

# panorama

UNIVERSITY OF MISSOURI-KANSAS CITY SCHOOL OF MEDICINE » FALL 2013



BIOINFORMATICS:  
UPLOADING  
THE HUMAN  
ELEMENT

**Features**

**10 Primary Care**  
by Kelly Edwards  
A growing number of physicians and patients alike are finding the Patient Center Medical Home model of delivering health care to their liking.

**16 Bioinformatics**  
by Hannah Lemon  
Technology and medicine merge as health care's new frontier. Evolving throughout the past two decades, bioinformatics continues to multiply the capabilities and benefits of research.

**Departments**

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**ON THE COVER:** Bioinformatics puts billions of bits of data at researchers' fingertips, enabling improvements in patient care and population health. Illustration by Dave Eames.



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16

**TRANSLATIONAL RESEARCH** is at the crux of improving patient care. Our alumni, faculty and students are leading the way in innovative, patient-oriented research. The School's Department of Biomedical and Health Informatics is training students from a variety of backgrounds to conduct research using the new tools and insights available as a result of advancements in bioinformatics. Whether it's through clinical research, looking at and building computational aspects of the field or through the study of the human genome, the School of Medicine's own are advancing the health of communities around the globe with their cutting-edge research.

In collaboration with the UMKC School of Graduate Studies, the School of Medicine will offer a new interdisciplinary Ph.D. program beginning in January. This program allows students to integrate clinical research skills into a doctoral program of study.

We will also welcome the first class of the Physician Assistant Program in January. This program addresses the significant local and national shortages of health care providers.

We often hear of the need for health care providers and primary care physicians, but an aspect of this that is not as frequently discussed is the importance of primary care physicians' level of job satisfaction. Alumni such as Alumni Association President **Raymond Cattaneo, M.D., '03**, and **Sara Gardner, M.D., '02**, are working with the Patient-Centered Medical Home model, a practice growing in popularity as a more effective way to offer primary care. Using this team-based approach, primary care physicians are able to focus on practicing medicine while the rest of the health care team of nurses, dieticians, and other health care providers attend to the other needs of the patient.

It is exciting to watch our graduates make significant contributions to medicine. Page 12 features a list of our faculty and alumni who were included in the 2013 Best Doctors-Kansas City list.

We are wrapping up a successful fall semester at the School of Medicine and are looking forward to the exciting times to come. I wish you all a happy holiday season and beginning of a new year.

Betty M. Drees, M.D., F.A.C.P.  
Dean and Professor of Medicine



**panorama**

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BETTY M. DREES, M.D., F.A.C.P.  
**EXECUTIVE EDITORS**  
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## Capsule

### A Moment in School of Medicine History



**Christy (Hume) Takemoto, M.D., '03**, left, and **Megan (Hoshor) Sneed, M.D., '04**, receive their coats at the School of Medicine's first White Coat Ceremony in 1997. Originally, the coats were given to Year 1 students. As of 2003, the ceremony, which symbolizes students' journey into the next phase of their training to become doctors, is celebrated by students in their third year.

## Stats

### 2013 Incoming BA/MD Class



## Off the Chart

### First PA class to start in January

Students are lining up to be admitted to Kansas City's only Physician Assistant Program at UMKC in January.

"The new PA program at the UMKC School of Medicine offers a great opportunity for people who want to stay in the Kansas City area and pursue a career in this growing, high-demand health care profession," says Kathy Ervie, director of the PA program and a practicing PA in the Kansas City area. "I didn't have this type of opportunity and had to go out of state to receive my physician assistant training."

The closest accredited PA programs are Wichita State University in Kansas and Missouri State University in Springfield, Mo. Neither is administered through a school of medicine, where future physicians and PAs learn side by side. The training model at the School of Medicine, with **Beverly Graves, M.D., F.A.A.P., '83**, as medical director, mirrors the team-based approach of PAs working under the supervision of a physician to improve coordination of care and patient outcomes.

Because of their general medical background, PAs have flexibility in the types of medicine they can practice. PAs perform physical examinations and procedures, diagnose and treat illnesses, order and interpret lab tests, assist in surgery, provide patient education and counseling and make rounds in hospitals and nursing homes. All 50 states and the District of Columbia allow PAs to practice and prescribe medicine.

The U.S. Bureau of Labor Statistics predicts PAs will be the second-fastest-growing profession in the next decade.

**Steve Buie, M.D., '83**, and **Jon Bird, M.D., '83**, will be preceptors for family medicine, and **Susan Storm, M.D., '84**, for pediatrics. The program welcomes new preceptors for clinical rotations.

For more information, visit [www.med.umkc.edu/mmspa](http://www.med.umkc.edu/mmspa) or call 816-235-1870.



Shui Ye, M.D., Ph.D., works with Katie Shortt, bioinformatics student and part-time employee at his lab in Children's Mercy Hospital. Ye and his team participate in multiple translational research projects studying human genetics.

### Ye's research featured in first scientific video journal

Scientific and technological advancements collide in the new Journal of Visualized Experiments (JoVE) - the first scientific video journal. Its spring issue featured the research project of Shui Ye, M.D., Ph.D., and his team of researchers.

Ye said this new type of journal will benefit researchers around the world, and he was excited his team's research was included.

"We were so glad they picked us up," Ye said. "It's great to be featured in the first scientific video journal. You can watch the video to learn the steps. It's very valuable."

Shui Ye, M.D., Ph.D., is a professor of biomedical and health informatics and pediatrics at the School of Medicine, William R. Brown/Missouri Endowed Chair in Medical Genetics and Molecular Medicine, and section chief of Medical Genetics Research and director in the Core

of Personalized Genomics at Children's Mercy Hospitals and Clinics (CMH). For Ye's team's project, "RNA-seq Analysis of Transcriptomes in Thrombin-treated and Control Human Pulmonary Microvascular Endothelial Cells," they presented a protocol to apply RNA sequencing to profile the full collection of expressed messenger RNA in a cell - in human pulmonary microvascular endothelial cells, which line the inside of cavities in blood vessels, with or without thrombin treatment. Thrombin is an enzyme that aids in the clotting of blood but it also plays a significant role in inflammatory diseases such as vascular inflammation.

The protocol is based on their recently published study, "RNA-seq Reveals Novel Transcriptome of Genes and Their Isoforms in Human Pulmonary Microvascular Endothelial Cells Treated with Thrombin," in which they successfully performed the first

complete analysis using RNA sequencing of all expressed messenger RNA in human pulmonary microvascular endothelial cells treated with thrombin. It yielded unprecedented resources for future experiments to learn about molecular mechanisms underlying the failure of the layer of cells that lines the inner surface of blood vessels in the development of inflammatory conditions such as acute lung injury, cancer, coronary heart disease and diabetes. The study also provided potential new leads for therapeutic targets to those diseases.

Visit [www.jove.com](http://www.jove.com) to see Ye's project and other studies of interest to the life science research community. The peer-reviewed and PubMed-indexed video journal allows for a level of transparency and reproducibility of experiments that was not available before with print journals. Its mission is to increase the productivity of scientific research.



Spertus

### American Heart Association honors Spertus with prestigious award for outstanding achievement

Cardiovascular patients around the world are being treated more effectively, have decreased complications after procedures, and are able to have their concerns heard by medical professionals because of the research of John Spertus, M.D., M.P.H., F.A.C.C., professor of medicine and Daniel Lauer, M.D., Missouri Endowed Chair in Metabolism and Vascular Disease Research.

Spertus has been honored by the American Heart Association's Council

on Quality of Care and Outcomes Research as the recipient of the 2013 Distinguished Achievement Award for his work in cardiovascular treatment and outcomes research. He serves as the medical director of outcomes research at the Saint Luke's Mid America Heart Institute, focusing on methods to assess patient health outcomes, health care quality and the use of information technology in medical decision making to provide safer, more cost-effective and patient-centered care.

"Dr. Spertus is extremely deserving of this recognition because of his groundbreaking work in cardiovascular

outcomes research, health status assessment and quality improvement," said David J. Cohen, M.D., professor of medicine, Missouri Endowed Chair in Cardiovascular Clinical Research, and director of Cardiovascular Research for Saint Luke's Mid America Heart Institute. "His contributions and leadership in cardiovascular research have had a profound effect on the practice of medicine, not only at Saint Luke's, but around the world."

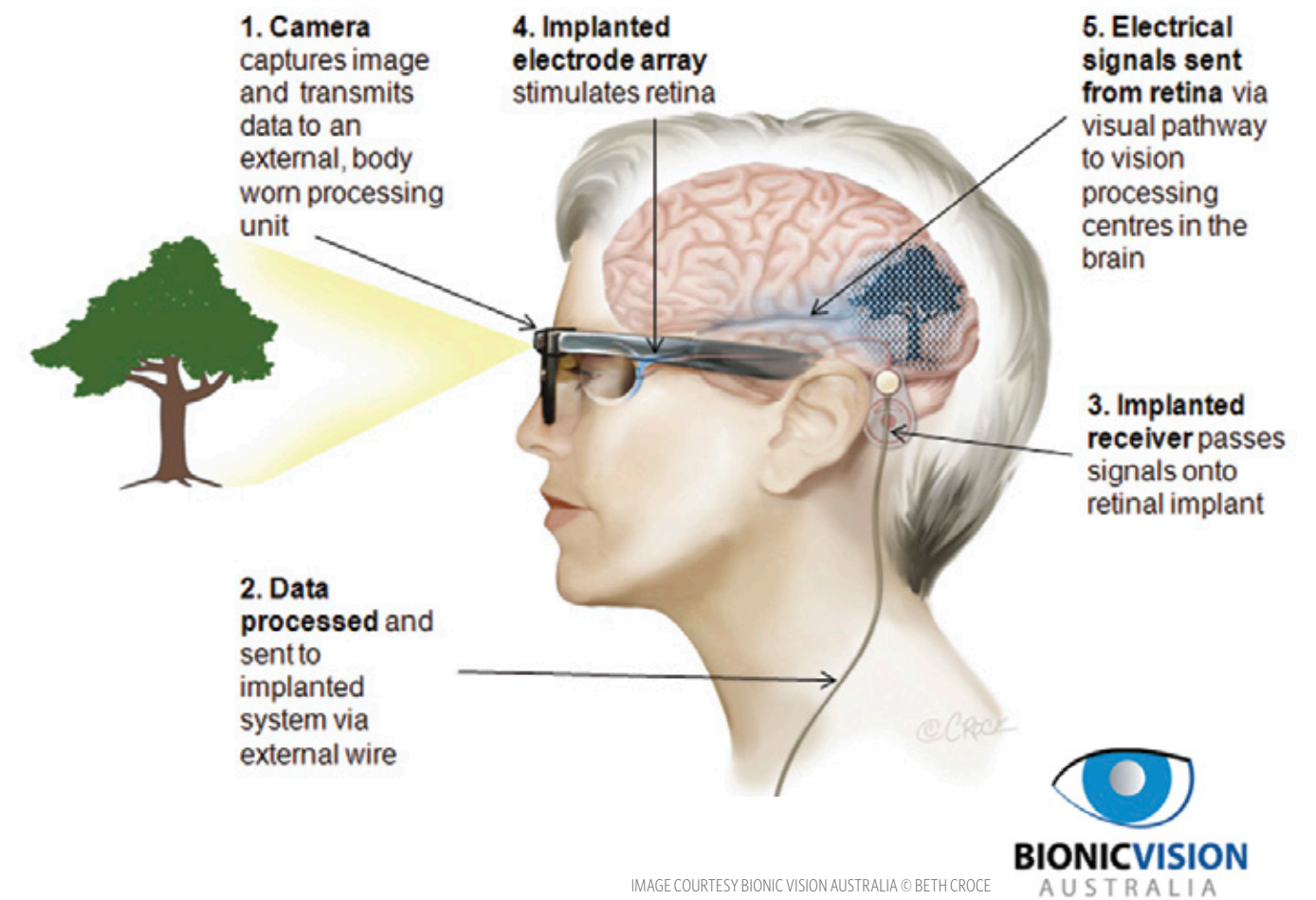
Spertus' translational research has most recently been expanded to focus on the significance of genetic and other biomarkers on cardiovascular outcomes.



Year 6 Gold Humanism Honor Society students Neal Akhave, Claire Hickey and Arfaa Ali spread some cheer on the Country Club Plaza on Sept. 25 as part the group's Kindness is Contagious Week.

## Trendlines

### Technology, innovations in the medical field



### Bionic Vision: restoring sight to the blind

Giving vision to the blind has been a goal for centuries. Now, thanks to researchers around the world in the fields of biology, engineering and technology, this lofty goal may be realized in the near future. Groups worldwide are working to restore people's vision by electrically stimulating either the retina, optic nerve or occipital cortex.

"Bionic Eye" implants, which involve the insertion of electrodes into the eyes of those with damaged retinas, hit the U.S. market this year. The FDA has approved the use of these implants for

those suffering from retinitis pigmentosa, a genetic eye condition that leads to incurable blindness. Second Sight Medical Products has designed the device that includes a pair of sunglasses that feature a tiny video camera just above the nose. This camera sends its images to a visual processing unit on the patient's belt, which converts the image into a 60-pixel black and white picture that it sends back to the glasses. The image is then wirelessly transported to the 60-electrode arrays implanted into the retinas.

