# School of Medicine University of Maryland School of Medicine Control of Medicine Contr



October 2010 Vol.12 No.2

### DEAN'S MESSAGE: What's On My Mind

hat's on my mind this month is welcoming to the School of Medicine 15 new faculty members and exciting new research resources, now that the University of Maryland Biotechnology Institute (UMBI) has closed. The Board of Regents of the University System of Maryland chose to distribute the resources of UMBI between several schools within its system, assigning to the School of Medicine UMBI's rich programs in marine biotechnology and in cutting-edge dical imaging techniques. Lam certain these new research laboratories.

medical imaging techniques. I am certain these new research laboratories and faculty will serve to enhance the School of Medicine's research enterprise and help accelerate the development of new medical treatments and techniques from bench to bedside.

The various research groups at the Columbus Center facility in the Inner Harbor have been divided between the School of Medicine, the University of Maryland, Baltimore County and the University of Maryland Center for Environmental Science. The School of Medicine's portion of the reorganization has become the Program in the Biology of Model Systems (PBMS) at the School of Medicine. The program's seven faculty members have become part of the Department of Biochemistry & Molecular Biology and the Department of Microbiology & Immunology, and they will continue their research into marine life and its impact on and role in ecology and human health. Even before this program became a part of the School of Medicine, our scientists have long collaborated on research. We look forward to many more collaborative studies now that the Program in the Biology of Model Systems has been established in the School of Medicine.

The value of using marine life as model systems for the study of human health and disease is huge. A key part of the PBMS is a zebrafish research facility. Zebrafish are used in research as models for humans, much as mice are. Zebrafish are terrific models for a number of reasons. Their simplicity allows scientists to zero in on a biological process of interest without the interfering factors sometimes found in a mouse. In addition, genetically modified zebrafish can be developed and bred in greater numbers and with far more ease and lower cost than mice. I hope many of our SOM faculty will reach out to the PBMS to explore new areas of research using marine model systems. Scientists at the PBMS also will be able to share their resources in the study of marine microorganisms, which express unique proteins, have the capacity to withstand harsh environments and have novel metabolic and synthetic capabilities. Direct application of these properties to further understand human disease and treatment and the health of the Chesapeake Bay has already been demonstrated, but there is so much more to be gained.

The second group transferred to the SOM is the team of W. Jonathan Lederer, MD, PhD, professor, Department of Physiology and acting director of the School of Medicine's new BioMET Center. Dr. Lederer and seven of his fellow scientists from the former UMBI Medical Biotechnology Center have joined our departments of Physiology, Anatomy & Neurobiology and Biochemistry & Molecular

Biology. The group specializes in using innovative imaging techniques to examine biology on the most basic level, gaining insight into cellular and molecular activity with a level of detail not possible without these state of the art imaging technologies. I am delighted to have these new faculty members and their highly regarded research as part of our enterprise. I also expect the rest of our faculty will find the expertise and equipment available in the BioMET center to be invaluable and an incredible resource for exploring their own work in new ways through collaborations and partnerships.

The Institute for Bioscience and Biotechnology Research (IBBR), a new joint venture between the School of Medicine, the University of Maryland, College Park, and the National Institutes of Standards and Technology, will share research space at the University of Maryland's Shady Grove campus. The School of Medicine will conduct research on drug and vaccine development using

25,000 square feet of newly acquired research space. This space will enable recruitment of high quality new research faculty and facilitate the development of relevant training and

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educational programs. In addition, this new critical mass of School of Medicine investigators will enable the creation of a clinical medical campus and medical research organization to compliment the drug discovery pipeline and biotechnology commercialization taking place along the I-270 corridor. The IBBR will also focus on nano-biotechnology, comparative patho-biology, structural biology and protein design.

These new faculty and resources will enhance the School of Medicine's world class research enterprise and help us turn our groundbreaking basic science discoveries into new treatments and diagnostic techniques and a better understanding of human health and disease. I am confident our faculty will make the most of the new opportunities these model systems and imaging resources bring to our scientific research. Please join me in welcoming these new scientists and their expertise to the School of Medicine.

