One theme emerges from the collection of articles in this issue of *Vital Signs*—the value of partnerships. In research, partnerships across discipline boundaries, campus borders, and state lines are the trend. The school’s work with a Department of Defense grant to study Gulf War Syndrome is a good example.

Our close partnership with Wright-Patterson Air Force Base is reflected in recent deployments of several of our physicians and faculty. On a different type of fighting front, the latest research in substance abuse and treatment has uncovered new pathways to addiction and led to a statewide alert system.

In medical education, closer working partnerships between basic scientists and clinicians are bringing new learning methods such as team-based learning into the first- and second-year curriculum.

Since the $1 million gift announced at the school’s groundbreaking ceremony, the Kettering family has remained a generous supporter and partner. The family has helped the school develop research centers of excellence, create scholarships to enhance geriatric education and, most recently, develop an early acceptance program for undergraduate students. Virginia Kettering, a close partner and friend over several decades, recently died at the age of 95. She will be missed by the entire School of Medicine, and we dedicate this issue to her memory.

Sincerely,

Howard M. Part, M.D.
Dean
FEATURE
Unlocking the Mysteries of Gulf War Syndrome

EDUCATION
Team-Based Learning Develops Professional Skills

RESEARCH
The “Perfect Storm”: Drug Abuse Converges in the Heartland

SERVICE
Physicians and Soldiers, Too
Unlocking the Mysteries of Gulf War Syndrome

Just as those hearty explorers of yesterday spent their days mapping new horizons and presenting our world with better understanding, so do the explorers of today’s challenging horizons.

A dedicated team of modern-day explorers under the direction of Mariana Morris, Ph.D., and Daniel Organisciak, Ph.D., has been studying the effects of stress, and chemical interactions with stress, to try to answer more than a century of questions about one aftermath of war—misunderstood and seemingly disconnected health-related symptoms.

“Since the Civil War, similar exhibited symptoms have had different names: Soldiers Heart, Shell Shock, Battle Fatigue, Anxiety Neurosis, Post-traumatic Stress Disorder, and most recently Gulf War Syndrome,” explains Dr. Organisciak, chair and professor of biochemistry and molecular biology.

Among the symptoms exhibited by soldiers and veterans through the years are headache, fatigue, respiratory illnesses, muscle and joint pain, skin rash, memory loss, sleep disturbances, gastrointestinal problems, and chest pain. Collectively these are now termed Gulf War Syndrome, the focus of a grant from the U.S. Department of Defense (DoD).

“The premise for Wright State’s research team,” states Dr. Morris, chair and professor of pharmacology and toxicology, “is that stress is harmful and has a wide-range of effects, that military personnel in any war zone, active or inactive, are operating under an array of physical and psychologically stressful conditions. And, soldiers are sometimes necessarily exposed to a variety of chemicals that are proven in and of themselves not to be harmful to the body.”

“However,” Dr. Organisciak adds, “could these same chemicals at different levels and concentrations, alone or in different mixtures with an added ‘stress factor,’ become toxic? Or, have deleterious effects?”

To answer these questions, simultaneous explorations into the physiology of cellular and molecular reactions to stress and chemicals, tissue metabolism using nuclear magnetic resonance spectroscopy, and probing into the genomic, proteomic, and enzymatic pieces of the puzzle are taking place.

Stress and Chemicals, a Toxic Mix

Stress protocols being used document the effects of noise on the auditory brain stem responses and the effect of emotional/physical stress on behavioral, cardiovascular, and endocrine responses. Delving into the effects of stress and chemicals on cellular, molecular, and genome function is a meticulous process of trials.

According to James Lucot, Ph.D., associate professor of pharmacology and toxicology and psychiatry, behavioral science researchers have recently developed and published a unique model for studying chronic emotional stress. This model enables the further long-term study of neuroendocrine, cardiovascular, and behavioral responses to acute or chronic stress.

Chemicals included in the various investigations include: DEET, the active ingredient in some topical insect repellents; pyridostigmine bromide (PB), a self-administered chemical provided by the military as a prophylactic against nerve gas attack; and a highly dilute form of sarin, a toxic chemical warfare agent.

Editor’s note: In 2000, Wright State University School of Medicine was awarded a competitive $7.2 million grant from the Department of Defense to study Gulf War Syndrome, examining how the combination of stress and toxins might damage the body. The project received the strong support of U.S. Representative David Hobson and Mary Petticrew, a local philanthropist and community activist.

considered to be a permanent cholinesterase inhibitor. PB protects by “occupying” the cholinesterase enzyme found in blood and nerve endings. This enzyme metabolizes acetylcholine to prevent the action of chemical warfare agents and is critical in the transmission of nerve impulses and, consequently, in the control of breathing and heart rate. Some of the studies indicate there may be changes in the brain after even a low-dose PB exposure.

Nicholas Reo, Ph.D., associate professor of biochemistry and molecular biology, uses nuclear magnetic resonance (NMR) spectroscopy to study brain structures, such as the brain stem. “The NMR studies provide us with a window into tissue metabolism and enable us to evaluate the effects that chemical agents and stress may have on cellular function,” states Dr. Reo.

**Looking into the Genome**

A portion of the examination process uses gene array technology. Led by Steven Berberich, Ph.D., associate professor of biochemistry and molecular biology, and Madhavi Kadakia, Ph.D., assistant professor of biochemistry and molecular biology, the technology in this laboratory is able to monitor changes in gene expression (the process where regions of DNA produce mRNA). Their research suggests that some chemical warfare agents reveal distinctive changes in patterns of gene expression in a small but reproducible set of genes. The research team is attempting to validate the changes and test the effects of dual exposure of these chemical warfare agents to cultured neurons, according to Dr. Berberich.