Another group, Bionic Vision Australia, is working with a similar process, and hopes to help patients with age-related macular degeneration restore their site, as well. Trials of their high-acuity device have enabled totally blind patients to see lines, numbers and letters.

To learn more about Second Sight Medical Products, visit <http://2-sight.eu/en/home-en>. To learn more about Bionic Vision Australia, visit <http://bionicvision.org.au/eye>.

## School of Medicine faculty, alumni make list of Best Doctors-Kansas City 2013

School of Medicine faculty and alumni are well represented on this year's Best Doctors-Kansas City list. Doctors on the list, an excerpt of the Best Doctors in America 2013 database, are selected by their professional peers. Names in bold denote alumni; \*denotes both alumni and School of Medicine faculty

### Allergy and Immunology

Jay M. Portnoy, M.D., Children's Mercy Clinic on Broadway

Lanny J. Rossenwasser, M.D., Children's Mercy Clinic on Broadway

### Cardiovascular Disease

Timothy M. Bateman, M.D., Saint Luke's Cardiovascular Consultants

Robert Glueck, M.D., Kansas City Heart Group

James H. O'Keefe, M.D., Saint Luke's Cardiovascular Consultants

Brian Ramza, M.D., Saint Luke's Cardiovascular Consultants

Barry D. Rutherford, M.D., Saint Luke's Cardiovascular Consultants

Ibrahim M. Saed, M.D., Saint Luke's Cardiovascular Consultants

**Tracy Stevens\*, M.D., '90**, Saint Luke's Cardiovascular Consultants

**Robert T. Tung, M.D., '85**, Kansas City Heart Group

### Critical Care Medicine

Charles J. Brook, M.D., Kansas City Pulmonology Practice

Vincent M. Lem, M.D., Midwest Pulmonary Consultants

Mike J. Waxman, M.D., Kansas City Pulmonology Practice

### Dermatology

John Hall, M.D., Saint Luke's Hospital

### Endocrinology and Metabolism

Betty M. Drees, M.D., Truman Medical Center Hospital Hill

**Leland Graves, M.D., '83**, University of Kansas Hospital

Mitchell S. Hamburg, M.D., Saint Luke's Endocrinology and Diabetes Center



Richard Hellman, M.D., North Kansas City Hospital

### Gastroenterology

Mark J. Allen, M.D., Mid-America Gastrointestinal Consultants

John H. Helzberg, M.D., Saint Luke's Transplant Specialists

Sreenivasa S. Jonnalagadda, M.D., Saint Luke's GI Specialists

Frederic Gary Regenstien, M.D., Saint Luke's Transplant Specialists

### Hepatology

**Bradley L. Freilich, M.D., '88**, Kansas City Gastroenterology and Hepatology

### Internal Medicine

Richard Burtin, M.D., Truman Medical Center Hospital Hill

Samuel Dietrich Hoeper, Jr., M.D., Kansas City Internal Medicine

Rick Lustig, M.D., Saint Luke's Multispecialty Clinic

James A. Maliszewski, M.D., Kansas City Internal Medicine

John J. May, M.D., Saint Luke's Internal Medicine

Robert E. Neibert, M.D., Saint Luke's Internal Medicine

J. Chis Perryman, M.D., Saint Luke's Internal Medicine

Stephen C. Salanski, M.D., Goppert-Trinity Family Care Clinic

**Anne Kathleen Sly\*, M.D., '78**, Goppert-Trinity Family Care Clinic

### Internal Medicine/Hospital Medicine

Sally Ling, M.D., Saint Luke's Hospitalist Program

**Dave Wooldridge\*, M.D., '94**, Saint Luke's Hospitalist Program

### Medical Genetics

Laurie D. Smith, M.D., Children's Mercy Hospitals and Clinics

### Medical Oncology and Hematology

Robert J. Belt, M.D., Saint Luke's Cancer Institute

Verda J. Hunter-Hicks, M.D., Resource Center for Gynecological Oncology

Kelly Pendergrass, M.D., Kansas City Cancer Center

**Stephen R. Smalley, M.D., '79**, Olathe Radiation and Oncology Center

### Nephrology

**Robert E. Golder\*, M.D., '91**, Midwest Nephrology Consultants

Jim I. Mertz, M.D., Saint Luke's Hospital

Richard Scurluck Muther, M.D., Kidney Associates of Kansas City

### Neurological Surgery

Paul Joseph Camarata, M.D., University of Kansas Hospital

### Neurology

**Richard J. Barohn, M.D., '80**, University of Kansas Medical Center

**Richard Dubinsky, M.D., '82**, University of Kansas Medical Center

Marilyn Rymer, M.D., Saint Luke's Neurological Consultants

### Obstetrics and Gynecology

Verda J. Hunter-Hicks, M.D., Resource Center for Gynecologic Oncology

Frederick Lintecum, M.D., Saint Luke's Hospital

Tom Sullivan, M.D., Truman Medical Center Hospital Hill

John Yeast, M.D., Saint Luke's Women's Care Clinic

### Orthopaedic Surgery

Timothy Badwey, M.D., Dickson-Diveley Midwest Orthopaedic Clinic

Howard Rosenthal, M.D., Mid-America Sarcoma Institute

### Otolaryngology

Douglas Girod, M.D., University of Kansas Hospital/Truman Medical Center Hospital Hill

Terance Tsue, M.D., KUMC

David Zwick, M.D., Children's Mercy Hospitals and Clinics

### Pediatric Allergy and Immunology

Chitra Dinakar, M.B.B.S., Children's Mercy Clinics on Broadway

Paul Dowling, M.D., Children's Mercy Hospitals and Clinics

Jay Portnoy, M.D., Children's Mercy Clinics on Broadway

### Pediatric Cardiac Surgery

James O'Brien, M.D., Children's Mercy Hospitals and Clinics

### Pediatric Cardiology

William Drake III, M.D., Children's Mercy Hospitals and Clinics

Mark Gelatt, M.D., Children's Mercy Hospitals and Clinics

Girish Shirali, M.D., Children's Mercy Hospitals and Clinics

### Pediatric Clinical Genetics

Holly Ardinger, M.D., Children's Mercy Hospitals and Clinics

### Pediatric Critical Care

Geoffrey Allen, M.D., Children's Mercy Hospitals and Clinics

Erica Molitor-Kirsch, M.D., Children's Mercy Hospitals and Clinics

John Sommerauer, M.D., Children's Mercy Hospitals and Clinics

Kelly Tieves, D.O., Children's Mercy Hospitals and Clinics

### Pediatric Dermatology

Kimberli Horii, M.D., Children's Mercy Hospitals and Clinics

**Amy Jo Nopper, M.D., '90**, Children's Mercy Hospitals and Clinics\*

### Pediatric Emergency Medicine

Greg Conners, M.D., Children's Mercy Hospitals and Clinics

Denise Dowd, M.D., Children's Mercy Hospitals and Clinics

Laura Fitzmaurice, M.D., Children's Mercy Hospitals and Clinics

Thomas Tryon, M.D., Children's Mercy Northland

### Pediatric Endocrinology

Jill Jacobson, M.D., Children's Mercy Clinics on Broadway

Wayne Moore, M.D., Children's Mercy Clinics on Broadway

### Pediatric Gastroenterology

James Daniel, M.D., Children's Mercy Hospitals and Clinics

Craig Friesen, M.D., Children's Mercy Hospitals and Clinics

Joel Lim, M.D., Children's Mercy Hospitals and Clinics

Charles Roberts, M.D., Children's Mercy Hospitals and Clinics

### Pediatric Hematology-Oncology

Shannon Carpenter, M.D., Children's Mercy Hospitals and Clinics

Jignesh Dalal, M.D., Children's Mercy Hospitals and Clinics

Alan Gamis, M.D., Children's Mercy Hospitals and Clinics

Maxine Hetherington, M.D., Children's Mercy Hospitals and Clinics

Karen Lewing, M.D., Children's Mercy Hospitals and Clinics

Brian Wicklund, M.D., Children's Mercy Hospitals and Clinics

Gerald Woods, M.D., Children's Mercy Hospitals and Clinics

**Pediatric Infectious Disease**

Denise Bratcher, D.O., Children's Mercy Hospitals and Clinics

Christopher Harrison, M.D., Children's Mercy Hospitals and Clinics

**Mary Anne Jackson\*, M.D., '78**, Children's Mercy Hospitals and Clinics

Jason Newland, M.D., Children's Mercy Hospitals and Clinics

Douglas Swanson, M.D., Children's Mercy Hospitals and Clinics

**Pediatric Medical Genetics**

Holly Ardinger, M.D., Children's Mercy Hospitals and Clinics

**Pediatric Nephrology**

Uri Alon, M.D., Children's Mercy Hospitals and Clinics

Douglas Blowey, M.D., Children's Mercy Hospitals and Clinics

Bradley Warady, M.D., Children's Mercy Hospitals and Clinics

**Pediatric Ophthalmology**

Scott Olitsky, M.D., Children's Mercy Clinics on Broadway

**Pediatric Orthopaedic Surgery**

Richard Schwend, M.D., Children's Mercy Hospitals and Clinics

**Pediatric Otolaryngology**

Pamela Nicklaus, M.D., Children's Mercy Hospitals and Clinics

Robert Weatherly, M.D., Children's Mercy Hospitals and Clinics

**Neonatology Unit**

Brian S. Carter, M.D., Children's Mercy Hospital and Clinics

**Pediatric Physical Medicine and Rehab**

Ann Modrcin, M.D., Children's Mercy Hospital and Clinics

Robert J. Rinaldi, M.D., Children's Mercy Hospital and Clinics

**Pediatric Plastic Surgery**

Jeffrey A. Goldstein, M.D., Children's Mercy Hospital and Clinics

**Pediatric Pulmonology**

Robert Cy Beckerman, M.D., Children's Mercy Hospital and Clinics

Philip Black, M.D., Children's Mercy Hospital and Clinics

**Terrence Carver\*, M.D., '90**, Children's Mercy Hospital and Clinics

Hugo Escobar, M.D., Children's Mercy Hospital and Clinics

Jane B. Taylor, M.D., Children's Mercy Hospital and Clinics

**Pediatric Rheumatology**

Mara Becker, M.D., Children's Mercy Hospital and Clinics

**Pediatric Sleep Medicine**

Robert Cy Beckerman, M.D., Children's Mercy Hospital and Clinics

**Pediatric Specialist/ Adolescent and Young Adult Medicine**

Daryl A. Lynch, M.D., Children's Mercy Hospital and Clinics

**Pediatric Specialist/ Neonatal-Perinatal Medicine**

John V. Anderson, M.D., Saint Luke's Hospital

Brian S. Carter, M.D., Children's Mercy Hospital and Clinics

Linda Gratny, M.D., Children's Mercy Hospital and Clinics

Howard W. Kilbride, M.D., Children's Mercy Hospital and Clinics

Winston Manimtim, M.D., Children's Mercy Hospital and Clinics

Steven L. Olsen, M.D., Children's Mercy Hospital and Clinics

Eugenia K. Pallotto, M.D., Children's Mercy Hospital and Clinics

William Truog, M.D., Children's Mercy Hospital and Clinics

**Pediatric Specialist/ Neurology, General**

Sergio A. Facchini, M.D., Children's Mercy Hospital and Clinics

**Pediatric Surgery**

Richard J. Hendrickson, M.D., Children's Mercy Hospital and Clinics

George W. Holcomb, III, M.D., Children's Mercy Hospital and Clinics

Shawn St. Peter, M.D., Children's Mercy Hospital and Clinics

**Pediatric Urology**

John Patrick Murphy, M.D., Children's Mercy South

**Pediatrics/General**

John D. Cowden, M.D., Children's Mercy Clinics on Broadway

Harvey M. Grossman, M.D., Pediatric Care Specialists

**Sarah E. Donelli Hampl\*, M.D., '92**, Children's Mercy Clinics on Broadway

Amber M. Hoffman, M.D., Children's Mercy Hospital and Clinics

Keith Mann, M.D., Children's Mercy Clinics on Broadway

Bryan C. Nelson, M.D., Johnson County Pediatrics

**Lien Pham Russell\*, M.D., '98**, Children's Mercy Clinics on Broadway

Jeffrey A. Waters, M.D., Pediatric Associates on the Plaza

Kenneth Wible, M.D., Children's Mercy Clinics on Broadway

**Pediatrics/Hospital Medicine**

Brian M. Pate, M.D., Children's Mercy Hospitals and Clinics

Mary Ann Queen, M.D., Children's Mercy Hospitals and Clinics

**Plastic Surgery**

Jeffrey A. Goldstein, M.D., Children's Mercy Hospital and Clinics

**Pulmonary Medicine**

Charles J. Brook, M.D., Kansas City Pulmonology Practice

Vincent M. Lem, M.D., Midwest Pulmonary Consultants

**Radiation Oncology**

Scott C. Cozad, M.D., Liberty Radiation Oncology

**Vickie Massey\*, M.D., '85**, University of Kansas Cancer Center

**Stephen R. Smalley, M.D., '79**, Olathe Radiation and Oncology Center

**Radiology**

Melissa L. Rosado de Christenson, M.D., Saint Luke's Hospital

**Rheumatology**

Kent A. Huston, M.D., Center for Rheumatic Disease

Kent Kwasind Huston, M.D., Center for Rheumatic Disease

Ann E. Warner, M.D., Center for Rheumatic Disease

**Sleep Medicine**

Ann M. Romaker, M.D., Romaker and Associates

**Surgery**

Daniel Murillo, M.D., Research Medical Center

Glenn Talbot, M.D., Truman Medical Center Hospital Hill

**Surgical Oncology**

Howard G. Rosenthal, M.D., Mid-America Sarcoma Institute

**John William Shook\*, M.D., '84**, Saint Luke's Surgical Specialists

**Thoracic Surgery**

A. Michael Borkon, M.D., Mid-America Heart and Lung Surgeons

**Urology**

Mark S. Austenfeld, M.D., Kansas City Urology Care

*Information for this section was provided by our affiliate hospitals.*

**Truman Medical Center Lakewood**

Earlier this year, TMC Lakewood and Children's Mercy Hospitals and Clinics expanded a long-term partnership with the opening of a Level II Neonatal Intensive Care Unit (NICU) at the TMC Lakewood Family Birthplace.