In the relentless pursuit of excellence, I am Sincerely yours,

E. Albert Reece, MD, PhD, MBA

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Vice President for Medical Affairs, University of Maryland John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine

# School of Medicine Mourns Loss of Nate Schnaper, MD

Nate Schnaper, MD, a professor in the Department of Psychiatry for more than 50 years, died on August 23 after a brief illness. He was 92. Dr. Schnaper was still seeing patients until just weeks before his death, counseling them at the University of Maryland Marlene and Stewart Greenebaum Cancer Center (UMGCC).

"He was a much beloved father figure to everyone who worked here," said Kevin Cullen, MD, professor, Department of Medicine, and director of the UMGCC. "From his irascible sense of humor to his omnipresent red socks, Nate was inextricably woven into the fabric of this place."

Dr. Schnaper was the son of Russian Jewish immigrant parents who was born in a second-floor apartment above his father's East Baltimore shoe store, and in 1925 moved with his family to a home near Pimlico racetrack. After graduating from Polytechnic Institute in 1936, he enrolled at Washington College, where he earned a bachelor's degree in 1940.

Even though he had been accepted as a student at the University of Maryland School of Medicine, Dr. Schapner could not afford the tuition, so in 1940 he enlisted in the Army instead. He served five years with the 118th General Hospital's psychiatric unit in the Pacific. "It was like an apprenticeship to medical school," Dr. Schnaper told *The Baltimore Sun* in a 2003 interview. It was this military experience that helped him decide to become a psychiatrist.

After the war, he entered the School of Medicine, where he earned his medical degree in 1949. He completed his internship at the former U.S. Public Health Hospital in Wyman Park, MD, and his psychiatric residency at Sheppard & Enoch Pratt Hospital.



Afterwards, Dr. Schnaper returned to the School of Medicine to teach medical students in the newly established Department of Psychiatry. He also worked at the University of Maryland Medical Center as chief of the psychiatric branch from 1970 to 1977, and from 1974 until his retirement in 1996 Dr. Schnaper was chief of psychosocial services at the cancer center. Even after his retirement, Dr. Schnaper continued to see patients at the cancer center and help them face their diagnoses, sometimes in unconventional ways.

"It was tough love, his brand, and he got right down to the problem," said Stephen C. Schimpf, MD, clinical professor, Department of Medicine. "But his approach was a very practical one, an approach that helped patients cope with their illnesses, their anxieties and indeed with their death," he said.

Patients weren't the only ones whose lives were touched by Dr. Schnaper. "He helped residents and oncology fellows cope with an intense training program and with their insecurities of entering a field

where success is often measured in reducing pain and suffering rather than cure," said Dr. Schimpf.

In 2003, a summer internship program bearing Dr. Schnaper's name was established at UMGCC. This eight-week program for undergraduate students matches these aspiring researchers with cancer research mentors to provide the students with the opportunity to become acquainted with cutting-edge areas of research in the current fight against cancer.

Contributions in Dr. Schnaper's memory may be sent to the Dr. Nathan Schnaper Summer Scholars Program, University of Maryland Greenebaum Cancer Center, 22 South Greene Street, Baltimore, MD 21201.

#### CENTER FOR INTEGRATIVE MEDICINE

## Leads Analysis of Acupuncture for Low Back Pain



Brian Berman, MD

In a feature article published recently in the New England Journal of Medicine, Brian Berman, MD, professor, Department of Family & Community Medicine, and director of the Center for Integrative Medicine, examined the current studies into acupuncture for low back pain and made treatment recommendations for a sample patient.

Back pain is one of the most common reasons people see a physician, with nearly three-quarters of people in Western countries experiencing back pain at some point in their lives. According to some estimates, patients with low back pain account for

more than \$90 billion in annual health care expenses in the United States. The causes for back pain are complex and multifaceted, and about 85 percent of cases will be defined as nonspecific.

Back pain is also one of the most common reasons for acupuncture appointments. But should physicians consider recommending acupuncture to these patients?

