgroups and the sharing of program responsibility as assets for students. Students will interact more with each other and a group of faculty and can turn to either program director.

"These students tend to be high achievers, and they will complement each other with goal setting and career exploration. My vision," says Dr. Morris, "is that we are able to give undergraduate students a taste of research so that they can find out what it is like. I hope to have them catch some of the excitement faculty feel toward research. It is, after all, exciting to be able to discover new things."

Dr. Guo, professor of community health, underscores the importance of these programs. "Given the high prevalence of obesity and hypertension in the U.S. minority populations," she says, "the need

for encouraging and educating minority students to participate in research is eminent."

At the close of STREAMS' first funding cycle, Dr. Putnam, who will remain as a faculty mentor, says, "The most gratifying part for me was getting to know the students. They are a very diverse, dynamic, interesting group. I learned an awful lot about where they were coming from and the challenges they face. They were serious-minded, respectful, hardworking young people. I'll miss spending time with them."

From the student perspective, perhaps Tameka sums it up best. "It seems like it was just yesterday when we were in STREAMS. We loved the program and Dr. Putnam. Dr. Gomez (faculty mentor for Tameka's second summer) even came to my wedding. I came out of this research program with a lot more than I thought I was going to."

— Judith Engle

"My vision is that we are able to give undergraduate students a taste of research so that they can find out what it is like. I hope to have them catch some of the excitement faculty feel toward research."

# **Enhances Clinical Decision Making**

Research shows that, in the course of their work, physicians may face up to 30 new clinical questions a day. Patients may present with an unusual constellation of symptoms; hospitalized patients may respond poorly to a standard treatment; others may have urgent questions about different treatment options.

Important information in the medical literature can often help answer these questions. Medical knowledge is available from many sources: peer-reviewed journals, references, CME courses, the Internet, libraries, and colleagues. But in a busy practice, the everexpanding availability of new knowledge may seem more a curse than a blessing. How can you stay on top of all you need to know?

The Department of Internal Medicine is at the forefront of an initiative to teach future physicians a strategy to help find, integrate, and apply the best available information in clinical practice: evidence-based medicine (EBM).

"EBM is the identification and use of the best evidence from the clinical literature to address a patient problem," says Ronald J. Markert, Ph.D., professor of medicine. "Physicians have always applied the evidence to solving patient problems. But, EBM takes a much more formal approach."

EBM starts with carefully formulating an answerable patient question. The question typically involves diagnosis, treatment, prognosis, or causation. Dr. Markert poses a typical prognostic question, "For a 46-year-old woman with a seven-year history of extensive ulcerative colitis, what is the risk of developing bowel cancer?"

Next, taking advantage of computerized databases of medical literature, the physician searches for the most relevant studies to answer the question. To help physicians better apply their skills in judging study validity, EBM practitioners have developed a specific series of questions for each category of patient care. For example, it is much more likely that therapy studies are valid if patients are randomized to treatments.

If the physician is satisfied with the study's validity, he or she next assesses its clinical usefulness by applying a special set of quantitative concepts, which again differ based on category of patient care. For example, in therapy studies, the physician would calculate the number-needed-to-treat (called NNT). This calculation tells the physician the number of patients who must be treated with the new therapy to avoid an adverse outcome.

The final step is to determine whether the evidence gathered is applicable to your patient's problem. "EBM brings together recent developments in information technology and much of what we've learned about statistics and research methods," says Dr. Markert, who brings his expertise in biostatistics to teaching EBM.

"It's relatively new in the United States," he notes, crediting researchers at McMaster University in Ontario, Canada, with pioneering the concept in the early 1980s. "We just started teaching it here in

the last five years. Now, EBM is a continuing thread through the new curriculum."

Medical students initially learn about EBM near the end of their first year; it's the major component of a 20-hour course. In the organ system courses of the second year, students are guided through applying EBM to hypothetical cases. "By the time they enter clerkships, they have to be able to come up with an EBM question about a real patient and do the problem solving on their own," Dr. Markert says.

"When I talk to other physicians about EBM, the most common response I get is, 'I've always practiced evidence-based medicine," says Gerald E. Crites, M.D., assistant professor of medicine. "It is true that physicians have always applied evidence in clinical decision making. But, we're not talking about just reviewing the literature. We're saying, you could learn how to do it in a much more efficient way."

"With information technology, and especially computerized medical literature databases, we have a much better way of organizing the information than we did in the past," Dr. Markert says. "Anybody practicing today has far too much literature to go through without such tools."

The biggest obstacle in convincing experienced physicians to adopt EBM is that it sounds so time consuming, notes Dr. Crites, who chairs the Dayton Area Task Force that promotes EBM in the community. He emphasizes EBM is not an appropriate tool for every clinical

problem; in his own practice, he applies it only a few times a week.