**Current Wright State Studies**

- Low-level chemical toxicity and its relevance to chemical agent defense
- Studies of central nervous system neurotransmitter systems as related to the effects of PB and sarin
- Nuclear Magnetic Resonance (NMR) spectroscopy to determine whether chronic exposure to low levels of chemical agents combined with stress affects the normal function and metabolism of brain structures, such as the brain stem
- Combined stress/chemical exposure on behavioral, cardiovascular, and endocrine responses
- Importance of timing of the stress response—morning stress is more damaging
- Long term effects of PB and sarin on blood and brain cholinesterase activity
- Examination of the effect of PB and sarin on gene expression in brain and liver
- Measuring enzyme levels found in blood cells and other body tissues that could possibly be used to detoxify or degrade toxic chemicals found
- Biochemical analyses to assess alterations in energy metabolism in mitochondria—the energy centers of living cells
To monitor changes in the central nervous system, Ina Bicknell, Ph.D., assistant professor of biochemistry and molecular biology, in conjunction with Lawrence Prochaska, Ph.D., professor of biochemistry and molecular biology, and Dr. Reo, uses the auditory brain stem response, a measure of electrical activity generated in the brainstem auditory pathway in response to sound, to determine whether stress increases the permeability of the blood-brain barrier to chemicals.

“Integration in research from the genome to the whole animal is a very important aspect of our approach.”

“Our team also employs long-term exposure to low doses of toxin, rather than an acute exposure to high doses,” says Dr. Bicknell. “Environmental toxins may have synergistic effects, that is, the action of one may enhance the action of another. So, to investigate this possibility, we are testing toxins, both individually and in combination with each other, and with a factor of stress included in some of the investigations,” Dr. Bicknell explains.

“Integration in research from the genome to the whole animal is a very important aspect of our approach,” Dr. Morris explains. “Wright State’s unique contribution is crucial in terms of developing this methodology for now and for the future.”

The DoD grant has enabled the development of a high-security facility, the founding of both a proteomic and a gene expression laboratory, and the formation of a diverse and skilled research team. Integrative research, such as the Gulf War Syndrome explorations, continues to be a crucial piece of a complex puzzle and one means toward mapping the horizons of the future. 

—Nancy Harker

Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA</td>
<td>(deoxyribonucleic acid) The chemical inside the nucleus of a cell that carries the genetic instructions for making living organisms.</td>
</tr>
<tr>
<td>Enzyme</td>
<td>A protein that encourages a biochemical reaction, usually speeding it up.</td>
</tr>
<tr>
<td>Gene</td>
<td>Genes are pieces of DNA, and most genes contain the information for making a specific protein.</td>
</tr>
<tr>
<td>Gene expression</td>
<td>The process by which proteins are made from the instructions encoded in DNA.</td>
</tr>
<tr>
<td>Genetic marker</td>
<td>A gene or group of genes used to “mark” or track the action of microbes.</td>
</tr>
<tr>
<td>Genome</td>
<td>The sum total of an organism's genes.</td>
</tr>
<tr>
<td>Genomics</td>
<td>The study of activities and functions of a cell's or an organism's genes.</td>
</tr>
<tr>
<td>Genotype</td>
<td>The genetic make-up of a person.</td>
</tr>
<tr>
<td>mRNA</td>
<td>(messenger RNA) Template for protein synthesis. Each set of three bases, called codons, specifies a certain protein in the sequence of amino acids that comprise the protein. The sequence of a strand of mRNA is based on the sequence of a complementary strand of DNA.</td>
</tr>
<tr>
<td>Microarray Technology</td>
<td>The study of large numbers of genes very quickly by using advanced computers and software programs connected to a scanning microscope.</td>
</tr>
<tr>
<td>Pharmacogenomics</td>
<td>The study of how an individual's genetic inheritance affects the body's response to drugs.</td>
</tr>
<tr>
<td>Protein</td>
<td>Often called the “building blocks” of tissues. A large complex molecule made up of one or more chains of amino acids.</td>
</tr>
<tr>
<td>Proteome</td>
<td>All of the proteins produced from all the genes of a genome.</td>
</tr>
<tr>
<td>Proteomics</td>
<td>The study of activities and functions of the proteins in cells and organisms.</td>
</tr>
</tbody>
</table>

Resource: [www.genome.gov/glossary.cfm](http://www.genome.gov/glossary.cfm)
“It’s great! A wonderful opportunity.”
—Stacey Savage, Year I student

“The process of team learning requires development of both individual and social skills which prepare students to become valuable, productive members of health care delivery teams.”
—Paul Koles, M.D., assistant professor of pathology and surgery and pathology course director

“Students are developing their professional skills.”
—Dean Parmelee, M.D., professor of psychiatry and pediatrics and associate dean for academic affairs

Team-Based Learning
Develops Professional Skills

From student, to faculty, to administrator, they are all talking about the same experience—team-based learning. Team-based learning was implemented this fall with Year I students in the Human Structure and the Molecular, Tissue, and Cellular Biology (MTCB) courses and with Year II students in the Pathology course. Team-based learning is also being added to the Social Ethical Issues and Evidence Based Medicine courses. Everyone is talking about it, and most of the talk is positive.

Team-based learning is a concept developed by Dr. Larry Michaelsen at the University of Oklahoma in an effort to minimize the problems associated with large classes of business students. Incorporating processes for group communication skills and teamwork, team-based learning complements the traditional classroom experience. Team-based learning has been adapted for use in over 70 academic disciplines and has recently begun to be implemented in medical education. Team-based learning is being incorporated into the Wright State curriculum, in a variety of adaptations, more extensively than at other medical schools.

At Wright State, five to six students are assigned at the beginning of the year to a team that will remain together for the entire academic year. “One distinction between team-based learning and small group learning is a longitudinal relationship with a ‘learning team,’” explains Barbara Schuster, M.D., chair and professor of internal medicine. “To work effectively, teams must resolve personal and communication issues in a constructive way that builds trust over time among the members. This trust allows for frank discussion and for confrontation if a team member disagrees with the group’s proposed responses.”

The teams receive assignments in advance of the class session. The assignment might involve lectures, readings, laboratory work, computer-aided instruction, or a combination of these learning activities to link and reinforce the learning objectives. With team-based learning, students have an incentive to be prepared because an individual’s participation is part of the course requirement and grade.

When students arrive at a team-based learning session for Human Structure, they are given a 10-question, multiple-choice quiz, the Individual Readiness Assurance Test (IRAT), designed to promote responsible individual behavior for class preparation. An individual score/grade is given for the quiz result. After completion of the IRAT, the students complete the same quiz as a group, the Group Readiness Assurance Test (GRAT). The team must reach a consensus as a group about the correct response to each question. Simultaneously, through the use of color-coded cards, the teams disclose their group’s answer. When the answers differ, discussions begin among the teams and the instructor.