"Many studies in the past few years have found a benefit to acupuncture for low back pain, particularly when added to conventional therapy," said Dr. Berman. He added, "Our review examined recent studies involving thousands of patients. However, questions still remain about the role of the placebo effect in acupuncture, particularly since many clinical trials showed that sham acupuncture could be as effective as real acupuncture."

The reviewers suggested more research into acupuncture for low back pain is needed, specifically looking at the environment in which acupuncture is performed to evaluate whether a psychological or emotional bias may be contributing to patients reporting improvement. They also recommend additional studies to evaluate sham acupuncture without needles penetrating the skin, to see if the benefits of acupuncture may be achieved without an invasive procedure. Most acute back pain goes away in about six weeks. However, 25 percent of patients report recurring pain within a year, and seven percent develop chronic low back pain.

For physicians contemplating whether to suggest acupuncture for their back pain patients, the article gives current recommendations from the American College of Physicians, the American Pain Society and the North American Spine Society for incorporating acupuncture into a treatment plan. The authors report that it is essential for all patients with chronic or recurrent back pain to undergo a careful diagnostic evaluation before selecting a course of therapy. Certain conditions, such as cancer or infection, may preclude certain patients from receiving acupuncture treatment.

As part of the review, the researchers examined the case of a hypothetical 45-year-old man who had years of low back pain, but was not receiving adequate relief from his current treatments. He had concerns about losing his job as a construction worker and wondered whether acupuncture could help him. Based on the patient's evaluation, which included



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MRI and a clinical examination, and the evidence for the potential benefits for acupuncture, the team would suggest a course of 10 to 12 acupuncture treatments over a period of eight weeks with a qualified practitioner.

"In a case such as this, we would first want to reassure the patient that the clinical exam and MRI showed no evidence of a serious underlying condition such as cancer or spinal infection. In addition to acupuncture, we would encourage this patient to stay active and consider a stretching and strengthening exercise program," explained Dr. Berman.

The idea to use acupuncture with standard treatments such as pain medicines and physical therapy is one of the keys to integrative medicine, a growing field of medicine looking at combining conventional and complementary treatments where there is evidence about safety and effectiveness.

# Alan Shuldiner, MD, Awarded \$11.4 Million to Study **Effectiveness of Gene-Directed Therapy for Cardiac Patients**

the goal of using genetic information to

help prescribe the safest, most effective

medicine for each patient.

he National Institutes of Health has awarded Alan R. Shuldiner, MD, professor, Department of Medicine, a five-year \$11.4 million grant to lead a multi-center study to gauge the effectiveness of treating cardiac patients with anti-platelet drugs to prevent blood clots, based on their genetic makeup. Dr. Shuldiner also is director of the Program in Genetics and Genomic Medicine. The program focuses on translational research to move discoveries out of the lab into clinical practice to improve patient care.

The year-long study of 2,400 Through these studies, we are moving closer to cardiac patients at five sites will build on previous research by Dr. Shuldiner and others that showed that Plavix, which is also called clopidogrel, is not as effective for people who have common variant of the CYP2C19 gene. The vari ant, CYP2C19/\*2, appears to affect people's ability

to activate the drug, which is designed to prevent platelets from clumping together and causing blood clots that may lead to heart attacks and strokes. Approximately one-third of the U.S. population carries at least one copy of this abnormal CYP2C19 variant.

"People with this gene variant who take Plavix after undergoing angioplasty and having a stent implanted have more than twice the risk of dying or having a serious cardiac event resulting from a blocked artery than those on the medication who don't have the mutation," Dr. Shuldiner said. In March, the U.S. Food and Drug Administration issued a warning to physicians and patients about the reduced effectiveness of the drug in patients with the CYP2C19/\*2 variant.