"Every physician has a toolbox of techniques," says Timothy J. Drehmer, M.D., clerkship director and assistant professor of medicine. "EBM is just another tool used to answer important medical questions. It's one of our more specialized tools—like a chain saw, for example. You don't bring it out every time, but when you need that tool, you have to have it."

"After you've done EBM for a while, posing the question only takes a few seconds," Dr. Crites adds. "You can get help with the research from your staff or a medical librarian. If your question

is specific enough, you're unlikely to come up with more than a few appropriate articles. Then, an experienced physician can probably review an article in 15 or 20 minutes. It's not hard to do that a few times a week."

This year, all departments are incorporating EBM activities in their clerkships. In internal medicine, for example, students must formulate appropriate EBM questions concerning real patient problems and report on their problem solving in group meetings.

"What we're doing here is setting the trend," says Dr. Drehmer, who heads up the EBM subcommittee of the national organization Clerkship Directors in Internal Medicine. "There really is no other school in the United States where EBM so permeates medical education. Our graduates probably know EBM better than any others in the nation."

Dr. Drehmer designed a fourthyear elective in advanced internal medicine that includes 19 hours of EBM workshops and discussions. He also uses EBM in supervising and teaching residents. "At first, students may be averse to EBM. It's a discipline, like any training program. EBM teaches them how to be better critical thinkers."

Most students and residents find EBM exciting once they apply it in a clinical setting, according to Dr. Markert. "In residency, there used to be a journal club approach. Residents would select an article and present it to the group. The weakness was that the article was not about the resident's patient. Researching and presenting a real patient problem is a much more dynamic learning experience."

All three faculty members are confident that evidence-based medicine is an idea whose time has come. In support of that belief, Dr. Markert points to a prediction made by AAMC President Jordan Cohen in the April 1998 issue of *Academic Medicine*: "The practice of medicine is about to be revolutionized by the convergence of two immensely powerful developments: information technology and evidence-based decision making."

"Here at Wright State, we're leading the way," adds Dr. Drehmer.

— Robin Suits

#### "Here at Wright State, we're leading the way."



Dr. Drehmer (center) leads the 7:30 am EBM session.

# nraveling the

## Mysteries of Cell Division

When Michael Leffak, Ph.D., professor of biochemistry and molecular biology, began his career in the late '70s, DNA research and tools to manipulate molecules were in their infancy. The structure of DNA, among the largest molecules now known, was first identified by 1962 Nobel Prize winners James Watson, Francis Crick, and Maurice Wilkins. Today, the Human Genome Project is mapping out the master blueprint located in the human cell nucleus, consisting of DNA and protein molecules carefully organized into chromosomes. A daunting task begun in 1990, the international Human Genome Project holds enormous promise for biological understanding and medical advances.

"If we can identify what triggers a cancer cell to divide, we might be able to inhibit a tumor's growth."



Technology has become more sophisticated, exponentially speeding and simplifying molecular research to the point that "many tools that had to be fashioned by individual researchers are now taken for granted," notes Dr. Leffak. National databases, preparatory kits, and contractual laboratories have allowed researchers to focus more precisely upon their area of study. The process has shortened the expected completion date of the Human Genome Project from the year 2005 to 2003, when researchers hope to have determined the molecular structure of each of the more than 40.000 human genes and their chromosomal locations.

Dr. Leffak's work focuses on dissecting a site on a chromosome that contains an "on/off switch" for cell division. "We need to know how normal and tumor cells divide," explains Dr. Leffak. "Most of the cells in the body are told to stop dividing as we become adults. If we can appropriately stimulate normal cells to divide, we could create more brain cells after a stroke, or more heart cells after a heart attack. If we can identify what triggers a cancer cell to divide, we might be able to inhibit a tumor's growth."

Except for reproductive cells and mature red blood cells, virtually every cell in the human body contains 46 chromosomes, each containing a packet of protein and a compressed and entwined DNA molecule that resembles a twisted

ladder. Unwound, the ladders of DNA from a single cell would stretch to a length of more than five feet, 50 trillionths of an inch wide. The sides of each DNA ladder are loosely linked by rungs of precisely interlocked chemical units called base pairs.

Cells cannot divide without duplicating their DNA. During division, the rungs of the DNA ladder open with each side forming a template for a new DNA strand, directed by the precision by which the bases pair together. Each daughter chromosome receives one old and one new DNA strand.

The 46 chromosomes in each cell, the human genome, contain 6 billion of these base pairs, and in their sequence lie the instructions required to construct the organism. Genes, specific base pair sequences of various lengths, are the elementary physical and functional units of heredity that carry information for making the proteins which determine the shape and function of all cells, tissues, and organs. "The process of DNA replication has to be precisely regulated by the cell so that all of its DNA is duplicated once and only once per cell division, otherwise the cell will gain or lose genes, with potentially disastrous consequences," observes Dr. Leffak.