The TMC Lakewood Family Birthplace opened in October 2011 and was designed with two key factors in mind: the comfort and safety of the families giving birth. The family-centered birthing experience includes 19 spacious and private suites. TMC Lakewood Family Birthplace offers the services of a board

certified OB/GYN and family medicine physicians, fellowship-trained physicians and residents, nurse practitioners, registered nurses, nurse mid-wives and lactation consultants.

With the Level II NICU on site, new moms and families have the comfort of knowing that most complications can immediately be taken care of by the CMH specialists and without transfer to another facility. In the rare event that an infant is born with a condition that requires a level of care beyond Level II NICU services, the baby will be safely transported to Children's Mercy Hospital.

**Center for Behavioral Medicine**

Center for Behavioral Medicine (CBM), formerly Western Missouri Mental Health Center, is an agency for the Missouri Department of Mental Health. Located on Hospital Hill, the Center, along with Truman Medical Center, serves as the UMKC Department of Psychiatry. Students, residents and post-doctoral fellows are trained to deliver integrated physical and behavioral health care.

The Center offers intensive, specialized behavioral health treatments and services for individuals who require extended treatment after a short-term hospital stay at another inpatient setting.

**Children's Mercy Hospitals and Clinics**

Researchers at Children's Mercy's Center for Pediatric Genomic Medicine developed the first cost-effective, broad genetic screen for use in routine pediatric care. TaGSCAN (Targeted Gene Sequencing and Custom Analysis) screens for more than 750 diseases that are the result of a single-gene defect, including muscular dystrophy, cystic fibrosis, polycystic kidney disease (PKD) and hundreds of others that have been challenging to diagnose or for which no test is available. This is the first clinical test of its kind to be integrated into routine pediatric patient care of ill children.

**Kansas City VA Medical Center**

The new outpatient annex focuses on Women's Health and on the treatment of Post Traumatic Stress Disorder (PTSD). The KCVAMC is a growing health care system with focused outreach to rural Veterans, six community-based clinics, a Mobile Medical Unit and a Veterans Transportation System.

Residency training is offered in all major medical and surgical specialties and subspecialties. Associated Health Training is offered in nursing, psychology, audiology, social work, dietetics, pharmacy, chaplaincy, health care administration and optometry.

**Research Medical Center**

Research Medical Center, among the few tertiary care centers in Kansas City and a Level 1 Trauma Center, is the first hospital in the area to offer MR Elastography, providing a safer, non-invasive alternative to liver biopsy. Available in only 100 locations throughout the world, MRE is the new standard of care in assessing and identifying liver stiffness or elasticity, a condition that characterizes liver disease.

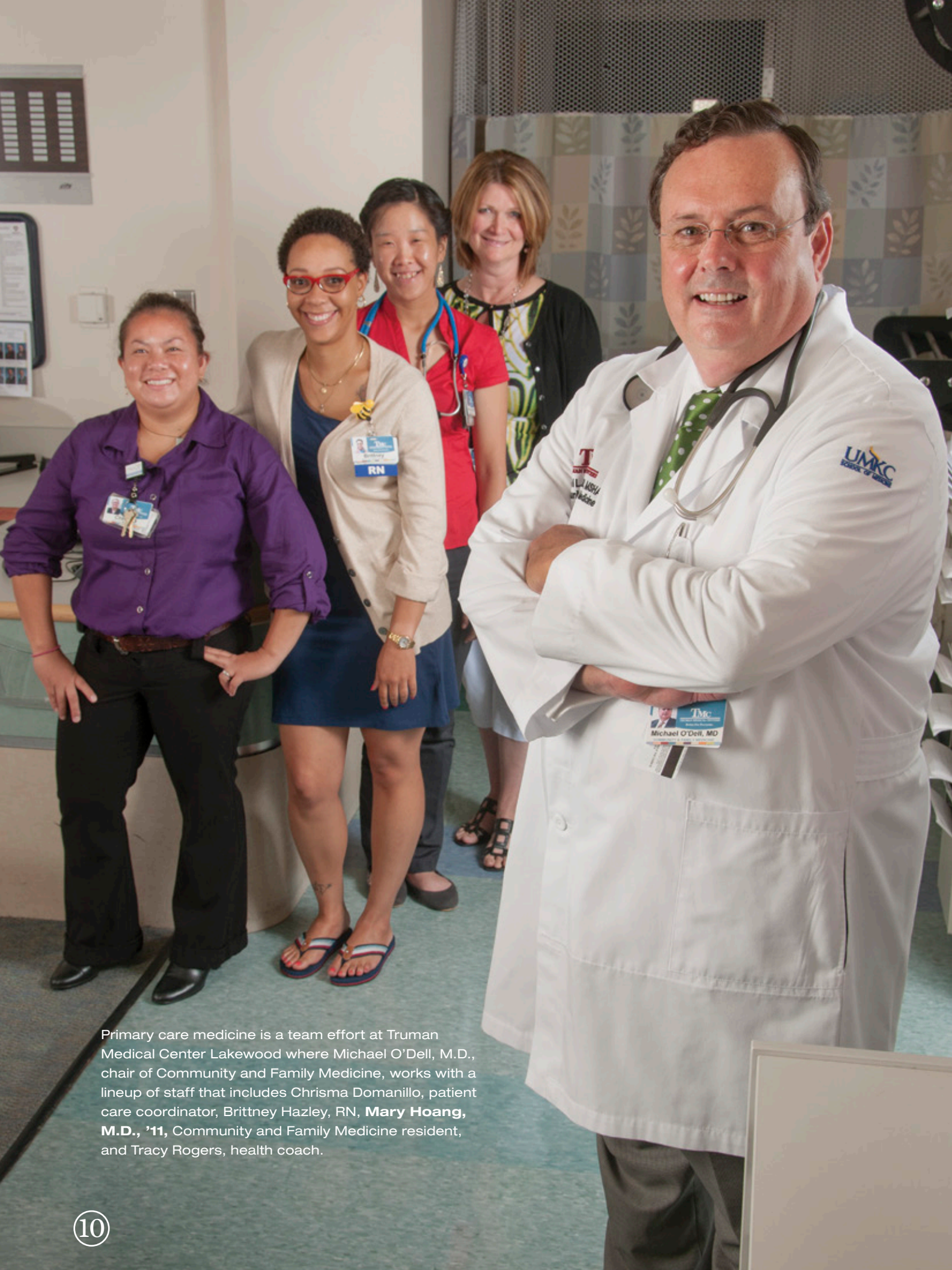
In late 2013, the first Grossman Burn Center in the Midwest will open its eight-bed facility at the hospital, offering a full range of acute and reconstructive surgical care as well as an outpatient clinic.

**Saint Luke's Hospital**

Timothy J. Pluard, M.D., is the new medical director for Saint Luke's Cancer Institute. Dr. Pluard previously was associate professor of medicine at Washington University and clinical director of the section of breast oncology at Siteman Cancer Center, a National Cancer Institute designated Comprehensive Cancer Center, at Washington University/Barnes Jewish Hospital in Saint Louis, Mo. He is board certified in internal medicine and medical oncology. He graduated from Washington University and received his fellowship training from Harvard Medical School at the Dana Farber Cancer Institute in Boston, Mass.

**Truman Medical Center Hospital Hill**

The newly expanded and relocated oncology unit, set to open in early 2014, will be called "The Richard and Annette Bloch Cancer Center at Truman Medical Centers." The \$2.3 million gift by the R.A. Bloch Cancer Foundation created the first cancer care center in Kansas City, Mo., to bear the family's name. The center will feature 10 dedicated exam rooms and one procedure room, along with 16 chemotherapy infusion rooms equipped with comfortable recliners for patients and individual TV/entertainment centers, an on-site pharmacy with specially trained oncological pharmacists, patient navigator staff education and a social worker to help address patients' ongoing medical and home-life needs.



# PRIMARY CARE: WELCOME TO THE TEAM

BY KELLY EDWARDS • PHOTOS BY ROBERT STECKMEST

**B**ERNIE ALEXANDER'S QUALITY OF LIFE IMPROVED WHEN HE TURNED TO THE UMKC SCHOOL OF MEDICINE PRIMARY CARE PHYSICIANS AT TRUMAN MEDICAL CENTER LAKEWOOD.

After 12 hospital stays for heat-related illnesses, heart problems and excessive medication, the 66-year-old Kansas City man has been in the hospital just twice since 2011. He credits the doctors and the team model of care known as the Patient-Centered Medical Home practiced at TMC Lakewood and a growing number of primary care practices across the country for his turn around.

In this growing approach to primary care medicine, patients like Alexander have a full lineup of care providers at their disposal in addition to their traditional doctor and nurse. Now a patient care coordinator calls when it's time for a checkup and follows up with the patient on how they're doing. Staff dietitians are available to discuss nutrition plans. Staff psychologists can offer advice on the adjustment to living with a chronic disease.

"When I came here, they told me, 'as professionals we're concerned about

your health but the quality of your health will also depend on your interest.' I've become more proactive with my health," Alexander said.

"For me, it's meant better health."

For the primary care physician, it's a more effective way of providing care.

"The role of the primary care physician is certainly changing in ways that are much more productive for both the physician and the patients they serve," said Michael O'Dell, chair of Community and Family Medicine at the School of Medicine. "Primary care physicians are now considered part of a team and they're leading that team."

This model sweeping the industry not only empowers team members throughout the practice to take ownership of their own growing roles, it also allows physicians to get back to their primary focus of attending to a patient's immediate medical need.

Some practices have even begun incorporating online doctoring, offering Internet portals where patients can go to schedule appointments, check on test results, even talk to their doctors by email. Proponents say all these changes are a positive step in promoting improved access to care as

well as better delivery of care, particularly in the case of chronic disease management.

"It reduces the cost and increases quality," said Todd Shaffer, M.D., M.B.A., director of the School's Community and Family Medicine Residency program. "The patient is much happier. The doctor is much happier. And the medical team is much happier."

Duties physicians previously held themselves accountable for such as setting up appointments, ordering and checking on test results, and following up with patients, are now being shared with teammates.

"Nurses, pharmacists, physical therapists and lab technicians are now doing a lot of the things that the primary care physician used to be expected to do, which creates time and space for the primary care physician to do the things they're trained for and want to do as a physician," O'Dell said.

These practices are not merely looking to add more primary care physicians, though that is part of the equation, but they're also finding ways to spread the workload among teammates that include patient care coordinators, nurses, pharmacists, ➤

Primary care medicine is a team effort at Truman Medical Center Lakewood where Michael O'Dell, M.D., chair of Community and Family Medicine, works with a lineup of staff that includes Chrisma Domanillo, patient care coordinator, Brittney Hazley, RN, **Mary Hoang, M.D., '11**, Community and Family Medicine resident, and Tracy Rogers, health coach.

physical therapists and laboratory technicians. A growing number of practices are adding other care providers including dietitians, psychologists and social workers.

Shouldering so much of the burden, as physicians have in the past, has led to other growing issues such as dwindling job satisfaction and the increased danger of job burnout. Incorporating the team concept and sharing those burdens has helped with both, O'Dell said.

"There's a lot of joy in watching a group of people work together as a high functioning team," he said.

That's a contrast from a few years ago at TMC Lakewood where primary care physicians were becoming overwhelmed with as many as 250 to 300 new patients a month. The patient load exploded, reaching nearly 12,000 patients. The issue was that the Community and Family Medicine and Internal Medicine departments only had the staff to adequately accommodate about 8,000 to 9,000 patients. Frustrations mounted among both patients and physicians, Shaffer said.

"We realized we just had too many patients," he said.

They weren't alone. Many primary care practices have faced the same dilemma and been forced into taking the most expedient solution — simply shutting their doors to new patients.

"The thing is, that's a simple solution," says Shaffer, a former president of the Missouri Academy of Family Physicians who has observed the problem on a statewide level. "That's a knee-jerk reaction."