Using the Baylor modification of the Michaelsen model, the students are then given a clinically based case scenario with a series of multiple-choice questions, which are significantly more difficult than the quiz questions. The students have 30 minutes to wrestle with the challenging case and reach a group consensus on the questions. Teams are asked to defend their answers, a process that
Team-based learning evaluation comprises approximately 30 percent of the course grade. Evaluations are based on the student’s IRAT scores, the GRAT and/or group work scores, and peer evaluations. Evaluating peers is difficult because students do not want to be viewed as judging others. “Providing direct, forthright, and constructive feedback is a professional skill necessary in the clinical area,” says Dean Parmelee, M.D., professor of psychiatry and pediatrics and associate dean for academic affairs, “and one purpose of team-based learning is for students to learn and practice professional skills.”

In deciding to implement team-based learning, Dr. Parmelee anticipated that team-based learning would help students develop the attitudes and skills needed to work collaboratively and efficiently as teams. “So much of medical practice requires working as a team,” he says. Anticipated outcomes for team-based learning prepared for class, faculty who are energized, and a new model for the power and process of learning.

Gary Nieder, Ph.D., associate professor of anatomy, experienced the three outcomes anticipated by Dr. Parmelee. He found the students were better prepared, participated more in labs, and kept up with the course work more easily. The most positive outcome for Dr. Nieder was the increased student involvement. Dr. Nieder, who worked to incorporate 12 two-hour, team-based learning sessions during the nine-week Human Structure course, says, “I liked it. The interaction was much better.” In the course evaluation, students evaluated team-based learning positively, ranking it second only to the availability of online lecture materials.

Though newly implemented at Wright State, team-based learning as part of the curriculum has great potential.

—Gwen Sloas Browning
The “Perfect Storm”: Drug Abuse Converges in the Heartland

In the summer of 2001, researchers from the Ohio Substance Abuse Monitoring (OSAM) Network initiated a “Rapid Response” investigation into growing heroin use in Ohio’s cities. The investigators identified an alarming trend—a connection between prescription opioid abuse, subsequent heroin use, and the adoption of high-risk behaviors, particularly among 18- to 25-year-old white males, many from middle and upper income families.

The following summer, a drug abuse treatment agency in a small town on the river in southeast Ohio reported 52 non-fatal drug overdoses over a four-month period, most involving heroin or prescription opioids such as OxyContin®, Fentanyl®, and Vicodin®. The state asked OSAM researchers from the School of Medicine’s Center for Interventions, Treatment and Addictions Research (CITAR) to conduct another rapid epidemiological study in the rural county. The scientists concluded that the situation in that small community mirrored what was happening across America—the mushrooming supply of relatively inexpensive, high purity, heroin had spread from U.S. coastal cities to the heartland.

“Such a tremendous increase in heroin and opioid abuse in a small midwestern town is unprecedented. It can have a devastating impact on abusers, their families, and the community,” says Harvey Siegal, Ph.D., professor of community health, CITAR director, and principal investigator for OSAM. In a March 1, 2003, letter to the American Family Physician, he and

Harvey Siegal, Ph.D.
his colleagues wrote that new heroin abusers “reported that heroin was more readily available and less expensive than OxyContin and that they would never have tried heroin had they not become addicted to OxyContin.”

“If something’s not done about prescription drug diversion and abuse and heroin, we’re going to see terrible things happening with young people,” says Robert Carlson, Ph.D., professor of community health and OSAM program administrator. “We initially identified OxyContin abuse in a few urban areas, and then it began showing up in rural areas. We are witnessing the predatory expansion of the heroin trade from urban to rural settings by some very savvy underground business professionals.”

“It’s like the movie ‘The Perfect Storm,’” Dr. Siegal says. “We’re seeing a convergence of things—a generation of young people willing to experiment with drugs, the arrival of new, powerful, prescription drugs on the scene, easy access to heroin, and a compromised public health system. It all converges in a naive population, leading to more addicted people, lives cut short through overdose and disease, and ongoing problems for our communities.”

CITAR initiated OSAM in 1999 in collaboration with the Ohio Department of Alcohol and Drug Addiction Services (ODADAS), which funds the project. The OSAM Network combines a core group of scientists from Wright State and the University of Akron with regional epidemiologists throughout the state. The regional epidemiologists use qualitative data from focus groups and individual interviews with active and recovering drug abusers and “front-line” drug treatment and law enforcement professionals as well as statistical data from such sources as coroners, law enforcement agencies, crime labs, and treatment programs, to issue comprehensive biannual reports for the state. Critical findings are rapidly disseminated through “OSAM-O-Grams,” one-page reports sent statewide via fax, e-mail, or U.S. mail that report emerging substance abuse trends.

“What we’re doing with OSAM is unique,” Dr. Carlson says. OSAM researchers were the first to be able to identify emerging drug abuse trends in Ohio such as the movement of drugs like Ecstasy from raves and clubs to small social gatherings and uptake of these drugs by different populations.

An internationally recognized hub of substance abuse knowledge, research, and experience, CITAR has been studying the problem for almost 25 years. OSAM is just one of several CITAR projects that employ qualitative or ethnographic research methods. Other studies look at crack-cocaine abuse in cities, stimulant abuse in rural populations, Ecstasy and other club drug use, and the high-risk behaviors of injection drug users. Some CITAR projects rely more on collecting and analyzing quantitative data—like the Dayton Area Drug Survey (DADS) of middle and high school students. Others focus on investigating treatment strategies—like the Weekend Intervention Program (WIP) for people convicted of driving under the influence and the new Reclaiming Futures initiative to demonstrate over the past 23 years that rather than simply lock somebody up, if you can identify drug or drinking problems and provide effective rehabilitation, these people are at less risk and so is the community.

“We can we do it better? Absolutely. That’s where research comes in. Our job as researchers is to point to problems before they are right in our face, and as importantly, to find ways to better address current and emerging problems.”

—Robin Suits
Physicians and Soldiers, Too

Many of the school’s faculty are part of the military reserve forces or are active duty military and realize their skills may be required at any time.

William Hurd, M.D., professor and chair of obstetrics and gynecology, is one of those physicians. Dr. (Col.) Hurd heads up the aeromedical staging squadron for the Air Force Reserve’s 445th Airlift Wing based at Wright-Patterson Air Force Base. The fleet uses C-141 Starlifter planes for transport and medical flights and is equipped to turn a plane into a “flying ambulance” for Aeromedical Evacuation (AE).