Manipulating DNA requires cloning of a trace amount to make a large amount. "One millionth of a gram would be a large amount," notes Dr. Leffak. "By recombinant DNA technology, we can cut the DNA with enzymes, make changes to the DNA, reinsert it into cells, and observe how it changes their

Michael Leffak, Ph.D., analyzing DNA fragments.

biological properties. You can think of it as taking a piece of rope, cutting it precisely with molecular scissors and reweaving it back together."

Dr. Leffak and his group have identified a switch in the pathway that regulates cell division. Characterizing this switch involves repeated examination and manipulation of its physical features, and testing its function. "DNA," says Dr. Leffak, "contains so much information that it's like walking down a road of endless length without any road signs, so finding a replication on/off switch is significant. What few road signs we have are created by enzymes that cut or read the DNA at exact locations. Over the last 12 years, only two or three human replication switches have been identified. and none has been as well characterized as ours has."

This in-depth understanding led to the recent discovery of a novel protein that binds and may trigger DNA replication, leading to chromosome duplication and cell division. Two graduate students in the Biomedical Sciences Ph.D. program have contributed substantially to verifying the structure and function of the DNA replication switch. Two additional graduate students in the Ph.D. program are helping characterize the newly discovered trigger protein with the goal to publish the lab's collective findings next year.

"Throughout my career," notes Dr. Leffak, "the university and medical school have stood by their conviction that society benefits directly from scientific research. Without their support in general, and for the Biomedical Sciences Ph.D. students in particular, almost none of what we have accomplished would have been realized."

—Judith Engle

"Over the last 12 years, only two or three human replication switches have been identified, and none has been as well characterized as ours has."



Dr. Leffak and Fang Yu, BMS Ph.D. student, review a DNA sequence analysis.

John Casper, BMS Ph.D. student, and Dr. Leffak identify bacterial clones.



### Past and Current Funding:

- American Cancer Society, Ohio Division
- American Heart Association
- Kettering Fund, Alpha Grant
- National Institutes of Health
- National Science Foundation
- Ohio Research Challenge Program

### Grant Review and Study Section Service:

- American Cancer Society, Ohio
- American Heart Association, Ohio
- National Institutes of Health
- National Science Foundation

# John Bullock, M.D.

"I like dreaming up projects, then going to the university to find someone who has the unique knowledge to pursue the project with me. That's one of the great things about working at a university."



John D. Bullock, M.D., has a passion for working at the intersection of differing fields — medicine and law, ophthalmology and physics, historical figures and blindness. "I like dreaming up projects, then going to the university to find someone who has the unique knowledge to pursue the project with me," he says. "That's one of the great things about working at a university. If it weren't for those resources, I'd never be able to carry out such projects."

Chair and professor of ophthalmology and professor of physiology and biophysics, Dr. Bullock was recently named Wright State's Brage Golding Distinguished Professor of Research. After almost 25 years at Wright State, he has impressive credentials and has authored or coauthored almost 200 scientific papers.

With an international reputation for his expertise in ophthalmology, he's justifiably proud that the ophthalmology chairs at the Mayo Clinic and Penn State's Hershey Medical Center served fellowships under him. He's also widely consulted for his specialized knowledge in several other fields, including forensic ophthalmology, the biophysics of ocular and orbital trauma, medical malpractice, and even malingering, to name a few.

His father, a U.S. attorney in Cincinnati who prosecuted a highprofile Taft-Hartley case which ultimately went before the Supreme Court, piqued his early interest in the law. Dr. Bullock's expertise in ophthalmology, along with wide-ranging interests in other fields, provided a solid foundation for moving into medical forensics. He has performed more than 280 medical-legal investigations and depositions and testified in court 11 times. He even invented two "malingering detectors" to determine whether people who say their sight is impaired are telling the truth.

He recently consulted on a multi-million-dollar civil suit in which a man claimed that shampoo injured his eyes, while the manufacturer denied that its product caused the injury. In a similar case, a woman claimed that soap used to clean her face in preparation for surgery had caused loss of vision, while hospital employees said that she caused the damage herself when she rubbed her eyes just after waking from anesthesia.

Dr. Bullock contacted Ricardo Gutierrez-Osuna, Ph.D., who is an assistant professor of computer science and engineering at Wright State. Together with Wright State senior Lindsay McDonald, they did a comprehensive search on the files of all of Dr. Bullock's patients who had eye injuries due to soap or scratches. They then conducted a "pattern analysis" on this database comparing schematic drawings of each patient's eyes showing the site and nature of damage incurred.