The new study will look at whether therapy geared to an individual's genetic makeup, or genotype, is more effective than the current standard of care. Patients who have the CYP2C19/\*2 gene variant will receive a new anti-clotting medication called prasugrel, which is not as dependent on CYP2C19 for activation. Those who have the normal CYP2C19 gene, called CYP2C19/\*1, will receive the standard dose of 75 mg of clopidogrel, and a third group will receive the standard dose of clopidogrel regardless of their genetic makeup. "We want to learn whether treatment based on

the CYP2C19 gene variant is more effective than standard treatment with clopidogrel in preventing future cardiac events. We believe that a genebased approach is superior, but a randomized clinical trial will provide hard evidence. We also hope to identify common and rare variants in other genes that may play a role in people's response to clopidogrel therapy," commented Dr. Shuldiner.

In the earlier study, University of Maryland researchers identified the gene variant by studying the DNA of members of the Old Order Amish

> community in Lancaster County, Pennsylvania. They confirmed their findings by studying a group of 227 cardiovascular patients at Baltimore's Sinai Hospital who received Plavix after having stents implanted to open blocked coronary arteries.

The funding for the new study comes from the NIH's National Heart, Lung and Blood Institute

(NHLBI). The NIH announced that it is expanding a nationwide group of scientists focused on understanding how genes affect a person's response to medicines. The expanded Pharmacogenomics Research Network (PGRN) consists of 14 research groups and seven resource networks. Dr. Shuldiner heads one of the research groups. NIH expects to spend an estimated \$161.3 million on the grants over the next five years.

In the new study, Dr. Shuldiner and his team will work with researchers at other institutions, including Johns Hopkins University, Sinai Hospital, Geisinger Health System in Danville, Pennsylvania, and Christiana Care Health Services in Wilmington, Delaware. The study will be called the Pharmacogenomics of Anti-Platelet Intervention-2 (PAPI-2) Study.

The project also will bring together an international team of investigators to search for other genes responsible for clopidogrel response using a method called a genome-wide association study (GWAS). GWAS refers to a sophisticated technique to rapidly scan hundreds of thousands of genetic markers. Dr. Shuldiner's research group will use this technique and another genome-sequencing approach to look at DNA samples from more than 20,000 patients treated with clopidogrel to search for common and rare variants that also play a role in clopidogrel response.



Alan R Shuldiner MD



# Da Vinci Robot Used to Remove Cancers of the Throat, Tongue and Tonsils

#### Technique enables doctors to treat hard-to-reach tumors in a minimally invasive way

ead-and-neck surgeons at the University of Maryland are now using the da Vinci surgical robot to remove hard-to-reach cancers of the throat, tongue and tonsils in a minimally invasive way. It is called transoral robotic surgery, and doctors are able to access the tumor site through the mouth without having to make a large incision. They say the technique significantly reduces patients' recovery time, helps to preserve their ability to speak and swallow normally and produces fewer complications.

"Using the da Vinci robot gives us unprecedented access to the back of the throat with really good 3-D visualization—it's like you're standing on the patient's tongue. We're now able to perform intricate surgeries in a very small space with great dexterity," said Jeffrey S. Wolf, MD, associate professor, Department of Otorhinolaryngology-Head and Neck Surgery.

The da Vinci surgical robot system is commonly used to treat gynecologic and prostate cancers as well as to perform heart bypass and other cardiac surgeries. The U.S. Food and Drug Administration recently approved its use to treat certain head-and-neck cancers. Dr. Wolf and Duane A. Sewell, MD, associate professor,

Department of Otorhinolaryngology-Head and Neck Surgery, who was instrumental in starting the transoral robotic surgery program, have performed four of these robotic surgeries for head-and-neck cancer since June.

According to Dr. Wolf, patients who may benefit the most from robotic surgery are those with cancers at the base of the tongue or of the soft palate and tonsils who experience a recurrence after being treated with chemotherapy and radiation. He says the procedure also may be used for early-stage primary cancers that have not spread.

In a traditional "open" surgery, doctors would make a large incision and split the patient's jaw, which would require performing a tracheotomy to alleviate breathing problems caused by swelling and may also require extensive reconstruction. Typically, the patient would remain in the hospital for more than a week. With the robotic surgery, surgeons don't need

to cut bones for access, and patients can leave the hospital in two to three days. "Patients get out of the hospital much sooner, and preliminary data indicate that they swallow better and have fewer problems with speech after surgery," Dr. Wolf said. After traditional surgery, it can take months for patients to regain their ability to swallow normally.