AE should not to be confused with MedEvac, a common term that involves helicopter or ambulance transportation to a nearby medical facility. AE refers to transporting a patient long distances, usually in a fixed wing aircraft. AE is far from “first class” or even “coach” accommodations. Besides the decreased oxygen supply and decreased pressure, the environment in a military plane is harsh. It is usually cold and, because of the noise level, people wear earplugs and communicate by microphone. And, there is a lot of vibration.

Critically ill or injured patients require a complete evaluation before they can be evacuated by plane, a process called staging. Dr. Hurd explains, “You don’t just throw the patient on, you need to get the patient ready to fly, because once you’re in the air, you’re relatively isolated from medical care. If someone has air in their chest cavity, they can’t fly without a chest tube in place. A patient with an inhalation burn injury should be intubated before they fly. A patient who needs I.V. fluids will need to have those loaded onto the plane before takeoff. Oxygen is a major issue as well, depending upon the aircraft. You have to be prepared for each patient’s unique medical condition.” Once the patient is evaluated and prepared, the staging squadron is responsible for moving the patient onto the plane, attending to his or her care during the flight, and transporting him or her to a medical facility.

In his work, Dr. Hurd noticed the need for a resource book on the medical aspects of aeromedical evacuation. For more than four years, Dr. Hurd authored and edited the first medical resource book on AE. With more than 40 experts in a variety of relevant medical fields from active duty, reserve, and civilian populations, the book promises to be a resource for both military and civilian health care providers who have the responsibility of moving patients long distances by air. The book, Aeromedical Evacuation: Management of Acute and Stabilized Patients, was recently published by Springer Verlag of New York as part of a series on military medicine. In the new book’s preface, former Surgeon General of the United States Air Force Lt. Gen. Paul Carlton,
M.D., notes that the text “will provide an absolutely invaluable resource for all medics in the Department of Defense.”

AE became a critical aspect of military medicine beginning with Operation Just Cause in Panama in 1989. In a location where medical care is minimal, AE becomes the best option for quickly getting injured and ill patients to the care they need. “They don’t keep patients in the theater anymore in general,” says Dr. Hurd. “While they still have hospital ships and field hospitals, they’re just not as common. They take months to set up, and in unexpected casualty situations, you don’t have the time to set up a hospital.”

Steven Chambers, M.D., chief of medicine for the 74th Medical Group at Wright-Patterson AFB and assistant professor of internal medicine, is a chapter author for Dr. Hurd’s text. Dr. (Col.) Chambers is the Critical Care consultant to the Air Force surgeon general. Critical Care Air Transport Teams (CCATT) are composed of a physician, nurse, and technician trained in critical care. The team turns a military cargo plane into a flying intensive care unit. The team is trained to set up its equipment in at least five different airframes that might be used in a “forward area.” This adaptability to the airframe is critical to allow patient evacuation as quickly as possible. Patient beds can be inserted into any aircraft, and specialized equipment, including ventilators, invasive and non-invasive monitors, intravenous pumps, portable lab equipment, and support supplies have been carefully evaluated and tested in a flying environment to “be sure it does not affect the avionics or electrical systems of the airplanes.”

Dr. Chambers was recently involved in transporting wounded soldiers from Afghanistan to Germany during Operation Enduring Freedom. In one instance, a soldier with severe facial wounds required airway stabilization and surgical exploration. After a change of planes and 12 total flying hours, the patient arrived in Germany, a “location where all the necessary tests and specialists were located. This intensive care setup has worked extremely well,” says Dr. Chambers, “and has transferred many patients without a death. This is, for us medical types, something we did not have the capability to do in wars past.”

“You have to be prepared for each patient’s unique medical condition.”

–Judith Engle
1980
Richard H. Pearl, M.D., is currently surgeon-in-chief at Children’s Hospital of Illinois and professor of surgery and pediatrics at University of Illinois. He and his wife, Laurreta M. Pearl, MSN, CPNP, have three children: Sara (30), Amanda (28), and Emily (3).

1982
David S. Felder, M.D., practices with the Cosmetic Eyelid and Laser Center of South Florida. He recently joined the Leukemia Team in training and cycling 100 miles around Lake Tahoe with 2,000 other cyclists. He and his wife Cindy have two children: Zachary and Emily (3).

1985
Oluseyi N. Senu-Oke, M.D., practices with Delaware Physicians Associates in Wilmington, Delaware, where he practices primarily family medicine and sports medicine. He also serves on the Physician Advisory Board for the City of Wilmington and the Delaware Board of Medical Practice. He and his wife, Dr. Carole Guy (pulmonary and critical care), have been on a medical mission to remote parts of Africa. The couple has two children: Olumide and Oluwita.

1986
James L. North, M.D., is a family physician with Westgate Medical Group in Toledo, Ohio. He served as president of the Ohio Academy of Family Physicians in 2001-2002. He and his wife Ann, a nurse, were married in 1990. The couple has three children: Matthew (12), Kathryn (9), and Melissa (8). In his spare time, he enjoys coaching Little League.

1987
John K. Kavlich, M.D., is a family physician with Patient First in Berea, Ohio, where he practices with fellow alumnus, Lisa D’Cristofaro, M.D., ‘96. Patricia A. Swiney, M.D., practices family medicine with Samaritan Hospital in Lexington, Kentucky. She and her husband, Cohen, a lab technician, have two children: Madison and Cooper.

1988
Vince Trago, M.D., is a radiologist in Galion, Ohio. He is married to Charlene, a registered nurse, and the couple has four children: Brendan, Patrick, Killian, and Bridge.

1990
Holli K. Neiman-Hart, M.D., moved to Toledo, Ohio, in August 2001 after the closure of Franciscan Medical Center and planned closure of St. Elizabeth Family Practice Residency. She is associate director of the Flower Hospital Family Practice Residency program, where she also serves as director of OB Education. She married John E. Hart III in May 2001. She has two children: Grant E. Neiman (12) and Jason C. Neiman (11).