Injuries due to soap clustered together and differed significantly

# Tennifer Green

from injuries caused by scratches. Based on that finding, Dr. Bullock was able to prove that the man's injuries were not caused by shampoo, but were consistent with damage caused by scratching. The pattern analysis demonstrated that in the woman's case, the soap was the culprit.

"Lawyers like to use academics as expert witnesses because they not only have solid credentials, they know how to explain complicated things in a very simple way to a jury," he says.

As historian and educator, he strives to uncover information about the eye. After retracing the historical footsteps of St. Paul's trip from Jerusalem to Damascus, Dr. Bullock concluded, with 19 criteria to support his findings, that St. Paul was struck by lightning.

Dr. Bullock is currently investigating the life of Louis Braille, the 19th century French man blinded at age three who invented the system that blind people all over the world still use to read and write.

He received his B.M.S. degree from Dartmouth Medical School, an M.D. degree from Harvard Medical School, and M.S. degree in Microbiology and Immunology from Wright State University. Dr. Bullock completed a medical internship at Washington University in St. Louis and received ophthalmology training at Yale University, the University of California - San Francisco, Stanford University, and the Mayo Clinic.

— Robin Suits

"No one ever made me feel like I was causing a problem when I needed help."

Jennifer Green, a recipient of the Kettering Geriatric Scholarship, would not have considered medical school without the prompting of her college advisor. She enjoyed her science classes and, after years of waitressing, she knew she wanted to work with people. Having the support of her family and confidence of her advisor, Jennifer decided on what she felt to be a challenging endeavor medical school. Jennifer's commitment to her family was so strong, however, that she would not have gone to medical school if she had not been admitted to Wright State, where she is about to complete her fourth year.

Jennifer attributes her success in medical school to "staying balanced." Being with her family, mostly Dayton-area residents, provides her "balance." The greatest influences in Jennifer's life have been her mother and grandparents. Jennifer's mother was a single parent of three children, who often worked two jobs to provide for the children, and her grandparents were the caregivers when her mother was unavailable.

Though Jennifer says she really has not faced obstacles as a medical student, her classmates might disagree. During exams at the end of her first year, Jennifer and her husband of seven years, Bryan, began caring for Bryan's twin nieces, only six weeks old.



Jennifer with her husband Bryan and son Jackson.

Jennifer and Bryan were their guardians for 15 months, a responsibility she accepted with her usual tenacity and cheerfulness.

Jennifer believes the problemsolving and time management skills she has acquired are as important as her education. She recommends Wright State because of its support of students and its flexibility. In the past, Jennifer has been comfortable approaching her instructors whenever she was in need. Her sister went into labor during exams. Her grandmother passed away. Her son, Jackson, was born in August. During all the changes in Jennifer's life, she found support and caring at Wright State. "No one ever made me feel like I was causing a problem when I needed help. At Wright State, I have developed some of my closest friendships."

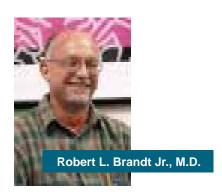
— Gwen Sloas

### he Charter Class ('80): Update

Gary Biehl, M.D., is a family practice physician in Cincinnati, Ohio. He lives with his wife Anita and three stepchildren (Eric, Kelly, and Jason) and collects medical and golf memorabilia. Over his career, Dr. Biehl has done it all, from building his own private practice to administrative and group practice work.

Looking back at his time at the school of medicine, he appreciates the medical faculty who provided the necessary support to make dreams come true. In addition, he values the acceptance offered by the Miami Valley as well as the privilege of working with trusting patients. Most of all, Dr. Biehl appreciates the opportunity he had to experience the full gamut of human behavior.

Dr. Biehl offers this advice to prospective medical students: "Be prepared to fight for the rights of your patients and your profession. If you are not prepared to do this, then move on and do something else." For our readers, he offers this advice: "Stay healthy and work together to change the system. It's your health care and without it, you have nothing."



Robert L. Brandt Jr., M.D., is the medical director of Health Care Interventions. This primary care center is dedicated to the care of those infected with or at risk of HIV/AIDS, regardless of patients' ability to pay. Dr. Brandt works closely with the AIDS Foundation of Miami Valley, is chair of the Ryan White Consortium of Dayton, and is a member of the Ohio

Department of Health's AIDS Advisory Committee. In the local HIV/ AIDS community, he is fondly referred to as "Dr. Bob."

The charter class president, Dr. Brandt continues to give back to his alma mater by serving as a volunteer faculty member and taking part in the admissions committee. Looking back at his experiences as an SOM student, he values the excellent education and the relationships developed with faculty and staff. In addition, he greatly values the ethic to promote care for underserved populations.