And it leaves unattended the staggering number of patients that are being added to the U.S. health care system as government sanctioned health care reform takes effect. UMKC and many primary care practices have found a better solution through the team-based approach to medicine.

Residents in the Internal Medicine/Pediatrics program at Truman Medical Center train in a patient-centered environment where they work with an array of health care providers including nurses, psychologists, social workers and other



Bernie Alexander, left, talking with **Drew Glover, M.D., '11**, Community and Family Medicine resident, says his health improved when he started seeing the primary care physicians at Truman Medical Center Lakewood.

support personnel, said **Sara Gardner, M.D., '02**, Internal Medicine/Pediatrics residency program director. The system allows doctors to better manage chronic diseases by referring their patients to the Patient-Centered Medical Home team where a nurse can follow-up with patients to confirm in more detail how to take the prescribed medications and assess for barriers to our treatment plan that is often un-recognized until a follow-up appointment. If necessary, a staff psychologist can immediately provide therapy and techniques for stress management in the clinic.

"Each of our team members play a vital role in helping us more effectively treat chronic disease within the residency clinic," Gardner said.

This team-based approach also allows primary care practices to expand their reach to what O'Dell says is a population of people who need care but might not recognize they need it until they've become seriously ill.

O'Dell uses an example of a 55-year-old woman who hasn't had a

mammogram in the past two years, but her records show a history of breast cancer. A member of the health care team may now encourage the woman to come in for tests and potentially catch a problem earlier, saving both the physician time and the patient potentially thousands of dollars she would have spent had a serious illness developed.

"That's not typical of the office practice of the last 20 years," O'Dell said. "The fallacy in our prior model of practice was that people didn't know what they didn't know and we expected them to figure it out before they came to see us."

The new model is designed to improve quality, safety, and doctor and patient satisfaction, while lowering the cost of health care.

The concept of the Patient-Centered Medical Home was first introduced by the American Academy of Pediatrics around 1967 as a central location to maintain the medical records of children. The American Academy of Family Physicians and American College of Physicians began developing



Todd Shaffer, M.D., M.B.A., director of the Community and Family Medicine Residency program, says the department's physicians and patients have both benefitted from the Patient-Centered Medical Home care model at Truman Medical Center Lakewood.

their own medical home models in the early to mid-2000s to improve patient care. In 2007, those organizations and the American Osteopathic Association developed a joint set of principles to describe the characteristics of a new health care model that include such things as providing safe and quality care through physician-directed medical practices, coordinated and integrated care facilitated by registries, information technology and health information exchanges, and enhanced

access to care through open scheduling, expanded hours and new communications between patients, their personal physicians and practice staffs.

**Raymond Cattaneo, M.D., '03**, joined a patient-centered model pediatric practice in Kansas City after completing his residency at UMKC and Children's Mercy Hospital. The practice, Priority Care Pediatrics, now has 10 physicians and also employs a patient care team that includes a registered nurse, two nurse practitioners, a psychologist, and

will be adding a social worker in the near future. Cattaneo said the group's model of spreading the workload among teammates has allowed the doctors to spend more time doing what they're trained to do — treat patients.

## FOR THE PRIMARY CARE PHYSICIAN, IT'S A MORE EFFECTIVE WAY OF PROVIDING CARE.

"We have a team that's designed to help patients take better care of their health because that's what we're here to do," Cattaneo said.

With a support system of the health care team at their fingertips, primary care physicians are becoming complex specialists in treating chronic diseases, Gardner said. That means coordinating a patient's care and managing the problem in order to prevent him or her from having to be admitted to the hospital and being passed off to another specialist.

David Voran, M.D., assistant professor of Community and Family Medicine, joined the School of Medicine's Community and Family Medicine faculty in March, in large part, he says, to teach residents how to look at the primary care practice in a more modern manner. Voran is a family medicine physician with Mosaic Life Care, a network of 60 health care clinics throughout a 20-county area in Missouri.

His practice began incorporating the team model about five years ago. At that time, he says, the biggest obstacle was the compliance officer who argued that the expanded duties were outside the team members' various skill sets. It took a few years, Voran said, to show that the model worked and actually produced improved patient care. Compliance officers are no longer an issue as long as quality and satisfaction standards continue to be met.





**Sara Gardner, M.D., '02**, Internal Medicine/Pediatrics Residency program director, takes care of patients from infants to adults with the help of her Patient-Centered Medical Home team at Truman Medical Center Hospital Hill.

“Now, the job descriptions for patient care techs and nurses have changed and morphed to recognize their ability to do more,” Voran said.

Shaffer said many family medicine practices throughout Missouri have been slow to adopt the team-based concept for reasons ranging from lack of reimbursements from insurance companies to simply not having the process and patient relationships in place to make it happen.

Another game-changer for patient care has been the introduction of computer charting or electronic medical records (EMR), say advocates of the team care model. The health care industry has been on the path to EMR

for years with the inducements of federal incentives to incorporate them into practices early on and now a federal mandate that health care providers implement EMR by 2014. Most physi-

**“WE’VE REDUCED THE NUMBER OF VISITS TO THE CLINIC AND HAVE MORE TIME TO SPEND WITH OUR PATIENTS.”** David Voran

cians who have gotten a firm grasp on EMR say the mountains of paperwork are easily reduced by the technology once doctors get past the initial learning curve. But it doesn’t end there.

Part of the evolving primary care model is the introduction of online doctoring. When a patient goes to the home page of the Mosaic Life Care

website, for instance, they’ll find near the top a window inviting them to login to the “My Mosaic Portal” with a brief description: “The portal empowers you to more effectively manage your health in one secure, convenient location.”

By enrolling in the web-based portal, patients now have access to their physician online to ask questions, check on lab results, and

even schedule their own appointments. Voran said use of the online portal has eliminated nearly 80 percent of the patient-initiated calls to his clinic, freeing up the physician and nurses to focus on the patients at hand.

Those who choose to use the online portal generally already have an established relationship with their physician,



ABOVE: **Ray Cattaneo, M.D., '03**, has a support team of patient care coordinators, lactation consultants, a dietician, and an asthma/obesity management coordinator who share the duties of providing care at his Kansas City pediatrics practice.



RIGHT: David Voran, M.D., assistant professor of Community and Family Medicine, has incorporated computer technology to include online doctoring into his primary care practice.

Voran said. So now, those patients who are experiencing chronic illnesses such as a urinary infection, an upper respiratory infection, or an earache can be treated over the phone or through the patient portal using standing orders from the physician.

“We’ve reduced the number of visits to the clinic and have more time to spend with our patients,” Voran said.

Voran says the difficulty in implementing the online model lies not in the technology, but in the culture of health care. The process, he explained, is highly dependent on the physician and his or her willingness to accept and implement it. Most of those who have rejected the practice thus far have failed to see the benefit, he said, believing instead that increased use of the Internet will simply mean more time spent online in addition to their packed workload.

Voran counters that a normal phone conversation with a patient that might

last three to five minutes can be quickly handled through a short email that might take just a minute to type. A physician might save two or three minutes for every phone conversation replaced with a quick, online chat, he said. While there are still those who are resistant, Voran said he believes the universal adaptation of online technology into medical practice is inevitable.

On the other end of spectrum, Cattaneo has taken the practice of reaching out to his patients at Priority Care Pediatrics to another level, incorporating social media into the practice’s online presence by creating a Facebook page and establishing a Twitter account to interact with patients and their families. In addition to near daily Facebook and Twitter updates, Cattaneo has begun generating a personal blog to share with parents information and thoughts from his own viewpoint as a pediatrician and a father.

“It keeps our patients connected on a personal level and gives them information to take care of their health,” Cattaneo said. “Our patients are looking for information online. They get it from Facebook anyway, so we need to increase our presence in the social media world.”

What all this means, says Cattaneo, is that the primary care physician’s role is no longer limited to taking care of patients in the traditional 9-to-5 clinic setting.

“It means meeting patients where they want to be met and if that means evening hours, online, email, that’s what we have to do,” Cattaneo said. “We have to make every effort to be patient-centric. Sometimes that’s overwhelming and sometimes it’s just tiring. But we have to be professional; this is the profession we chose. This practice has been pretty flexible and that’s going to be the name of the game over the next five to 10 years.” P



# TECHNOLOGY, MEDICINE MERGE ON HEALTH CARE'S NEW FRONTIER

BY HANNAH LEMON  
ILLUSTRATIONS BY DAVID EAMES

## BIOINFORMATICS EXPANDS CAPABILITIES, BENEFITS OF RESEARCH

When a patient visits a physician and shares his concerns, the doctor now has an extra tool bag at her disposal. Due to advancements in the biomedical and health informatics field, she can access billions of bits of data from patient records and researchers around the world, shedding light on common symptoms, diagnoses and even on how the patient will react to certain drugs based on his DNA.

Bioinformatics is a constant push and pull cycle, using previously generated data in public repositories to inform research endeavors, translating the findings to the clinic and feeding the repositories with information from the patients.

The National Institutes of Health now mandates that researchers send raw data to public repositories where it is accessible for everyone. The field continues to grow to accommodate and make sense of huge datasets in order to improve individual and public health and to more efficiently and consistently diagnose and treat patients.

The need for bioinformatics arose in 1990 with the Human Genome Project, which aimed to determine the sequence of the 3 billion chemical base pairs that make up human DNA and identify its approximately 20,000-25,000 genes. The 13-year project, coordinated by the U.S. Department of Energy and the NIH, had as its biggest challenge how to acquire, store and analyze massive amounts of DNA sequence information.

Today, the broad field of biomedical and health informatics spans the gamut of imaging and research informatics. This includes bioinformatics – looking at genomics, molecules and cells – computational informatics, and medical or clinical informatics, which covers clinical research informatics, public and consumer health informatics, and electronic medical records.

Karen Williams, Ph.D., professor and chair of the UMKC Department of Biomedical and Health Informatics, said bioinformatics has made possible countless strides in research and its translational benefits.

“It’s our increased ability to collect and manage information that has made the biggest difference,” Williams said. “It’s not just the capacity of computers to manage big data, it’s also the development of sophisticated statistical techniques that have been developed over the last 15 to 20 years and continue to emerge.”

Whether it is discovering new and more effective ways to treat disease or coming up with software techniques to better store and analyze vital patient-based data, here are six UMKC students, alumni and faculty who are changing the landscape of medicine through cutting-edge, biomedical research. ➤

**JOHN SPERTUS, M.D., M.P.H., F.A.C.C.**  
**Shortening the gap between knowledge generation and clinical practice**

Spertus, a world-renowned researcher in personalized medicine and cardiovascular outcomes research, quantifies patients' perspectives of their cardiovascular disease as measures of health care quality.

"We want to completely transform the paradigm of medical practice so that we are delivering care to patients based on who they are and their potential to benefit. We can then transparently share with patients why we're recommending one treatment versus another, reducing the inconsistency in the way doctors treat the exact same patient," said Spertus, the Daniel J. Lauer/Missouri Endowed Chair in Metabolism and Vascular Disease Research and clinical director of outcomes research at Saint Luke's Mid America Heart Institute.

As a fellow at the University of Washington, Spertus developed the Seattle Angina Questionnaire (SAQ), which has become the international standard for measuring patients' perspectives of their coronary artery disease and outcomes. While at Saint Luke's, he developed the Kansas City Cardiomyopathy Questionnaire (KCCQ). Both have been translated into more than 60 languages and are emerging as the gold standards for measuring coronary artery disease and heart failure patients' symptoms, function and quality of life. In using these questionnaires, patients are able to participate in their own care, and those suffering from common cardiovascular issues benefit from physicians' increased knowledge of how their condition affects their lives.

"I will feel like I've been really successful when the impact of chronic diseases on patients' health status and quality of life are routinely recorded so that we can better tailor treatment to alleviate patients' suffering," Spertus said. "I believe these short questionnaires are an important step in that direction."

Beyond capturing the impact of disease from patients' perspectives, Spertus would like to support more consistent care in routine clinical practice. For example, in another study – collaborating with other UMKC researchers, the University of Kansas Medical Center, Washington University, Harvard University and the University of Colorado – Spertus analyzed more than 1.5 million procedures contained in a national data registry and found a lot of variability in the use of drug-coated stents, even in patients with similar risks for restenosis – the reoccurrence of a narrowing of blood vessels or arteries, restricting blood flow. If patients were involved in shared decision-making, perhaps as many as half would choose a bare metal stent, saving more than \$200 million annually.

"We are able to use data from the whole country and around the world," he said. "The access to data has profoundly changed our ability to do work on a larger scale."

To increase the use and benefits of available data and research findings, Spertus founded the Cardiovascular Outcomes Research Consortium and CV Outcomes, a non-profit corporation dedicated to advancing health care quality and outcomes research in cardiovascular disease, and Health Outcomes Sciences, a biotechnology start-up based in Overland Park, Kan., to

support the implementation of personalized medicine throughout the country.

The recipient of the 2013 Distinguished Achievement Award for his work in cardiovascular treatment and outcomes research from the American Heart Association's Council on Quality of Care and Outcomes Research, Spertus said having a bioinformatics skill set is vital for improving health care, not only for researchers but also for practicing physicians.