1991
Nancy E. Fitzgerald, M.D., practices pediatric radiology at Texas Children’s Hospital in Houston. She and her husband, Edward J. Fitzgerald, Ph.D., an aerospace engineer, recently had a new addition to their family: Carolyn Grace Fitzgerald, born July 3, 2002. Patricia Fine Roseneinstein, M.D., practices pediatrics with Community Child Health Centers in West Carrollton, Ohio. She was in private practice for five years then left to work in the clinic setting for underinsured patients. She helped begin and is the medical director for the Dayton chapter of FEAST (Food Education Allergy Support Team), a support group for parents of children with life threatening food allergies. She has spoken on food allergies at the Ohio Chapter of Pediatric Nurse Practitioners meeting and has led other conferences for adult caregivers of children with food allergies. She and her husband Andrew have two children.

1992
David M. Hasl, M.D., is a surgeon in Cincinnati, Ohio. After finishing his residency, he had the opportunity to practice with his father for two years prior to his retirement. He and his wife, Elizabeth, an x-ray technologist, have four children: Lauren, Kelsey, Zachary, and Jacob. Peter K. Wong, M.D., practices family medicine in Cincinnati, Ohio. He and his wife, Miranda, a computer systems analyst, have one child, Erika Kimberly.

1993
Anne Marie Oberhen, M.D., currently practices at the University of Alabama at Birmingham Spain Rehabilitation Center. She and her husband, Tom Plouff, have two children: Lauren (8) and Caroline (5). At her practice, she has been director of the wound care center and director of stroke service and associated neurocognitive impairments, multiple sclerosis, postpolio and cancer rehabilitation: acute, palliative, and hospice-based.

1997
Shannon K. Bentley, M.D., practices with the Department of Emergency Medicine at Good Samaritan Hospital in Dayton. She has also completed a fellowship in obstetrics and gynecology. Kevin J. Finley, M.D., practices with Wright-Patterson Family Practice Clinic at Wright-Patterson Air Force Base. He and his wife Bobbi Jo have three children: Austin, Mackenna, and Zander, born in the summer of 2002. Daniel M. Malkamaki, M.D., practices at MetroHealth Medical Center in Cleveland, Ohio, where he specializes in interventional spine care. He and his wife, Solene, have two children: Matias and Thomas.

1999
Melissa A. Clark, M.D., just finished residency at the UCI/ Illinois-Masonic Family Practice Residency, where she was chief resident for her third year. She and her husband Daniel Clark, an urban planner, had their first child, daughter Kaili Winona, on March 21, 2002. Rhonda S. Washington, M.D., lives in Indianapolis, Indiana, where she practices obstetrics and gynecology. She and her husband, Marcus (‘99), have two children: Alexander and Aaron.

2000
Anup D. Patel, M.D., is in the third year of his residency and will begin a fellowship in pediatric neurology at Vanderbilt in July 2003. He was selected pediatric resident teacher of the year for 2001 and 2002.

Attention Medical Alumni! Submit your class notes online at www.med.wright.edu/alumni/alunotes.html
New Scholarship Honors Dr. Robert and Shirley Davies

The Davies family recently announced the establishment of the Bob and Shirley Davies Endowed Scholarship. This scholarship is a tribute to the couple’s lifelong dedication to teaching and service in their communities.

The couple perished in a private plane crash in October 2001, leaving behind a stunned medical community and a long legacy of community support. Dr. Davies served as chair of the Department of Internal Medicine at Wright State during its formative years and as clinical professor of internal medicine after he returned to private practice in 1982. He was also former vice president, chief medical director of Nationwide Insurance in Columbus and served in leadership positions at Stouder Memorial Hospital, Dettmer General Hospital, and Harding Hospital. Mrs. Davies served the medical community through her work with the Ohio State Medical Auxiliary, the Miami County Board of Health, the Miami County Medical Alliance, and Stouder Hospital.

The couple also held an annual picnic for medical students at their home. “This scholarship seems fitting,” says daughter Anne (Davies) Moyer, “because it will aid and positively affect new physicians. In essence, their legacy lives on.”

If you wish to contribute to the memorial scholarship, please contact the Office of Advancement at (937) 775-2972.

Early Assurance Program

A generous donation from Mrs. Virginia Kettering, a long-time friend of the School of Medicine, recently established scholarships for Wright State and University of Dayton students entering the Early Assurance Program, a new initiative to recruit the best and brightest medical students. “This charitable gift will be used to encourage highly competitive pre-med students to commit early to Wright State’s School of Medicine,” said Dean Howard Part, M.D.

Through the Early Assurance Program, students can apply for medical school at the end of their sophomore year. Students will be reviewed and interviewed by the school’s Admissions Committee. Once accepted, students are eligible to compete for a 75 percent scholarship for all four years of medical school. In addition, they will have access to science and research summer programs and will be allowed to shadow first- and second-year medical students. One qualified student will be chosen from each university by representatives of the Dayton Engineers’ Club in cooperation with the School of Medicine. More information can be found online at: www.med.wright.edu/eap/.

Phonathon 2003

On February 23–26, Year II medical students volunteered their time to call alumni and friends for this year’s Annual Fund. Students called upon those who have been supportive in the past to consider increasing their giving level, and for those who have not yet had the chance to contribute, to initiate a giving program this year.

The Phonathon was a tremendous success, raising $21,922.50 in pledges and gifts over four nights.

While the Phonathon is an important part of the school’s annual fundraising, it also offers students a chance to connect with alumni and provides alumni with an opportunity to stay in touch with their alma mater.

Your tax-deductible gift to the School of Medicine can be sent to Office of Advancement, WSU School of Medicine, 3640 Colonel Glenn Hwy., Dayton, OH 45435. Please make checks payable to WSU Foundation. For online giving, visit: www.med.wright.edu/alumni/giving.html

Year II medical students phoning alumni.
The Medical Alumni Association has recently released a new line of apparel featuring something for everyone: T-shirts, Ping golf shirts, stadium blankets, denim shirts, and more! Year II medical students Imani Holmes, B.J. Missick, T.J. Matlack, and Rina Dabramo model some of the new apparel. For more information or to place an order, visit www.med.wright.edu/alumni to view apparel selections and download an order form, or call the Office of Advancement at (937) 775-2972.