Although Dr. Brandt purchased his "dream house" in Oakwood last year, he has yet to fulfill his personal goal of taking more than a two-week vacation. Eventually, he hopes to travel to the rainforests or Alaska. He offers this message to our readers: "Diversity in life—of all sorts as to lifestyles, ways of communication, ways of living, etc.—contributes to the improvement and advancement of humankind. Celebrate and promote tolerance and acceptance. Open your minds and preserve the diversity of all life."

John R. Brownlee, M.D., has served for several years as chief of pediatric cardiology at the San Antonio Uniformed Services Health Education Consortium at Lackland Air Force Base. Most of his practice is at the Air Force Base, but he does serve all of Texas and parts of Oklahoma, New Mexico, Arizona, and Louisiana.

Last year, he became involved in the ethics committee and consultation service at Lackland's Wilford Hall Medical Center. Dr. Brownlee has practiced medicine in the Air Force for nearly 20 years and is preparing to retire next summer. He plans to develop a private practice in San Antonio and serve his local community and church.

Dr. Brownlee has been married to Ann Bolton for 21 years, and they are the proud parents of three children: Claire, Rachel, and Elizabeth.

Looking back at his education at the School of Medicine, Dr. Brownlee appreciates the faculty's enthusiasm: "The faculty donated their time to teach the first class. It's a great gift. I've learned that a physician's time is his or her most scarce resource."

When asked if he had a message for our readers, he said: "The reason we struggle to save and improve the lives of others and ourselves is to enhance our own and our patients' ability to give and receive love. This is what gives meaning to all our lives."

### Continued



Randall Jenkins, M.D., practices pediatric nephrology in Portland, Oregon. He specializes in the diagnosis and treatment of children for diseases of the kidneys, disorders of bone metabolism, derangement of body chemistry, and hypertension. The Oregon Chapter of the National Kidney Foundation, a major volunteer health organization, recognized his work by

naming him Outstanding Physician in 1997.

Shortly after graduating from Wright State's School of Medicine, Dr. Jenkins married in 1982. Together, he and his wife Mary are happily raising three children.

Looking back at his Wright State education, Dr. Jenkins values the sense of community that developed at the School of Medicine. He also appreciates the numerous friendships he made as a student. He advises future medical students to be prepared for some negatives, including "long hours, falling income, powerful insurance companies, and some patients with unrealistic expectations."



John L. Lyman, M.D., is vicepresident, emergency medicine, of Premier Health Care Services, Inc., in Dayton, a multispecialty physician practice group. In addition, he has served as the medical student coordinator for Wright State's own Department of Emergency Medicine. Dr. Lyman also has been in private practice in Panama City, Florida, and medical director for

the University of Alabama's Emergency Department.

Dr. Lyman and his wife Gail have three children. Marie, their oldest at 19, is a freshman at the University of California in Santa Cruz. Matthew, age 15, is a high school sophomore who enjoys baseball and soccer. Maxwell, just seven years old, is "full of energy."

Dr. Lyman was attracted to the Wright State University School of Medicine for three reasons: the community-based orientation, the emphasis on primary care, and the humanistic approach to medicine. He also offers three pieces of advice to new medical students: "1. You're not force fed — lots of opportunities are available for self-motivated individuals. 2. Never forget how truly fortunate you are to be able to enter such a rewarding occupation. 3. Stay ahead of the curve—fall behind, and it's so difficult to catch up."

#### Reunion 2000 Just Around the Corner

On October 6–7, 2000, the School of Medicine will reach a new milestone: our first 20-year class reunion. Reunion 2000 will be the school's first four-class reunion weekend: 1980, '85,'90, and '95. A grand time is planned for all, so mark your calendar now.

#### Phonathon 2000: Ringing in the New Year

During the week of January 23-27, 2000. Wright State University's fourth-year medical students take time out of their hectic schedules to help the School of Medicine. Students call SOM alumni to request their generous support of the 2000 Annual Fund. Investments in the Annual Fund help maintain the School of Medicine's day-to-day excellence, making a difference in every aspect of medical education.







#### 1999 Pruett Recognition Ceremony Blends Science and Art

On Saturday, October 16, a great number of School of Medicine friends flocked to the WSU Creative Arts Center for the 1999 Thelma Pruett Recognition Ceremony. The afternoon began with a reception in the elegant commons area. With the WSU Faculty Jazz Band providing the afternoon's music, the School of Medicine family of students and supporters helped themselves to impressive displays of food and drink.

Next, guests adjourned to the Creative Arts Concert Hall for the Pruett Recognition Ceremony. During opening remarks, Paul Carlson, Ph.D., associate dean for student affairs and admissions, commented that this ceremony "provides the School of Medicine with a unique opportunity to nurture our relationships within our communities and to express our heartfelt thanks." Emil Peterson, M.D., presented the Academy of Medicine awards recognizing outstanding academic achievement in the first three years of medical school. Dean Howard Part and Dr. Carlson announced this year's medical scholarships.