"We're in an era where you can't even read an article in any of the medical journals without having a pretty sophisticated understanding of data," he said. "People are analyzing your data as a practitioner, and if you don't understand how that data's being analyzed, it puts you at a real disadvantage. And, if you want to improve your own care, now you can draw down data from EMRs (electronic medical records), etc."



ROBERT STECKMEST

John Spertus, M.D., right, Daniel J. Lauer/Missouri Endowed Chair in Metabolism and Vascular Disease Research, examines a patient with Mrugesh Thakkar, MS 5, during rounds with students and residents at Truman Medical Center Hospital Hill. Spertus' cardiovascular outcomes research is known and practiced worldwide.

*"We're in an era where you can't even read an article in any of the medical journals without having a pretty sophisticated understanding of data." John Spertus*

**WILLIAM E. LAFFERTY, M.D.**

**Access to information leads to improved public health outcomes**

The desire to shape policy decisions to advance the health of the general population has been the driving force behind Lafferty's research. He works to balance cost, access and quality of health care in hopes of reducing health disparities caused by issues such as poverty, racism and violence, and improving medical quality outcomes of chronic disease care.

"It is vital to have a good evidence base to use to evaluate policy decisions," said Lafferty, Merl and Muriel Hicklin/Missouri Endowed Chair of Internal Medicine.

Former interim chair for the Department of Biomedical and Health Informatics, Lafferty said throughout the years, bioinformatics has amplified his research capabilities.

"The ease of access to information is amazing, as is information sharing," he said. "Through bioinformatics, the information necessary to craft interventions to improve population health can be developed."

Through a new National Institutes of Health-funded project, Lafferty and others at UMKC are looking at ways the health care workforce can improve care offered to people subject to health disparities. UMKC is one of only five universities in the nation to receive this NIH grant, worth \$427,856 over four years. The grant was jointly awarded to the four health science schools at UMKC with Lafferty as the principal investigator. A goal of the study is to develop evidence-based educational practices in Jackson County that will result in more graduates willing to work in urban communities after graduation.

"UMKC is a good place for public and population health," Lafferty said. "It's one of the few universities with all health sciences schools on one campus, facilitating collegiality and collaboration."

A second part of the grant is the Urban Universities for HEALTH initiative, which will create key metrics, customizable at the institution level, to enhance the health care workforce of urban communities; a culture assessment tool to help train an urban workforce to improve health equity; and a data clearinghouse to disseminate new knowledge and resources. This initiative is in partnership with the Association of American Medical Colleges, the Coalition of Urban Serving Universities/Association of Public Land-grant Universities and the NIH.

"We are looking to develop practices that will result in both a more diverse workforce and a workforce more willing to work in areas that experience disparities," Lafferty said. "We want to make sure that the education we provide in our health professional schools produces graduates who will want to, and will, serve in those areas, and the ultimate goal is to identify the best model of education needed to reduce health disparities."

Much of Lafferty's research has also focused on underserved areas. He and **Shauna Roberts, M.D., '84**, created the Guided Chronic Care Model, which aims to improve a patient's overall quality of life and has been implemented into small or solo community practices serving rural populations.

"All the work we do within bioinformatics is translational research," he said. "Not only is it translational, but it's also applied research. We're applying different hypotheses to real world, health care settings."



William Lafferty, M.D., left, Merl and Muriel Hicklin/Missouri Endowed Chair of Internal Medicine, analyzes data with statistician Aaron Bonham in the Department of Biomedical and Health Informatics. Lafferty's research aims to improve public health and minimize health disparities.

*"All the work we do within bioinformatics is translational research." William Lafferty*

**REAL-LIFE EXAMPLE: BIOINFORMATICS IN ACTION**

**1** Paul visits the doctor with angina about two times a week when he exerts himself. Angina is a chest pain that occurs when an area of the heart muscle does not get enough oxygen-rich blood.



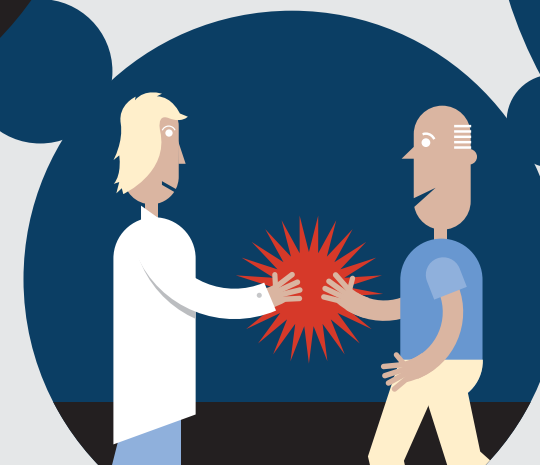
**2** Because of advancements in the field of bioinformatics, Paul's physician can access billions of bits of information about patients like Paul.

**3** The physician is concerned about Paul's quality of life with this condition, so he employs the Seattle Angina Questionnaire – the leading health-related, quality-of-life measure for patients with coronary artery disease, developed by John Spertus, M.D., Daniel Lauer, M.D./Missouri Endowed Chair in Metabolism and Vascular Disease Research.

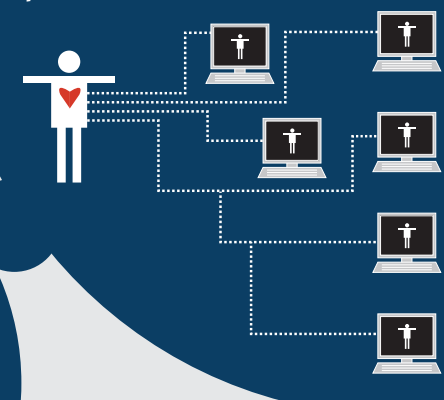


**4** Paul's answers on the questionnaire correlate with his existing results, such as treadmill test results. By comparing Paul's information with data from 1,000s of patients around the world, the physician can now share with Paul how alternative treatments, such as additional medications, angioplasty, or bypass surgery, can improve his symptoms.

**5** Paul and his doctor engage in a shared decision about the best treatment for him, based upon Paul's personal goals and values.



**6** Paul's data is now available for other researchers to reference in order to improve care for future patients. This enables and strengthens the patient-physician relationship and increases overall quality of care for patients with heart disease.



## UMKC DEPARTMENT OF BIOMEDICAL AND HEALTH INFORMATICS OFFERS VITAL RESEARCH TRAINING

**BIG DATA TO KNOWLEDGE (BD2K)**, a new National Institutes of Health initiative, aims to enable scientists to effectively access, organize, analyze and integrate large, complex data sets that are currently being generated and will continue to increase in the future.

Recognizing the need to educate health professionals in bioinformatics, the NIH is also forming a new fellowship to train the new generation to analyze and gather data.

In line with this national agenda, the UMKC Department of Biomedical and Health Informatics offers a variety of programs to prepare high quality graduates to excel in the evolving field of research.

"It's important to have bioinformatics training at UMKC; it's one of our great opportunities," said John Spertus, M.D., M.P.H., F.A.C.C., Daniel J. Lauer/Missouri Endowed Chair in Metabolism and Vascular Disease Research.

"It's fairly new across the country and while there are a lot of large bioinformatics departments at Stanford and Harvard, etc., very few of those are actually thinking about translating the output of that research into clinical care, and we can be really leading the country in that."

In collaboration with the schools of Biological Sciences and Computing and Engineering, the School of Medicine offers a Master of Science in Bioinformatics that is teaching students to thrive in multi-disciplinary teams and to recognize and use bioinformatics data to influence health, disease, disability and access to care.

Throughout the past three years, enrollment in the master's program has grown exponentially across its three emphasis areas: clinical research, computational and genomics. With this variety, students are able to learn to interface between basic medical science, clinical research and information systems. The clinical research component focuses on the creation and understanding of data generated by patient care and clinical studies and on the statistical methodology needed for clinical research and improved bedside care; computational emphasizes the development and use of software, algorithms and mathematics; and genomics highlights biological analysis and the analysis of a diverse set of biological data. The department also offers a Graduate Certificate in Clinical Research.

"I'm excited because I think our educational program is unique. It allows someone to walk in and get a mix of these research disciplines to answer research questions in a much more effective way," said Karen Williams, Ph.D., professor and chair of the department.

A new interdisciplinary Ph.D. program, in collaboration with the UMKC School of Graduate Studies, will begin in January 2014. This program offers its students the option to integrate clinical research competencies into a doctoral program of study.

"We are drawing a very diverse group of students to our educational programs," Williams said. "Students' backgrounds range from physicians doing fellowships at our affiliate hospitals to more traditional MS students who come to us with bachelor's degrees in fields such as biology, biochemistry, computer science, psychology, etc. This diversity enriches the learning experience in the classroom and beyond, and demonstrates the importance of having multidisciplinary teams in improving the science of health care."

Katie Shortt, a student in the clinical research track of the master's program who has a bachelor's degree in biology from Indiana University Bloomington, said she enrolled in the program to gain a rich data analysis background in order to be a successful researcher. As she takes classes from all of the emphasis areas, she continues to work in the lab of Shui Ye,

M.D., Ph.D., professor and William R. Brown/Missouri Endowed Chair in Medical Genetics and Molecular Medicine, where she now has a part-time job. She has been working with him on his acute respiratory distress syndrome dataset since her first semester in the program.

"Bioinformatics allows you to answer a broader range of questions with more depth than if you were just to do benchwork," she said. "The research I'm doing with Dr. Ye is really translational, and I'd love to do this kind of genetic work when I graduate."

Through patient-oriented research in the context of state-of-the-art medical informatics, graduates of the program are positioned to advance the health of their communities by designing databases, planning new clinical trials, implementing electronic health records and participating in ground-breaking genetics research. They are working in areas spanning engineering, computer science and health care.

A new resource for the department is the Center for Health Insights – an interdisciplinary group that will assist UMKC and School of Medicine researchers in accelerating the pace of their research and providing insights into clinical practice. Mark Hoffman, Ph.D., joined the School of Medicine in September as the director of the new Center and is currently developing the team. The Center will use bioinformatics, clinical research and computational tools to aid researchers in areas such as manipulating big data, storing it in a secure database and integrating it into clinical practice.

An external advisory committee also sheds light on current issues in the field, what skills the graduates need to succeed and what's marketable in the health care system workforce.

"We are developing skills that are really different; they are needs-based, whether its health care needs or industry needs," Williams said. "It's the way of the future. We are educating people who can influence the health of our populations."



ROBERT STECKMEST

Katie Shortt, clinical research bioinformatics student.

### ERICA HEITMANN, M.D., '06 Adding bioinformatics skill set brings new career opportunities

Bioinformatics training creates new opportunities for physicians to have a rich clinical career and a valuable research foundation.

Heitmann enrolled in the UMKC bioinformatics program during the second month of her fellowship in the UMKC Department of Maternal and Fetal Medicine to help her fulfill her required 18 months of research. Her time in the program, she said, opened her eyes to the amount of data bioinformatics puts at her fingertips and led to her decision to start a career with both a clinical and research focus.

Heitmann's main research interests are in high-risk obstetrics and ultrasounds, in particular. Her previous research projects include looking at a type of functional echocardiography called speckle-tracking echo. Her team's technique involved the way to determine if a fetus' heart is functioning. They started collecting ultrasound images a year ago and used a computer software program to plot speckles along the fetus' heart.

"It's a fairly new technique that can calculate parameters of a heart's function that are not subject to limitations that traditional ultrasound methods have," she said. "They've now started using it in adults to predict transplant rejection."

Her research background boosted her desire to join Obstetrix Medical Group in Tucson, Ariz., this fall. The group has its own research funds and is involved in multiple NIH grants.

"I liked research more than I thought I would. And as a result of the program, I am now going to a practice where I will be using these skills," said Heitmann who completed an OB/GYN residency at Mercy Hospital St. Louis before returning to UMKC to begin her fellowship. "I think every fellow should complete the program if they don't already have a Ph.D. or M.P.H. It is really helpful."

Heitmann said she thinks it's important for physicians to have an understanding of research in order for the health care system to improve.

"A lot of people are doing research, and they don't really know what it means," she said. "They're publishing things that people are changing their practices based upon, when it's not a good study because they don't have the knowledge of how to responsibly conduct research."

She mentioned it is also important for physicians to be able to know how to critique the literature to make a decision whether or not a study should impact their practice.

"I think people are realizing how important these skills are in medicine," Heitmann said. "And employers are becoming more and more interested in academic careers and research time."