During the procedure, the surgeon operates the robot while sitting at a console in the operating room. Binocular cameras provide three-dimensional images magnified 10 times greater than what can be seen by the human eye, and the surgeon has great flexibility to move the robotic arms in different directions with sophisticated hand controls. The arms have tiny tools attached to them, including a laser and cauterizing device that can be used to remove the cancer.

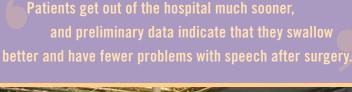
Cancers of the base of the tongue, throat and tonsils (the oropharynx) are often difficult to treat with surgery because of their location. Many of these cancers are caused by infection with the human papillomavirus (HPV), a sexually transmitted virus. Other risk factors are smoking and chewing tobacco and heavy alcohol use. The most common symptoms are pain, a lump in the neck and difficulty in swallowing. Patients are treated with chemotherapy, radiation and surgery, or a

combination of these therapies.

"We know that people whose cancers are HPV-positive respond much better to chemotherapy and radiation than those who are HPV-negative," Dr. Wolf noted, adding

that the exact reason for this is unclear. "About 20 percent of patients with advanced disease who are HPV-positive have a recurrence or metastasis of their cancer while the recurrence rate for advanced non-HPV-related cancers is much higher—60 to 80 percent."

Dr. Wolf says he doesn't expect surgery with the da Vinci robot to replace chemotherapy and radiation as a first-line treatment option for many patients with advanced disease, but it is an excellent option for some. "It's revolutionary in that it gives us unprecedented access to the oropharanx," he explained. Dr. Wolf adds that he and his colleagues plan to use the da Vinci robot to treat thyroid cancer in the near future.





Duane Sewell, MD, and Jeffrey Wolf, MD, with an example of the da Vinci robot they use in surgery.

# School of Medicine Members of the UMB Faculty Senate

The UMB Faculty Senate was established to provide an effective and independent voice for faculty in determining University and University System of Maryland goals, recommendations and policies. The senate is part of a partnership of governance, shared responsibilities and cooperation among the faculty, admin-

istration, regents, students and members of the campus and university system communities. Meetings are usually held on the third Wednesday of each month at noon in the Health Sciences and Human Services Library. Meetings are open to the faculty and by invitation to others.

#### Congratulations to the following School of Medicine faculty who are serving and giving of their time:

Name	Title	Department	Year Term Will Expire
Marcelo Cardarelli, MD	Assistant Professor	Surgery and Pediatrics	President, 2011
Kevin Ferentz, MD	Associate Professor	Family & Community Medicine	2011
Michael Mulligan, MD	Professor	Diagnostic Radiology & Nuclear Medicine	2011
Richard Zhao, PhD	Associate Professor	Pathology and Microbiology & Immunology	2011
Whitney Burrows, MD	Assistant Professor	Surgery	2012
Vadim Morozov, MD	Assistant Professor	Obstetrics, Gynecology & Reproductive Sciences	2012
Steven Gambert, MD, AGSF, MACP	Professor	Medicine	2013
Nelson Goldberg, MD	Professor	Surgery	2013
Stephen Kavic, MD	Assistant Professor	Surgery	2013
Soren Snitker, MD, PhD	Associate Professor	Medicine	2013
Barney Stern, MD	Professor	Neurology and Emergency Medicine	2013
L. Kyle Walker, MD	Assistant Professor	Pediatrics	2013

#### Doc Stars Kick Off the Stress of Medical School

The first year of medical school is a difficult one, so Kate Sharoky, MSII, thought it might be a fun bonding experience to form a kickball team with her classmates. She was inspired by a group from the class before hers, who had taken up the sport during their first year. Last winter, she sent out invitations to everyone in the Class of 2013, and 31 of them signed on for the first Doc Stars team, which started playing in March.