After the ceremony, School of Medicine friends attended a special showing of *You Can't Take It With You*, an outstanding Wright State University Theatre production.

(From top)
Friends of the School of Medicine fill the
Creative Arts Center.

(L–R) Arnold Allen, M.D., Oscar Boonshoft, and Howard Part, M.D., enjoy the festivities.

#### Reunion '99: A Family Affair

The School of Medicine classes of 1984, '89, and '94 returned to their alma mater on October 2 and 3. Whether they were enjoying family games at a picnic or dancing the night away in Dayton's most elegant settings, alumni enjoyed reconnecting with the Miami Valley and the School of Medicine.

Friday night, the Engineers Club of Dayton provided a lavish setting for the class receptions as alumni enjoyed a variety of food and drink. Celebrations and lively conversations lasted well into the night.

Saturday morning, alumni returned to campus, greeted by a cool breeze, sunny skies, and breakfast. Sponsored by the Academy of Medicine, the school held two Continuing Medical Education (CME) sessions at the Frederick A. White Health Center: HIV/AIDS: A Primary Care Overview by Dr. Robert Brandt Jr., and Physicians and the Internet by Carlos Menendez. While alumni were attending the CME sessions, their children enjoyed "CME for Kids," where a magician and a clown dazzled the youngsters with tricks and sleights of hand. With multicolored balloon animals in hand, children joined their parents for the Alumni Picnic.

Fine autumn weather provided a beautiful backdrop for the alumni picnic held on the new green outside the Medical Sciences Building. Sponsored by the Medical Alumni Association, the picnic drew quite a crowd. Alumni and friends reminisced while smooth jazz trailed in the background.

Good cheer continued over fresh barbecue and delicious desserts.

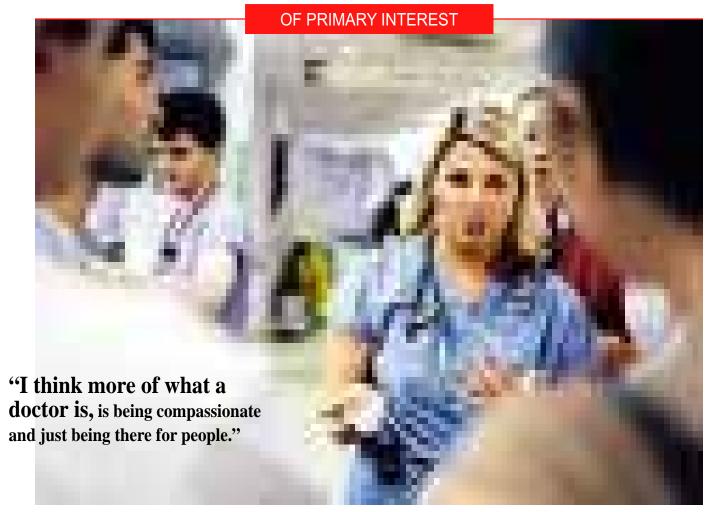
Saturday evening, the reunion came to a close with a reception and dinner at the Country Club of the North, where each alumnus received a memento class picture. After dessert, the WSU Faculty Jazz Band provided live music for a night of dancing and special memories. As the weekend came to a close, three classes of alumni exchanged kind words and warm good-byes.



The Classes of '84, '89, and '94 reunited at the Engineers Club.

(Below) The Stierwalt family spent an active afternoon at the reunion picnic.





Dr. Jennifer James (Center) at St. Luke's Roosevelt Hospital Center in New York. Photo reprinted by permission of the *New York Times*, Angel Franco/NYT Pictures.

#### The New York Times Features Alumna

Wright State School of Medicine graduate, Jennifer (Hellmund) James, M.D. ('98), was featured in a *New York Times* special report called "Life, Death, and Managed Care." The four-part series began on the front page of the *Times*, Sunday, November 14, and continued through November 17. The article follows the ambitions, anxieties, and day-to-day clinical experiences of Dr. James and two other residents at St. Luke's Roosevelt Hospital Center in New York during their first year of residency.

"So many of Dr. James's first-day apprehensions were the worries of interns from time immemorial, but she . . . actually represented a new generation of interns, one molded in the shifting world of managed health care," writes *New York Times* reporter N. R. Kleinfeld. "They came to medicine with a mix of idealism and subdued ambition—in terms of power, image and income."

"I think more of what a doctor is," Dr. James told the *New York Times*, "is being compassionate and just being there for people. It seems that when women go to the doctor, a lot of times they're not physically sick, they go to talk to someone and be with someone. I want to be the sort of doctor who can pick up on all the things that are going on in their lives. I think I have a gift for that."