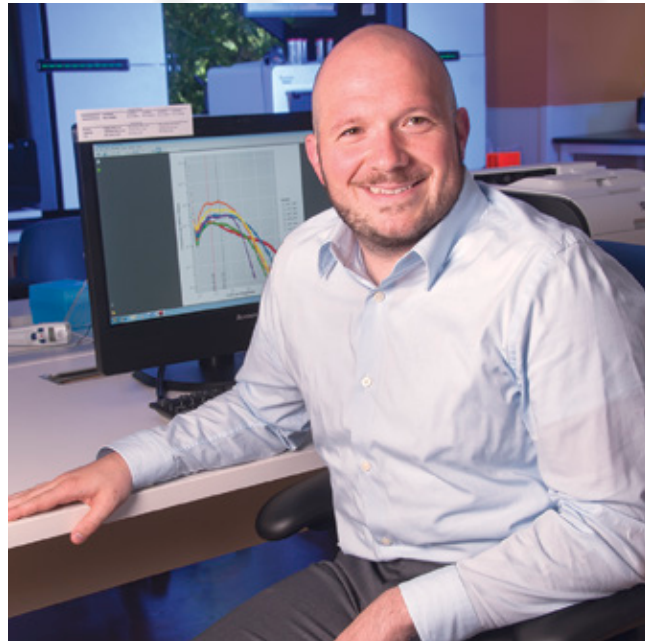


JCPENNEY PORTRAIT STUDIO

Erica Heitmann, M.D., '06, graduated from the UMKC bioinformatics program in May and started with the Obstetrix Medical Group in Tucson, Ariz., in September. Heitmann credits the knowledge she gained and research she performed in the program with helping her land a spot in the Tucson practice.

*"I think every fellow should complete the program if they don't already have a Ph.D. or M.P.H. It is really helpful."*

*Erica Heitmann*



### GREYSON TWIST

#### Building the foundation for bioinformatics data storage, manipulation

Twist fell in love with research as he spent summers interning with a doctor in Pratt, Kan., while completing his undergraduate degree in clinical lab science at the University of Kansas School of Medicine.

Twist, a student in the computational track of the bioinformatics master's program, is a software engineer in the new Center for Pediatric Genomic Medicine at Children's Mercy Hospitals and Clinics, where he has been working on whole genome sequencing and pharmacogenetics – the branch of pharmacology that focuses on how drugs affect people based on their genes.

Twist is learning how to program software to handle and manipulate large datasets. "It's about using the tools at hand, applying them correctly to a disease and understanding that information," he said. "Instead of the old cowboy way of science in the research lab, the fun creative stuff now comes in the idea of 'how are we going to use this data and what are we going to use it for?'"

His interests and work focus on genetics, biochemistry, gene pathways, and how they interact with specific diseases. The genomic center's rapid DNA sequencing technology enables Twist's team to discover overall clinical solutions.

"Data's getting so big," he said. "Genetics used to be thought of as 'let's look at these one or two variances,' but now we can look at one person's entire genome in a couple of days."

To add to his biology background, Twist decided he needed to learn the computer science and software engineering side of bioinformatics. He had seen first hand the necessity for programmers and biologists to communicate effectively in order for the research field to grow and become more efficient.

"Software engineering and design is sort of like carpentry – there's a good way to put things together to make something that is usable and reliable," he said.

Twist has been able to integrate his work in the pharmacogenetics lab at CMH with his studies in the bioinformatics master's program, an aspect of the program that he says is invaluable. His goal was to learn mathematics, programming and algorithms, and he knew UMKC would be a good place for him to gain these skills.

"Coming out of the program, you have a great understanding of algorithms and biology, how things need to go together and what the current topics are," he said. "My primary goal is the construction of software applications that help doctors and caregivers make informed decisions about patient treatment. I feel obligated to make a difference at some level and to help make people's lives better."

Greyson Twist, a student in the computational track of UMKC's bioinformatics program, said his research in the program directly translates to his work as a software engineer in the new Center for Pediatric Genomic Medicine at Children's Mercy Hospitals and Clinics.

*"Genetics used to be thought of as 'let's look at these one or two variances,' but now we can look at one person's entire genome in a couple of days." Greyson Twist*

### JEFF HACKMAN, M.D., '01

#### How bioinformatics informs quality and decision-making at the hospital level

A self-proclaimed computer nerd, Hackman, assistant professor of emergency medicine, has looked for ways to incorporate medicine and informatics since his days as a student at the School of Medicine.

Now the chief medical information officer and director of clinical operations for the Department of Emergency Medicine at Truman Medical Center (TMC), Hackman oversees the clinical use of the hospital's electronic medical records (EMRs). Under his leadership, the hospital converted from a hybrid state of having a lot of paper and some electronic data to an essentially all-electronic system. As a result, TMC was recognized as a HIMSS Analytics Stage 7 hospital, putting it in the top 2 percent of hospitals in terms of ranking in the use of EMRs.

"For a hospital like Truman that has all the challenges that we have, I think that's an especially amazing achievement," said Hackman, who completed his residency in emergency medicine at TMC.

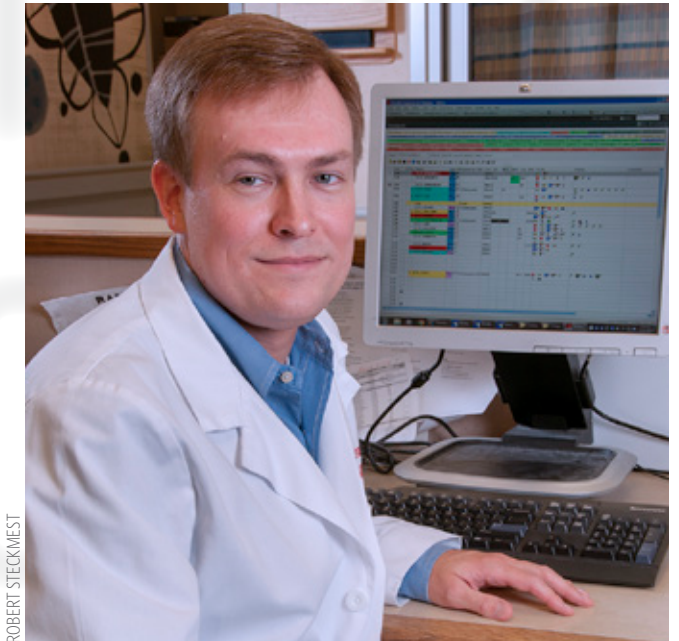
Arguably the largest outcome of the biomedical and health informatics field, EMRs make ground-breaking research projects possible by providing a wealth of data about patients around the world. EMRs are a broad, longitudinal collection of information about a patient, enabling improvements in patient care at TMC and around the world.

Using standardized terminology, EMRs include pertinent health information, such as a patient's diagnoses, medications, allergies, immunizations and lab results. The records are immediately updated after each patient visit. EMRs allow for accurate and timely exchanges of information between physicians and between physicians and patients, making patient visits more meaningful and efficient, and reducing prescription errors and adverse drug interactions. Electronic records also generate automatic reminders for preventative health measures, which can lead to earlier diagnosis and an increase in preventative care.

Hackman's job is to be the liaison between the information technology department and the medical staff, helping IT understand what physicians need and helping physicians understand what is possible with the technology at hand and how implemented changes will affect them. He is also a resource for physicians and residents needing access to data, which often involves extracting from EMRs.

"My role is to help people understand what data we do or do not have and where to get it," he said.

The majority of what Hackman and his team do with quality resources, quality improvement, and decision-making involves some level of bioinformatics. His skills have been accumulated on



Jeff Hackman, M.D., '01, has acquired bioinformatics knowledge and skills through experience. As the chief medical information officer at Truman Medical Center, Hackman was charged with overseeing the hospital's transition from a traditional to an electronic record system.

*"My role is to help people understand what data we do or do not have and where to get it." Jeff Hackman*

the job but, he said, formal training is growing in importance for roles such as chief medical information officer.

"It's important to have someone on your team who is trained in bioinformatics," he said. "I think most people in these roles will be expected to have a bioinformatics degree or a certification in bioinformatics within the next five years or so. Some portion of informatics plays a huge role in medicine now."

## SHUI QING YE, M.D., PH.D.

### Genetics, genomics research provide new insights into the mystery of the human makeup, uncovers new disease genes

We are now in the “omics age,” as many scientists refer to this time of increased possibilities through bioinformatics advancements.

The Human Genome Project took 13 years and \$3 billion to sequence human genomes. Researchers can now sequence a person’s entire genome in 24 hours for \$10,000.

“We can know every bit of a person’s genetic information, but we don’t know the function of every gene in the human body ... yet,” said Shui Qing Ye, M.D., Ph.D. – professor of biomedical and health informatics and pediatrics, William R. Brown/Missouri Endowed Chair in Medical Genetics and Molecular Medicine, chief in the Division of Experimental and Therapeutic Genetics, and director in the Core of Personalized Genomics at Children’s Mercy Hospitals and Clinics (CMH).

“We hope to be able to sequence every baby’s genome when he or she is born,” he said. “We would know the likelihood for him or her to develop particular diseases down the road. We could then give him or her pertinent advice by letting his or her parents know that he or she needs to avoid certain drugs or foods, etc. This would be a realizable goal in the near future.”

Throughout his long career as a clinician and researcher, Ye said he has seen bioinformatics transform and enhance his research capabilities.

Working in tandem with the Center for Pediatric Genomic Medicine at CMH – the first genome center in the world to be inside a children’s hospital and focused on genome sequencing and analysis for inherited, rare children’s diseases – Ye and his colleagues are developing new and improved diagnostic and drug therapy targets for complex human disease.

Ye is currently looking at the human genome to determine genetic risk factors for prominent diseases such as coronary heart disease, acute respiratory distress syndrome, chronic kidney disease in children and juvenile idiopathic arthritis. For the coronary disease study, Ye and Spertus, after looking at 3,000 coronary heart disease patients’ DNA, have found some haplotypes – sets of DNA variations that tend to be inherited together – that increase the risk for the disease six-fold and some protective haplotypes that reduce it.

Ye also continues his collaboration with Mark Lee, Ph.D., a researcher at the University of Missouri-Columbia to develop a drug that inhibits a gene expression in arthritis.

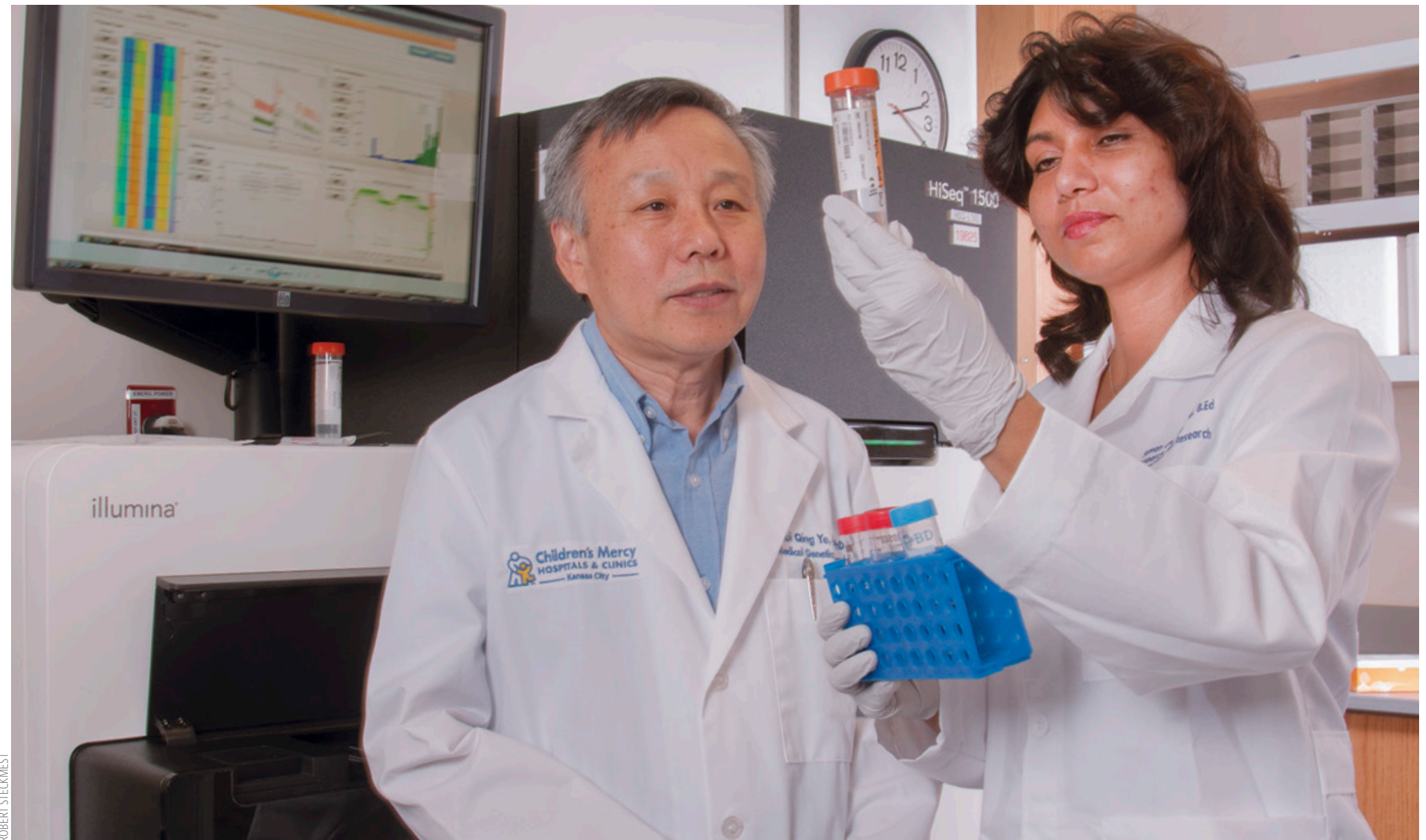
His exposure to the bioinformatics field began while he was director of a DNA Microarray Core at Johns Hopkins University when they started using a DNA Microarray machine. He went from doing all his data analysis by hand to being able to manipulate large data sets in a fraction of the time by learning bioinformatics techniques throughout the years.