Medical Alumni Association Updates

The Medical Alumni Association (MAA) welcomes eight new members to its board of trustees this year. The following alumni will be serving two-year terms:

- Dominic J. Bagnoli, M.D., FACEP, '90
- Timothy D. Markus, M.D., '81
- Richard A. McKenzie, M.D., '85
- Sherri L. Morgan, M.D., MPH, '00

These alumni will be serving three-year terms:

- David M. Hasl, M.D., '92
- Thomas S. Proctor, M.D., '93
- Richard D. Smith, M.D., '84
- Jill S. Waibel, M.D., '01

As well, the MAA now has student liaisons from each academic class:

- Jerry Ahluwalia, Class of 2003
- Kara Hughan, Class of 2004
- Jon Coll, Class of 2005
- Carrie Castleforte, Class of 2006

These alumni will be joining current board members Gary LeRoy, M.D., '98, president; Sean Convery, M.D., '81, vice president; and Holli Neiman, M.D., '90, secretary.

If you would like to represent your fellow alumni on the MAA board, submit your class note online at www.med.wright.edu/alumni/ and indicate your interest or call the Office of Advancement at (937) 775-2972.

Newport Outing

On Saturday, April 5, the School of Medicine reserved the entire Newport Aquarium to share an evening with 150 alumni and friends. At this after hours event, the school’s alumni joined friends, faculty, and staff to see the aquarium’s 60 exhibits featuring 11,000 of the world’s most amazing aquatic creatures.

With so much to see, the aquarium was fun for all ages.
On October 4–5, the Classes of ‘82, ‘87, ‘92, and ‘97 reunited for a weekend of family fun and excitement. More pictures and information are available online at the Medical Alumni Association Web site: www.med.wright.edu/alumni/
Nearly 24,000 medical students participated in the national Match Day. At Wright State, the Medical Sciences Auditorium was filled with family and friends to learn where graduating seniors will enter residency. More than 25 percent of the Class of 2003 will remain in the Dayton area for residency training. Results, by specialty, from Wright State’s Match Day: Anesthesiology, 2.5 percent; Dermatology, 2.5 percent; Emergency Medicine, 7.6 percent; Family Practice, 20.3 percent; General Surgery, 7.6 percent; Internal Medicine, 20.3 percent; Internal Medicine/Pediatrics, 3.8 percent; Neurological Surgery, 1.3 percent; Neurology, 2.5 percent; Obstetrics and Gynecology, 13.9 percent; Ophthalmology, 1.3 percent; Orthopedic Surgery, 2.5 percent; Pediatrics, 5.1 percent; Physical Medicine and Rehabilitation, 1.3 percent; Psychiatry, 6.3 percent; Radiology-Diagnostic, 1.3 percent.
Thomas L. Brown, Ph.D., assistant professor of physiology and biophysics, credits a 10th grade science teacher in Van Wert, Ohio, with setting him on the path that led to his involvement in “one of the hottest areas in biotech research today,” the study of apoptosis, or programmed cell death. “Scientific investigation is fascinating, like detective work,” he explains.

Dr. Brown went on to earn a Ph.D. in developmental biology at the University of Cincinnati. He later conducted postdoctoral research on birth defects at the Children’s Hospital Research Foundation in Cincinnati and investigated autoimmune disease and implantation at the Cleveland Clinic Foundation. His research increasingly focused on identifying the mechanisms that mediate cell growth and apoptosis and trying to figure out ways to manipulate them in order to treat human diseases.

Beginning in the mid- to late 1980s, scientists began to realize the importance of understanding apoptosis in diagnosing and treating a wide range of conditions. “We know now that most diseases alter apoptosis in some way,” Dr. Brown says. When cancer cells become resistant to medicines that should kill them, or brain cells in an Alzheimer’s patient die before they should, the complex biochemical, cellular, and molecular processes that regulate cell death in a healthy person have gone awry.

Much of Dr. Brown’s research involves studying a protein that is critical in regulating the immune response, called transforming growth factor beta. Students in his lab are conducting studies in related areas, including placental regulation of fetal development, the role of tumor suppressor genes in cell death and cancer, and the autoimmune diseases Sjögren’s syndrome and Systemic Lupus Erythematosus.

Areas of promising investigation involve trying to manipulate the mechanisms regulating the cell death system as a way of treating AIDS and autoimmunity, he says. With initial patents filed, he hopes to conduct further studies to test his theory about potential treatments, possibly from the biotech firms with whom he has been consulting in the newly emerging “cell death industry.”

Dr. Brown, who developed and is course director for the class “Mechanisms of Cell Death,” is proud that “Wright State is one of the few universities in the country that offers a full course on apoptosis and how it applies to human diseases.” He loves teaching students at all levels—from high school research apprentices to undergraduate and graduate research assistants, doctoral candidates, and medical students. “I’ve had an amazing run of good groups to work with. I really have a great job.”

—Robin Suits
The University of Cincinnati Genome Research Institute, in cooperation with Wright State University, Wright State University School of Medicine, Children’s Hospital Research Foundation in Cincinnati, Procter and Gamble Pharmaceuticals, Acero Inc., and Wright-Patterson Air Force Base, has been awarded $9 million from the Biomedical Research and Technology Transfer Commission.

The award will be used to develop a comprehensive biomedical research and biotechnology center in Southwest Ohio, building upon the strengths of the individual partners. “The collaborations that will be promoted by this award will allow the partnering institutions to address and solve critical questions that would be beyond the capabilities of the individual partners,” says Robert Fyffe, Ph.D., director of the Center for Brain Research and associate dean for research affairs for the School of Medicine. “These efforts will enhance genomic research and bioinformatics programs at Wright State and strengthen our ability to be competitive for other awards.”

The Genome Research Infrastructure Partnership was one of three programs to receive grants from 16 research grant proposals submitted. Development of biomedical research and technology in Ohio is a key component of Governor Bob Taft’s Third Frontier Project, a $1.6 billion, 10-year plan to establish Ohio as a national leader in biotechnology research.