One of her patients, as quoted in the article, puts it this way: "What attracted me to her was she was nice and courteous. She takes the time to listen. It's not easy to get that, because when you're in the clinic they take your blood pressure, talk to you for a minute, and you're gone. She wanted to know about me. And if she doesn't know something, she doesn't make it up. She goes and reads up on it."

Upon entering her second year of residency training, Dr. James had gained new insight. She said of HMOs, "I don't think they're run well, and I want control. After all of the schooling, we've learned to do the best for the patient. I never would have thought about a private practice before." Her goal now is to establish her own women's health practice.

## Scarecrow

Wyoming seemed another planet
So glacial-almost lunar.
I'd never seen a snowfence till
We rounded the lone mesa-there
The plain was split in miles of perfect lines.

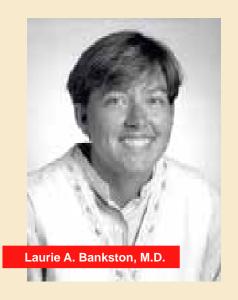
In miles of perfect lines in midsummer Deducing "snowfence" was a stretch I didn't make as we, bewildered, Drove on to Laramie.

We drove on to Laramie. Now another vision of Wyoming Drifts through my daydreams. The western Autumn bleakens.

The western Autumn bleakens-Is that possible, in summer it was brown. Now frost crisps sparse grass And "snowfence" makes more sense.

Snowfence makes more sense But senseless still that they lashed you There, left you, native son, to die-A scarecrow under the endless sky.

A scarecrow under an endless sky-The Western autumn bleakens And snowfence makes more sense. Wyoming seemed another planet As we drove on to Laramie.



Author Laurie A. Bankston, M.D. ('99), is currently a resident of family medicine at Dayton's Good Samaritan Hospital and Health Center. Her poem won first place in the 17th annual William Carlos Williams Poetry Competition and was recently printed in the Student American Medical Association's *MSJAMA*.

This poem memorializes the tragic death of 21-year-old Matthew Shepard. In the fall of 1998, the nation was shocked at the brutal beating of this gay University of Wyoming student, beaten and tied to a fence for up to 18 hours. He died of his injuries three days later.

(Reprinted with permission of the American Medical Association.)

#### NEW FACES



Christopher J. Borchardt, M.D. Captain, USAF Instructor, Community Health

M.D.: Loma Linda University School of Medicine Residency: Brooks AFB (aerospace medicine)

Thomas L. Brown, Ph.D.
Assistant Professor,
Microbiology/Immunology
Ph.D.: University of Cincinnati
(developmental biology)
Sjögren's Syndrome Research
Fellow, 1999–2000

**John R. Fischer, M.D.**Major, USAF

Assistant Professor, Obstetrics and Gynecology

**M.D.**: Uniformed Services University of the Health Sciences

**Residency**: Wright State University (obstetrics and gynecology)

**Fellowship**: Indiana University (urogynecology and reconstructive pelvic surgery)

#### Normand H. Lazarow, M.D., Ph.D.

Associate Professor, Internal Medicine

**M.D.**: University of Minnesota Medical School

**Ph.D.**: Mayo Clinic (physiology)

Residency: Abbott-Northwestern Hospital, University of Minnesota Affiliated Hospital (internal medicine)

**Residency**: McGill University (general surgery)

The Center Community awards to for curricular awards were Annette Cardirector of heducation, as

Jerald Kay, M.D.

Jerald Kay, M.D., professor and chair of psychiatry, will lead a state-wide commission to evaluate the status of mental health care in Ohio and develop recommendations on how to improve it for the Ohio Department of Mental Health. The 18-member commission will review the input of nine public forums, including suggestions of consumers and mental health providers. The commission will frame a five-year plan for mental health services over the next 10 months. Ed Comer, M.Ed., recently retired assistant dean for clinical affairs and director of psychiatric services, will also serve on the commission.

The Center for Healthy

Communities recently granted awards to four medical faculty for curricular development. The awards were announced by Annette Canfield, assistant director of health professions education, and are given by the center's Ohio Faculty Institute.

Grant recipients are:

Brenda Roman, M.D., assistant professor of psychiatry, for her work with interdisciplinary students who provide services to chronically mentally ill patients.

Martha Franz, M.D., clinical professor emeritus of pediatrics, for work with medical students who will be providing services to pediatric patients at the Vogel Health Center.

Cynthia Olsen, M.D. ('85), professor of family medicine, and Bruce Binder, M.D., associate professor of family medicine, for their work with third-year clerkship students in geriatrics who provide physicals for volunteers of the Senior Companion Program.



Sheila Shellabarger has been named associate university librarian and is the new head of the Fordham Health Sciences Library. Sheila previously served as head of reference and instruction services at Fordham, as a high school library media specialist, and as director of the Kettering College of Medical Arts Library.



Dawn Wooley, Ph.D., (L) assistant professor of microbiology and immunology, tests an electron imaging system.