“I feel like bioinformatics helped me to enhance my career,” Ye said. “I’m not a computer guru, but I was compelled to learn and apply computer skills to search, collect and analyze the ‘big’ biological and biomedical data stored in public repositories.

As time goes, I became versed at some of these applications, which facilitated my research, scientific publications and grant applications.”

Ye’s experience in bioinformatics application inspired him to compile his book, “Bioinformatics: A Practical Approach,” published by CRC Press in 2008. The book features chapters by worldwide experts on the topic of bioinformatics, and serves as a bridge to shorten the knowledge gap between biologists and computer specialists for more efficient application and development of bioinformatics. It is still selling copies today.

Ye came to UMKC and CMH in 2010 after an academic trajectory of being an assistant professor at Johns Hopkins, associate professor at the University of Chicago and a tenured full



ROBERT STECKMEST

Shui Ye, M.D., Ph.D., (left) William R. Brown/Missouri Endowed Chair in Medical Genetics and Molecular Medicine, and Suman Chaudhary, a 2012 graduate of the UMKC bioinformatics program, work in his lab at Children’s Mercy Hospital, where he performs ground-breaking genomics research.

professor at the UM Columbia. He serves as a mentor to students in the bioinformatics program, and often mentions how far the field has come.

“In the old days, researchers participated in hypothesis-driven research based on limited information” Ye said. “We would hypothesize something and try to validate it. But nowadays, it’s data-driven research, meaning you base it on what data presents to you. It’s more objective.

“For example, if you only know about one tree, how do you really know you’re looking at the tallest tree in the forest? Bioinformatics can help us capitalize on database mining to gain global insight. Thus it is advisable that every researcher knows some bioinformatics in the ‘omics age.” P

*“Nowadays, it’s data-driven research, meaning you base it on what data presents to you. It’s more objective.”  
Shui Qing Ye*



Almenoff

**School of Medicine announces first Endowed Chair of Patient Safety**

The SOM has announced Peter Almenoff, M.D., clinical professor of biomedical and health informatics and internal medicine, as the inaugural Vijay Babu Rayudu Endowed Chair of Patient Safety.

The new position will support efforts by the School of Medicine and Saint Luke's Hospital to develop education and research programs in patient safety.

Almenoff joined the faculty in 2011. He serves as assistant deputy undersecretary for health for quality and safety for the Department of Veterans Affairs and as the national program director for pulmonary and critical care.

The chair of patient safety was endowed by the family of Vijay Babu Rayudu, who passed away in 2007 while a student at the School. Rayudu's parents are physicians near Memphis, Tenn. His sister, Parvathi, is a 2012 graduate of the SOM, and his brother, Ranga, is also a physician. The family said it believes the memorial endowment provides a contribution to medicine that Vijay Rayudu will not be able to provide directly.

"We are very pleased that Dr. Almenoff has accepted the position as the Vijay Babu Rayudu Endowed Chair of Patient Safety for the School of Medicine," said Rayudu's father, Rao. "His credentials and work in the field will provide a solid foundation on which this new program will contribute to ongoing research efforts and education in patient safety. We trust that as a teacher and a leader, Dr. Almenoff will be taking the University into exciting territory in the near future."

Almenoff will advise the School in developing medical education programs and

research programs that incorporate patient safety. He will also serve an advisory role to Saint Luke's Hospital on the development of a clinical outcomes analytic program.



Foundas

**SOM, Truman Medical Centers establish new department to meet neurology needs**

The School of Medicine and Truman Medical Centers have established a new Department of Neurology and Cognitive Neuroscience to meet a need in the region and selected Anne Foundas, M.D., as the founding chair.

Foundas comes to the School from New Orleans, La., where she served as director of the brain and behavior program at the Children's Hospital and as vice-chair of clinical research in the Department of Neurology, Cell Biology and Anatomy at Louisiana State University. She has also served as director of neurology residency training in the Department of Psychiatry and Neurology at Tulane University.

"Neurology is a critically underserved medical specialty in the Kansas City region, and a new residency program in neurology is the highest priority of our affiliated hospitals for additional residency positions," School of Medicine Dean Betty Drees, M.D., F.A.C.P., said. "Educating and training physicians to meet the health care needs of the community is the primary mission of a public medical school such as UMKC, and we are excited to have Dr. Foundas serve in the vital role as chair of the Department of Neurology."

Neuroscience is a major research area of focus at the School of Medicine with basic and clinical research in areas such as vision, substance abuse, mental illness, stroke and brain injury.

Foundas' research has integrated state-of-the-art MRI and physiological methods to explore higher order cognitive processes in the context of developmental and acquired brain disorders. Foundas received her medical degree from the LSU School of Medicine and completed her neurology residency and a research fellowship in neuropsychology and behavioral neurology at the University of Florida School of Medicine.



Bernhardt

**Bernhardt appointed chair of orthopaedic surgery**

Mark Bernhardt, M.D., is the new chair of the Department of Orthopaedic Surgery after having served as interim chair since July 2012. Bernhardt joined the faculty in 1994 as a clinical associate professor and has served as a clinical professor since 2000.

A member of the Dickson-Diveley Midwest Orthopaedic Clinic since 1990, he earned his medical degree from the University of Kansas School of Medicine and completed his orthopaedic surgery residency at the University of Kansas School of Medicine-Wichita/St. Francis Regional Medical Center and Affiliated Hospitals. He completed a fellowship in spine surgery at the Harvard Medical School/Beth Israel Deaconess Medical Center.

He has also served as director of the Spine and Deformity Clinic at Children's Mercy Hospitals and Clinics, and as associate team physician and spine consultant for the Kansas City Royals professional baseball team, assistant team physician for the Kansas City Blades professional hockey team, and associate team physician for the Kansas City Explorers professional tennis team.



**Plans for new Hospital Hill housing under way**

Students on the Hospital Hill Campus, including the schools of Medicine, Dentistry, Nursing & Health Studies, and Pharmacy, will have a new housing option closer to their classes beginning the fall semester of 2014 thanks to a \$30.33 million project.

The plan designed by Gould Evans of Kansas City calls for 245 beds of apartment-style housing and 196 parking spaces near the intersection of 25th Street and Troost Avenue. A construction crew began preliminary dirt work earlier in the summer, while an official groundbreaking ceremony took place on Oct. 1.

The design is similar to the Oak Place Apartments built at 5050 Oak St. near the Volker Campus in 2008. The housing will be a combination of one-, two- and four-bedroom units on five levels with gated fences for secure private courtyards and exterior tables and grills. Building entry will be by card access, and security cameras will be at all entrances and public areas.

University and city leaders said the project would make students a greater part of the community and help redevelop surrounding neighborhoods. The project is funded through debt financing and \$3.7 million from Missouri state tax credits. The University of Missouri System Board of Curators approved plans for the housing in January, with a scheduled completion date set for July 2014, in time for use in the 2014 fall semester.



The walls are going up on the first student housing project on Hospital Hill. Construction began last summer on a new apartment complex for UMKC medical, dental, nursing and pharmacy students.



**SOM continues partnership with Hospital Hill Run**

Students, faculty and staff were among the more than 1,600 runners who competed in the 5K race at Kansas City's annual Hospital Hill Run on June 1. The School of Medicine served as the title sponsor of the 5K race for the seventh year in a row. An overall crowd of more than 7,700 took part in the 5K, 10K, half marathon and wheel chair races.

Members of the School's faculty, residents, students and staff volunteered at first aid stations located throughout the race routes and at the first aid tent. Sports medicine faculty and fellows provided medical services for the entire event.

Dean Betty Drees, M.D., and Senior Associate Dean Paul Cuddy, Pharm.D., manned the finish line banner for the 5K run. Full race results are available online at <http://www.hospitalhillrun.com/results>.







Hoffman

### SOM appoints director for new Center for Health Insights

Mark Hoffman, Ph.D., joined the School of Medicine as director of the

new Center for Health Insights and an associate professor in the Department of Biomedical and Health Informatics and Department of Pediatrics in September.

Hoffman and the Center will assist researchers within UMKC and the School of Medicine with informatics services and resources to accelerate research and translate new insights into clinical practice. He is the director of Translational Bioinformatics at Children's Mercy Hospital and his research interests include the integration of genomic information with electronic health records, genomic clinical decision support, the use of informatics to accelerate research and the analysis of large de-identified clinical data sets to reach new insights.

Hoffman earned his Ph.D. from the University of Wisconsin-Madison and performed post-doctoral research at the National Animal Disease Center in Ames, Iowa, and the University of Wisconsin-Madison Department of Bacteriology. Before joining UMKC, he spent 16 years leading genomics, public health and research initiatives at Cerner Corporation, where he was a vice president of research and life sciences solutions. In addition to his peer reviewed publications, Hoffman's inventions have been issued 14 U.S. patents.

"We are pleased about the addition of Mark Hoffman to our faculty," said School of Medicine Dean Betty Drees, M.D., F.A.C.P. "Informatics are a strength of the School. Mark's experience and skills will translate into the highest quality patient care and research."

### School welcomes three new docents

Three area doctors have accepted roles as docents this fall.

Lawrence Dall, M.D., professor of medicine, who served as a senior docent at the School of Medicine from 1982 through 1998, will take over the Red 3 docent team and serve a role in the dean's office working on special projects. Emily Haury, M.D., a graduate of the School of Medicine's Internal Medicine/Pediatrics Residency program and a former chief resident, is the new docent for the Red 6 team. Rebecca Pauly, M.D., is the new Blue 4 docent and will serve in the dean's office working with faculty development.

Dall most recently served as a clinical professor of medicine and infectious disease at the School of Medicine and has been a clinical instructor at the Kansas City University School of Medicine and Biosciences. He has also recently served as physician group leader for IPC/Providence Medical Center and as associate medical director for Midwest Hospital Specialists in Kansas City.

During his previous tenure as a docent, Dall served in numerous clinical and academic roles. Among those many roles, he was chief of the section of infectious diseases, served as the School's chairman of the Council of Docents and was vice chair of academic affairs.

Haury received her M.D. from the University of Kansas School of Medicine after earning her bachelor's at Goshen College. She completed her residency

earlier this year at UMKC where she received numerous awards and honors for her work. As a resident, Haury served on the Internal Medicine/Pediatrics Residency recruitment committee. She also served as a volunteer student physician

at the KU School of Medicine's JayDoc Free Clinic, and was a teaching assistant in the biology, chemistry and psychology departments at Goshen College in Indiana.

Pauly previously served as professor of medicine, associate vice president of Health Affairs, Equity and Diversity, and vice chair of the Department of Medicine for Medical Student Education at the University of Florida. A graduate of the University of Alabama School of Medicine, she completed her residency in internal medicine at North Carolina Memorial Hospital and the University of North Carolina, Chapel Hill, and a fellowship in cardiology at the University of Alabama Hospitals in Birmingham.

Pauly also served at the National Institutes of Health as a guest researcher, senior staff fellow and as a clinical associate. Before moving to Florida, she was a staff physician and internal medicine residency coordinator at Johns Hopkins University.

Nurry Pirani, M.D., assistant professor of medicine, was interim docent for the Red 6 team in addition to Green 4 docent. She continues as as docent on her Green team. **Jennifer Bequette, M.D., '00**, assistant professor of medicine, previously served as the Blue 4 docent and Blue 1 docent. She will continue as docent for the Blue 1 team.



Dall



Haury



Pauly



PHOTOS COURTESY NICHOLAS GIER



### UMKC Global Medical Brigade: At Work in Honduras

For one week in May, 16 students from the School of Medicine were part of a team of volunteers from UMKC and Missouri that traveled to Honduras to provide medical care in regions where it is sorely needed.

UMKC students joined a group of students from Nottingham, England, in southern Honduras to set up community clinics. Nicholas Gier, MS 4, one of the students who helped organize the trip, provided a daily blog throughout the trip during which the group saw 1,184 patients in four days of clinics in rural areas of south-central Honduras near Tegucigalpa.

The students are part of an organization called Medical Brigades, an arm of Global Brigades, which is the largest student-led global health and sustainable development organization in the world. The UMKC chapter is one of nearly 300 university groups around the world that provide sustainable health initiatives to Honduran and Panamanian communities with limited access to health care.

UMKC Medical Brigade members who traveled to Honduras included: Seenu Abraham, MS 3; Alexa Altman, MS 4; Roshan Babu, MS 4; Kayla Binns; Haley Bray, MS 4; Jessica Dudeck; Peter Everson, MS 4; Amanda Fletcher, MS 4; Nicholas Gier, MS 4; Katherine Glaser, MS 4; Omar Karadaghy, MS 3; McKenzie Lutz, MS 4; Nathan Lavoy, MS 3; Nicholas Lawson, MS 3; Brett Parrott; Michael Pavlisin, MS 3; Janessa Pennington, MS 4; Dionysios Piskopos, MS 3; Hima Veeramachaneni, MS 3.