New Faces
Jennifer M. Bocock, M.D.
Assistant Professor, Emergency Medicine
M.D.: SUNY Upstate Medical University
Residency: SUNY Upstate Medical University (emergency medicine)
Fellowship: Wright State University School of Medicine (emergency medicine faculty development)

Stephen F. W. Cavanah, M.D.
Assistant Professor, Internal Medicine
M.D.: University of Louisville
Residency: University of Louisville Affiliated Hospitals (internal medicine)
Fellowship: Wilford Hall USAF Medical Center (endocrinology)

Edward E. Craven, M.D.
Assistant Professor, Emergency Medicine
M.D.: Case Western Reserve University School of Medicine
Residency: University of Chicago Hospitals (emergency medicine)
New Faces

Robert J. Fink, M.D.
Professor, Pediatrics
M.D.: Case Western Reserve University School of Medicine
Residency: University Hospitals of Cleveland (pediatrics)
Fellowship: Rainbow Babies and Children’s Hospital (pediatric pulmonary medicine)

Robert T. Gilson, M.D.
Assistant Professor, Internal Medicine
M.D.: University of Texas Health Science Center
Residency: Keesler Medical Center (internal medicine)
Residency: Wilford Hall USAF Medical Center (dermatology)

John R. Leisey, M.D.
Instructor, Emergency Medicine
M.D.: Pennsylvania State University College of Medicine
Residency: Medical Center of Delaware Residency Programs (emergency medicine)

Guy M. Newland, M.D.
Assistant Professor, Emergency Medicine
M.D.: Uniformed Services University of the Health Sciences
Residency: Wright State University School of Medicine (emergency medicine)

Four Employee Recognition awards were given at the annual VA/School of Medicine Mixer to Keith Knupp, Oluwatope Mabogunje, Selim Newaz, and Sona Sharma. (L-R) Steven Cohen, M.D., director of the VA Medical Center, Sona Sharma, M.D., receiving her award, and Howard Part, M.D., dean of the School of Medicine.

Community Grant Targets Cardiovascular Disease

The National Heart, Blood, and Lung Institute has announced that Dayton will become part of its network for implementing targeted and culturally sensitive health education strategies at the community level. A $500,000, three-year grant has been awarded to a coalition headed by the Division of Health Systems Management in the Department of Community Health.

One of six recipients chosen this year, Dayton joins a group of community-based organizations named Enhanced Dissemination and Utilization Centers (EDUC). The EDUC program, now totaling 12 communities, was launched in 2001 to implement focused heart-health education strategies in high-risk communities.

The project’s goals center on identifying cardiovascular risk factors and preventing cardiovascular disease by implementing strategies to optimize both physician practices and patient behaviors. Strategies include increasing awareness of one’s own health status, better monitoring of hypertension and cholesterol through physicians’ offices, early detection of and intervention for cardiovascular risk factors, and patient education materials.
Reclaiming Futures Hosts Community Forum

More than 125 community members gathered for the kickoff of the Reclaiming Futures, Montgomery County, initiative. Judge Michael Murphy welcomed the gathering, and keynote speakers included Laura Burney Nissen, Ph.D., national project director for The Robert Wood Johnson Foundation’s Reclaiming Futures project, and the Reverend Eugene F. Rivers III, a nationally recognized community activist who has developed successful programs for youth.

Reclaiming Futures, Montgomery County, is one of 10 sites selected out of 280 national applicants to join The Robert Wood Johnson Foundation’s five-year program to address substance abuse treatment and other services for young people in trouble with the law. The local project redefines three major components of the juvenile justice system and substance abuse services: how youth are assessed when they enter the juvenile justice system; the value of using natural helpers, members of the youth’s community, as a resource; and the use of restorative justice practices for youth, enabling them to give back to the community.

New Faces

Abiodun Omoloja, M.D.
Assistant Professor, Pediatrics
M.B.B.S.: University of Ilorin, Nigeria
Residency: Albert Einstein College of Medicine (pediatrics)
Fellowship: Children’s Hospital Medical Center of Cincinnati (nephrology/hypertension)

Vipul V. Patel, M.D.
M.D.: B.J. Medical College, Gujarat University, India
Residency: Lutheran General Hospital (pediatrics)
Fellowship: Montefiore Medical Center/Albert Einstein College of Medicine (pediatric critical care)

Stephen M. Patrick, Ph.D.
Assistant Professor, Biochemistry and Molecular Biology
Ph.D.: Wright State University (biomedical sciences)
Fellowship: Wright State University (biochemistry and molecular biology)

The Healer as Artist

The Healer As Artist 2003 starred more than 60 entries from faculty, staff, and students. Poetry, pottery, and photography, as well as watercolor and oil paintings, greeted visitors to the third annual School of Medicine art exhibit, April 7–May 3. Perhaps the most original entries included a fountain and a diorama. McCallister’s Art Supplies generously provided prizes for the three People’s Choice Awards.
New Faces

Brian D. Schroeder, M.D., R.N.
Assistant Professor, Internal Medicine
M.D.: University of Texas Medical Branch at Galveston
Residency: Michigan State University, Kalamazoo
Center for Medical Studies (internal medicine)

Brian L. Springer, M.D.
Assistant Professor, Emergency Medicine
M.D.: University of Texas Southwestern Medical School
Residency: Wright State University School of Medicine (emergency medicine)
Fellowship: Wright State University School of Medicine (sports medicine)

Trio Performs at Children’s Medical Center

The Amelia Piano Trio spent the week of April 7–13, working with medical students, patients, families, and staff of The Children’s Medical Center, culminating with a public performance at The Dayton Art Institute to celebrate inventing flight.

Named after famed aviator Amelia Earhart, the trio performed throughout The Children’s Medical Center, holding children’s concerts and musical therapy activities, hospital sing-a-longs, and daily visits to different sections of the hospital to play for small groups of children who are bedridden.

The program the Amelia Piano Trio: Music and Healing Residency was a collaborative effort by The Children’s Medical Center, Wright State University School of Medicine, and The Dayton Art Institute, with a grant from Culture Works and the Montgomery County Arts and Cultural District.

Faculty Notes

Mark E. Clasen, M.D., Ph.D., professor and chair of family medicine, has been appointed to the editorial board of Advanced Studies in Medicine, a publication of Johns Hopkins University School of Medicine. The publication focuses upon clinical reviews for primary care clinicians.

Marshall Kapp, J.D., professor of community health and director of the Office of Geriatric Medicine and Gerontology, has just been elected secretary of the American Society on Aging (ASA) for a three-year term that began at ASA’s annual meeting in March. The American Society on Aging is a 6,000-member interdisciplinary organization of professionals in the aging field. As secretary, he will be a member of the executive committee of the board of trustees.

The Amelia Piano Trio: Anthea Kreston, Jason Duckles, and Jonathon Yates.
Stephen D. McDonald, M.D., F.A.C.P., Eugene
Kettering associate professor of internal medicine and the program director for the Internal Medicine Residency Program at Kettering Medical Center, was selected to receive the 2002 Master Teacher Award by the American College of Physicians-American Society of Internal Medicine. The Master Teacher Award recognizes teachers of medicine who are active in teaching medical students, residents, or peers.