#### Neuroscience Research **Symposium**

On November 4 and 5, more than 70 scientists from across the country attended the Neuroscience Research Symposium at Wright State University, according to Robert E. W. Fyffe, Ph.D., professor of anatomy and symposium director. Titled "Circuits and Synapses in the Central Nervous System," the symposium focused on recent advances in understanding the molecular and cellular mechanisms of nerve cells in the central nervous system that are involved in pain transmission, motor activity, and auditory processing.

#### West Dayton Diabetes Day Wins National Award

West Dayton Diabetes Day, the popular health promotion program sponsored annually by the Dr. Charles R. Drew Health Center and a host of community partners, received national recognition by the Association of American Medical Colleges (AAMC). The AAMC chose the event for an Award of Distinction in the Medical **Education Public Affairs** category, citing the program as "a marvelous community-based approach to a serious health issue."

Community partners who share the award and received individual acknowledgment plaques include: the Dr. Charles R. Drew Health Center and Good Samaritan Hospital: the Center for Healthy Communities; the Alliance for

Research in Community Health (ARCH); the Office of Public Relations at Wright State University School of Medicine; and the Paul Laurence Dunbar State Memorial. The award also recognizes the event's honorary co-chairs, Marsha Bonhart at WDTN TV 2 News and Michael Ecton at WDAO AM. Awards were distributed to the partners in a special ceremony held at the Dr. Charles R. Drew Health Center in December.

"It is significant that the AAMC has recognized West Dayton Diabetes Day," says Dr. Howard Part, dean of Wright State University School of Medicine. "This award is one more example of the national reputation our community is gaining for its collaborative health-care partnerships."



Howard Part, M.D., representing the Association of American Medical Colleges, presents one of the awards to K. Douglas Deck, CEO of Good Samaritan Hospital, for the community-wide collaboration, West Dayton Diabetes Day.



(R) Howard Part, M.D., dean of Wright State University School of Medicine, presents an award to Samuel A. Adebonojo, M.D., F.A.C.S., for outstanding achievements in surgical teaching programs and patient care.

#### Annual Dayton VA Mixer

This annual event celebrates the close partnership between the Dayton Veterans Affairs Medical Center and Wright State University School of Medicine and awards outstanding faculty and staff for their contributions to medical education. Awards presented but not pictured include:

Judith Tangeman, M.D., ('82) for meritorious service in geriatric medicine and medical and resident education;

Miguel Lapuz, M.D., for meritorious contributions to medical and resident teaching and clinical service;

Craig Ankeney, P.A., for his accomplishments in clinical service and contributions to medical student teaching;

Lalitha Swamy, M.D., for her exemplary leadership as director of the Geriatric Evaluation and Management Unit and associate chief of staff/extended care.

#### School of Medicine Presents Annual Awards

Department of Anatomy Andreas Vesalius Award .. Michael S. Ady Department of Family Medicine Award for **Outstanding Achievement** in ICM I

..Monica M. McHenry ..Harry R. VanderWal Jr.

Department of Family Medicine Award for **Outstanding Achievement** in ICM II

..Kristina J. Thompson Edward Jenner Award for Excellence in Microbiology and Immunology ..Kristina J. Thompson John C. Gillen Award for

..Melinda D. Groenke Medicine Clerkship Award

..Sean J. Barnett Pediatrics Clerkship Award

Family Medicine

...Jennifer D. Green ..Sandra L. Hervey Obstetrics and Gynecology Gold Speculum Award .. Christopher J. Darus

Silver Scalpel Award ..Nathan E. Piovesan



Neal Rote, Ph.D., accepts one of the Teaching Excellence Awards from Robert Barlow, 2002 class president.

Abraham Heller Psychiatry Clerkship Award ..Heidi M. Wehrheim **Teaching Excellent Awards** .. Neal S. Rote, Ph.D. ..Timothy G. Janz, M.D. ..Stuart Nelson, Ph.D. ..Jerome J. Schulte, M.D. Faculty Mentor Award ..Mark Clasen, M.D., Ph.D. ..Barbara Mann, Ph.D. Third Year Internal Medicine Teacher of the Year Award ..Jeffrey Schnader, M.D. Excellence in Medical **Education Award** 

..Robert Koerker, Ph.D.

#### Second Annual Wright State Invitational Medical Challenge



Area resident physicians during the competitive Medical Challenge

Teams of medical residents from Miami Valley Hospital, Good Samaritan Hospital, Kettering Medical Center, and Wright-Patterson AFB Medical Center took part in a friendly, academic competition. The contest consists of two 20-minute heats with 30 questions each and is preceded by a dinner and speaker. Timothy Drehmer, M.D., served as moderator, and Dean Howard Part served as judge. The Miami Valley team took home this year's trophy.