"We play in the Kickball League of Baltimore on Wednesday nights at Latrobe Park in Locust Point," said Kate. "The spring season started in March and ended on May 19, which was right before our last neuro exam. We were three and three going into that last game, and we needed to win the game to go to the playoffs. Unfortunately we lost, but it was one of our most competitive games, and everyone who played that day really gave it their all!"

The Doc Stars team that will play this fall is a little smaller, but they hope to have a better record during this season, which started in mid-September. "Doc Stars are going strong into the fall season," declared Kate. "I'm the captain, and Katy Still, another second-year student, is the co-captain. Our shirts are red again, like last spring, for Maryland. It's mostly current second-year students who played last spring, plus a few non-med school friends who were interested in playing and have a more predictable schedule than we have. I think we'll make it far this season."

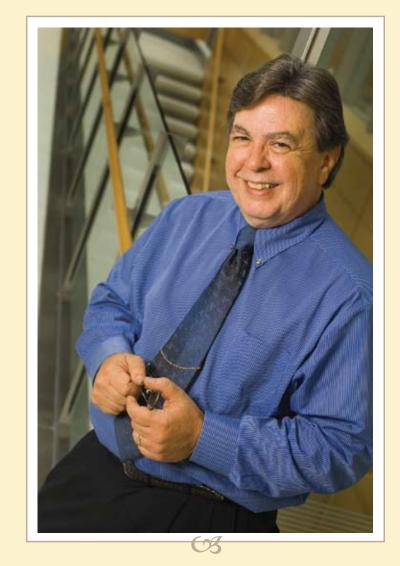
Sports are an outlet for many in the Class of 2013, who have also formed an intramural basketball team and two softball teams during their time at the School of Medicine. "I guess we just really like organized sports!" commented Kate.

And as Kate had hoped, the team proved to be a great morale booster for her and her classmates. "The games were a stress relief," she said. "It was nice to run around outside for a bit and goof around after a long day in the library. Katy Still and I often would bring our dogs to the games to help cheer, and other players would bring friends, significant others, even parents. It was a very relaxed atmosphere."

Want to play? Learn more about the Kickball League of Baltimore at http://www.kickball-baltimore.com/. 🕋

The Doc Stars kickball team last spring after their first game —and first win!





A memorial service and reception will be held on Wednesday, October 6, 2010,

will be held on Wednesday, October 6, 2010, at 4:30 pm at Westminster Hall to honor

Dr. Larry Anderson, professor of anatomy & neurobiology, who died unexpectedly this past May.

Please join us to celebrate the life of Dr. Anderson and his many contributions to the School of Medicine.

# **SOMnews**

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### Mark Your Calendars! 🖘

#### Founders Week Schedule of Events 11/9/10 — 11/12/10

#### Date

#### Tuesday, November 9

#### Time

- ullet 9:30 a.m. Academic Procession Lineup, Hippodrome Theater
- 10:00 a.m. The Inauguration Ceremony of Jay A. Perman, MD, as the 6th President of UMB, Hippodrome Theatre; Reception immediately following ceremony
- 6:30 p.m. Inaugural/Founders Week Gala, Hilton Baltimore

@ http://founders.umaryland.edu/2010/index.htm. For more information, please email events@umaryland.edu.

#### Wednesday, November 10

- 4:00 p.m. Researcher of the Year Lecture, Davidge Hall Bartley Griffith, MD Reception to follow in the National Museum of Dentistry
- Thursday, November 11
- $\blacksquare$  Noon 1:30 p.m. Student Cookout, SMC Campus Center/School of Nursing Lawn

■ 11:30 a.m. — 1:00 p.m. — Staff Lunch, Westminster Hall (2 time slots available)

- 4:00 p.m. Entrepreneur of the Year Presentation and Reception, BioPark Building II **Cedric Yu, DSc**
- Friday, November 12
- \*PLEASE NOTE: Tickets are required for all events and can be ordered on the UMB Founders Week and Inauguration Web sites