Shumei Sun, Ph.D., professor of community health, was named the Brage Golding Distinguished Professor of Research by Wright State University. Dr. Sun has been a faculty member since 1985. Her research interests include mathematical modeling of growth and maturation, obesity and body composition in children and adults, and cardiovascular disease risk factors. Dr. Sun has worked in a national coalition to update the pediatric growth charts, incorporating the use of body mass index (BMI) along with height and weight as growth indicators.

Roger Siervogel, Ph.D., Fels professor of community health and the director of the Lifespan Health Research Center, was presented the President’s Award for Excellence in Research. Dr. Siervogel has been an active researcher and principal investigator in several NIH grants during his 25-year tenure and the author of more than 400 articles. Since 1974, Dr. Siervogel has been working on the Fels Longitudinal Study, the longest and largest study of human growth and development in the world.

Virginia C. Wood, M.D., F.A.C.P., associate professor of internal medicine and director for the Internal Medicine Residency Program, was chosen by the American College of Physicians-American Society of Internal Medicine to receive the 2002 Laureate Award from the Ohio Chapter ACP-ASIM. The Laureate Award honors those who demonstrate by their example and conduct an abiding commitment to excellence in medical care, education or research, and service to their communities.

New Faces
Kevin E. Steel, D.O.
Instructor, Internal Medicine
D.O.: Kirksville College of Osteopathic Medicine
Residency: Wright-Patterson Medical Center (internal medicine)

Gary Ventolini, M.D.
Associate Professor, Obstetrics/Gynecology
M.D.: University of Padova, Italy
Residency: Spartanburg Regional Medical Center (family medicine)
Residency: Good Samaritan Hospital, Cincinnati (obstetrics/gynecology)

Kevin R. Waddell, M.D.
Instructor, Obstetrics/Gynecology
M.D.: Texas Tech University School of Medicine
Residency: Wright State University School of Medicine (obstetrics/gynecology)

John M. Wightman, M.D.
Associate Professor, Emergency Medicine
M.D.: University of Missouri-Columbia School of Medicine
Residency: University of Illinois (emergency medicine)
Student Notes

Tim Miller, Year II, finished third in the annual Air Force Marathon with a time of 2:47.42. A former Ohio State University cross-country captain, Tim also competed at the state level in high school.

Ann Stechschulte, Year I, won the 26th River Corridor Classic with a time of 1:21.07 for the 13-plus mile-course. Ann was a high school state champion in the 800 meters, the 1,600 meters, and the high jump. While an undergraduate student at Purdue University, she won the Big Ten 10K and placed 15th in the NCAA national 10K.

Academic Excellence Recognized

The following students and faculty members were recognized for their academic achievements at the Fifth Annual Awards Ceremony.

Students:

ICM I Award:
Shandra R. Kalter
Human Structure Award:
Brett R. Kockentiet
Molecular, Cellular, and Tissue Biology Award:
Shandra R. Kalter
Principles of Disease Award:
Michael J. Reeves
Term I Award:
Karl F. Siebuhr
Term II Award:
Joseph C. Seaman
ICM II Award:
Heidi A. Kabler
John C. Gillen Award for Family Medicine:
David D. Brill
Medicine Clerkship Award:
Michael P. Davis
Pediatrics Clerkship Award:
Matthew A. Bakos
Women’s Health Clerkship Award:
Marlo N. Oyster

James B. Peoples Silver Scalpel Award:
Jacob B. Jones
Abraham Heller Psychiatry Clerkship Award:
Jamie S. McLean
McGraw-Hill/Appleton & Lange Award:
Shandra R. Kalter
Brett R. Kockentiet

Faculty:

Teaching Excellence Awards:
Paul G. Koles, M.D.
Stuart J. Nelson, Ph.D.
Larry Ream, Ph.D.
Robert P. Turk, M.D.
Mentors’ Award:
Jerald Kay, M.D.
Peter K. Lauf, M.D.
Excellence in Medical Education Award:
Barbara L. Schuster, M.D.

Alpha Omega Alpha (AOA) Honor Medical Society

The 23rd annual initiation ceremony of the Epsilon Chapter of Alpha Omega Alpha Honor Medical Society was held on Tuesday April 15, 2003, at the Country Club of the North. The following students were inducted:

Matthew Bakos
Sandy Durrani
Peahen Gandhi
Tyler Hall
Courtney Holland
Peter Lenz
Carolyn Long
Mary Rodes
Nino Rubino
Christopher Savage
Joseph Seaman
Samantha Stanko
Sarah Tibbetts

In addition, faculty member Richard Laughlin, M.D., and residents Mark Herdman, M.D., and Joseph Rubino, M.D., were inducted.
CALENDAR

Healer as Artist Exhibit
April 7–May 2, 2003
8:30 a.m.–5:30 p.m.
Lobby of the Frederick A. White Health Center
For more information, contact: 775-2951

Academy of Medicine Annual Distinguished Guest Lecture and Dinner Meeting
April 30, 2003
5:30 p.m.
Schuster Performing Arts Center
For more information, contact: 775-2972

Skin Cancer Screening Week
May 12–16, 2003
For more information, contact: 775-2951

Faculty Meeting
May 15, 2003
4:30 p.m.
035 Medical Sciences
For more information, contact: 775-3010

Graduation
June 6, 2003
6:30 p.m.
Schuster Performing Arts Center
For more information, contact: 775-2934

Class of 2006 Family Weekend
June 7–8, 2003
For more information, contact: 775-2951

Center for Healthy Communities Annual Meeting
June 11, 2003
10:30 a.m.–Noon
Kettering Center
For more information, contact: 775-1114

Medicine Ball
June 4, 2003
8:00 p.m.
Crowne Plaza
For more information, contact: 775-2934

School of Medicine Night with the Dayton Dragons
July 5, 2003
7:00 p.m.
Fifth Third Field
For more information, contact: 775-3812

Medical Alumni Day at the Toledo Zoo
August 10, 2003
Zoo opens at 10:00 a.m.
Dinner at 5:00 p.m.
Symphony at 7:30 p.m.
Toledo, Ohio
For more information, contact: 775-3812

Faculty Meeting
May 15, 2003
4:30 p.m.
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Spring 2003

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