Highlights from Gier's blog from Honduras:

**DAY ONE:** After two hours of weaving around the mountains, we came to the hotel we will be staying at for the rest of the week. We had to spend awhile sorting all of the medications we were bringing in preparation for our first clinic tomorrow.

**DAY TWO:** Today we had our first day of clinic. A 40-minute drive took us to a school in rural Honduras. By the end of the day we had seen 304 patients, but it was hard to tell because we all kept busy doing our jobs at our stations.

**DAY THREE:** We saw 300 patients in an hour less than we did yesterday. We noticed that many people put on their best clothes to come to the clinic and are extremely well behaved compared to the patients we see in America.

**DAY FOUR:** We were at a new location for our third day of clinic. This location also had no electricity or outlets whatsoever, so we had to bring a generator to power the network for our laptops to input patient information.

**DAY FIVE:** We saw a child with a burn that went through the full thickness of the skin that required debridement. The burn victim showed me how little these communities expect medical care, as the child's mother didn't mention the burn until we were almost done seeing the family in triage. This was an injury that would cause someone to immediately go to an emergency department in the USA.

**COMING HOME:** It was hard to say goodbye to our guides from Global Brigades. We provided care that these communities rarely receive and it was great to see the impact we made.

### SOM's Montgomery working alongside NIH scientists

Blake Montgomery, MS 5, is getting a jump-start on his dual career aspiration of becoming a neurosurgeon and working in translational research.

For the next year, Montgomery is taking a leave of absence from the School of Medicine to work with researchers in the Surgical Neurology Branch at the National Institutes of Health in Bethesda, Md. The opportunity to work alongside some of the nation's top researchers comes from Montgomery being selected earlier this year to participate in the second class of the NIH's Medical Research Scholars Program.

"I am very excited for what this year has to offer," Montgomery said. "All the scientists seem very happy about having scholars in their lab or clinic for the year."

Montgomery said he would be working primarily with Prashant Chittiboina, M.D., a staff clinician, and NIH basic science faculty members Marsha Merrill, Ph.D., and Richard Youle, Ph.D., on pituitary tumor research with a focus on ACTH secreting adenoma, also known as Cushing's disease.

"MRI is the current gold standard for localizing these tumors within the pituitary, however, many corticotroph adenomas are invisible to MRI," Montgomery said.

His study at the NIH will concentrate on the in vitro metabolism of these tumors with the hope that gaining an understanding of their metabolism will lead to other imaging modalities, specifically PET scans.

Montgomery said his work at the NIH would include both basic science and clinical research.

The Medical Research Scholars Program is a combination of the former Howard Hughes Medical Institutes National Institutes of Health Research Scholar Program and the Clinical Research Training Program. It accepts only 45 medical,



dental and veterinary students from across the country each year to participate in a 12-month research project at the NIH. After arriving at the NIH, students interview with potential mentors and select projects based on their interest.

The program's academic curriculum also offers lectures on basic, translational and clinical research topics, training in clinical protocol development and conducting human subjects research, participation in clinical rounds that focus on research patients at the NIH, and academic leadership training.

"I am still very open to the possibility of attaining a Ph.D. in the future," Montgomery said. "This year will surely allow me to better assess my career goals."

Blake Montgomery, MS 5, accepted into the National Institutes of Health Medical Research Scholars Program, is taking a year off from his studies at the School of Medicine to work with researchers at the NIH in Bethesda, Md.

### SOM continues tradition with White Coat, InDOctrination ceremonies

The School of Medicine kicked off the new school year with its tradition of welcoming Year 3 students to Hospital Hill with the White Coat Ceremony and Year 1 students to the School with its annual InDOctrination Ceremony.

The 103 medical students advancing to Year 3 received a reminder of the importance of being a physician during the annual White Coat Ceremony on Aug. 10 at the UMKC White Recital Hall on the Volker Campus.

Ray Cattaneo, M.D., '03, president of the School of Medicine Alumni Association, told the class that their white coats should serve as a reminder that while their ultimate job is to heal, they must "do it with responsibility, honor, justice and respect."

The White Coat Ceremony, established by the Arnold P. Gold Foundation, emphasizes the importance of compassionate care for patients as well as proficiency in the art and science of medicine. It marks the beginning of Year 3 training at the School of Medicine as medical students join docent units on Hospital Hill and at Saint Luke's Hospital.

Amgad Masoud, M.D., assistant professor of internal medicine, received the 2013 Outstanding Year 1-2 Docent Award that is selected each year by students.

A class of 113 first-year students took part in the Year 1 InDOctrination Ceremony on Aug. 16 at Pierson Auditorium. George Harris, M.D., assistant dean for Years 1 and 2 medicine, introduced the members of the class by their Year 1 docent units. The class then listened to a reading of the Oath of Physicians, an oath that the class will recite together on graduation day.

The 2013 Richard T. Garcia Memorial Award was presented to Rahul Maheshwari, MS 2. Angela Mundakkal, MS 2, and Shiva Reddy, MS 2, received



Two traditional School of Medicine events marked the beginning of a new school year in August. Above, Blue 2 Docent Pim Jetanalin, M.D., assistant professor of medicine, placed the white coat on new Year 3 student Omar Karadaghy during the annual White Coat Ceremony. Below, incoming Year 1 students were recognized at the InDOctrination Ceremony.

the award on Maheshwari's behalf. The award is presented annually to a Year 2 student who displays outstanding

leadership skills, compassion toward fellow students and outstanding academic performance throughout Year 1.

# 2013 UMKC School of Medicine Residency Graduates

## Anesthesiology

Jesus Diaz, Private Practice, Tallahassee, FL  
 Matthew Christopher Edwards, Private Practice, Kansas City, MO  
 Andrew Montalbano, Private Practice, Warrensburg, MO  
 James Marshall Reusch, Private Practice, Saint Louis, MO  
 Lori Roberts  
 Christopher Michael Wang, Private Practice, St. Louis, MO

## Advanced Heart Failure Transplant Cardiology

Adnan Khalid, Fellowship, Kansas City, MO

## Cardiovascular Disease

Justin McCrary, Private Practice, Kansas City, MO  
 Elizabeth Guastello, Private Practice, Lawrence, KS

Lance S. Longmore, Private Practice, Pocatello, ID

Mohammad Abuannadi, Fellowship, MI

## Cardiovascular Outcomes Research

Mouin S. Abdallah, Academia, Kansas City, MO

## Critical Care Medicine

Navin Bajaj, Fellowship, Boston, MA

## Emergency Medicine

C. Bryson Bowman, Hospitalist, TX  
 Scott Michael Campbell, Hospitalist, Kansas City, MO

David R. Darmsteadter, Hospitalist, Springfield, MO

Seth Edward Ilgenfritz, Hospitalist, Springfield, MO

Anne Monroe Jacobsen, Hospitalist, Kansas City, KS

Christopher G. Ralph, Hospitalist, Overland Park, KS

Jennifer Jean Robertson, Hospitalist, Cleveland, OH

Andrew Colin Russell, Hospitalist, Kansas City, MO

Caroline Nicole Smith, Hospitalist, Maplewood, MN

David Whitmer, Hospitalist, Topeka, KS



2013 Internal Medicine Residency Program Graduates

## Community and Family Medicine

Melanie Arora, Fellowship, Kansas City, MO

Kellie Bartlow, Fellowship, Kansas City, MO

Michael R. Brown, Private Practice, Kansas City, MO

Tara Brown, Private Practice, St. Joseph, MO

Krista Clark, Private Practice, Chillicothe, MO

Brittany Irey, Private Practice, MI

Jacob Masena, Private Practice, Joplin, MO

Jason Meler, Private Practice, Rolla, MO

Kara Meler, Private Practice, Rolla, MO

Pam Rizza, Fellowship, Cincinnati, OH

Ryan Sears, Fellowship, Kansas City, MO

Chad Sharky, Private Practice, Grain Valley, MO

Linda Wen-Ling Lee, Private Practice, Sacramento, CA

Dushyant Singh, Private Practice, Shawnee Mission, KS

Gopi Jayendra Astik, Private Practice, Chicago, IL

Alisha Amber Morgan, Private Practice, Kansas City, MO

Srinath Tadakamalla, Private Practice, Leawood, KS

## Hematology/Oncology

David Ernst, Private Practice, Kansas City, KS

Abdulraheem M.S. Qasem, Private Practice, Kansas City, MO

## Infectious Disease

Brian Sabado Pepito, Private Practice, Sioux Falls, SD

## Internal Medicine

Nadine Aboul-Magd, Fellowship, Kansas City, KS

Khalil Mohammad Abuamr, Fellowship, Kansas City, MO

Ahmad Alhariri, Fellowship, San Francisco, CA

Hamza Abdel Razzaq Alshami, Fellowship, Kansas City, MO

Ealaf Al-Rabia, Neurology Residency, Washington, DC

Sagar Amin, Diagnostic Radiology, Gainesville, FL

Heather Andrews-Carver, Chief Resident, Kansas City, MO

Orson Daniel Bangert, Hospitalist, Janesville, WI

Allen Francis Davied, Hospitalist, Kansas City, MO

Siva Marri, Chief Resident, Shreveport, LA  
 Ann Marie Melookaran, Anesthesiology, New Haven, CT

Kristin Stonebraker Gillenwater, Chief Resident, Kansas City, MO

Luciana Law, Hospitalist, Kansas City, MO

Maleeha Mohiuddin, Anesthesiology, Boston, MA

Sumit Mukherjee, Fellowship, Kansas City, MO

Kelsy Mae Parker, PM&R, Tacoma, WA

Krushangi Patel, Internal Medicine, Phoenix, AZ

Shariq Shamim, Fellowship, Kansas City, MO

Kristen Depperman Strasser, Fellowship, Kansas City, MO

Saad Ahmed Syed, Anesthesiology, St. Louis, MO

Hassan Taha, Fellowship, Milwaukee, WI

Megan Varma, Hospitalist, Tampa, FL

Heath Wilt, Fellowship, Cincinnati, OH

Anna Grodzinsky, Fellowship, Kansas City, MO

Clara Hill, Fellowship, Kansas City, MO

Carmen Marie Gloria Ford, Private Practice, St. Joseph, MO

Ashley Rae Mathews, Chief Resident, Kansas City, MO

Casey Nicole Willimann, Faculty-TMC, Kansas City, MO

Christopher Ryan Fitzgerald, Private Practice, Beverly Hills, CA

Emily Haury, Academia, Kansas City, MO

Anthony J. Hart, Private Practice, Kansas City, MO

Seshu Chepur Rao, Private Practice, Topeka, KS

Erica Renee Heitmann, Private Practice, Tucson, AZ

Sara Rebecca Ackermann, Private Practice, Roseville, MN

Dawn Christine Charles, Private Practice, North Kansas City, MO

Katherine Ann Goodpasture, Private Practice, Manhattan, KS

David Leighton Howard  
 Imran Iqbal

Pedro Morales, Academic Physician, Kansas City, MO

Pratibha Sareen, Fellowship, Saint Louis, MO

Jillian Brigetta Stewart, Private Practice, Aberdeen, SD

## Ophthalmology

Nicholas Richard Binder, Fellowship, Los Angeles, CA

John Adam McLaughlin, Fellowship, Miami, FL

Ronald Luke Rebenitsch, Fellowship, Overland Park, KS

Shamim A. Haji, Fellowship, Jacksonville, FL

Timothy Peterson Lindquist, CMH-Pediatric, Kansas City, MO

## Oral & Maxillofacial Surgery

Daniel Christopher Nielson, Private Practice, Olathe, Kansas

Justin Wayne Labart, Private Practice, Shawnee Mission, Kansas

Brett Michael Sullivan, Private Practice, Portland, Oregon

## Orthopaedic Surgery

Bryce Justin Barker, Fellowship, OH

Michael Hans Johnson, Fellowship, RI

Dorian Yvonne Reid, Fellowship, Las Vegas, NV

Kiley Eugene Ziegler, Fellowship, Louisville, KY

## Pathology

Hana Hamdan, Fellowship, Kansas City, Kansas

Anne-Marie Priebe

Karlo Bigornia Beltran, Hospitalist, Kansas City, MO

JunMo Jon Chung, U.S. Air Force, Charleston, SC

Olena T. Gorsky, CA

Olajide Kayode Oguntuase, Hospitalist, Kansas City, MO

Hiten P. Soni, Private Practice, Lawrence, KS

Silvie Rajbhandari Vijayananda, Hospitalist, Kansas City, MO

Matthew A. Brown, Fellowship, Chicago, IL

## Critical Care Medicine

Shais Shafi Jallu, Fellowship, Kansas City, MO

Timothy Michael Saettele, Fellowship, Austin, TX

## Diagnostic Radiology

Austin Luel Jones, Fellowship, St. Louis, MO

Christopher A. Daub, Fellowship, Winston-Salem, NC

Jonathan Allen Phelan, Fellowship, Denver, CO

William Brian Vanlandingham, Fellowship, Kansas City, KS

Patrik Charles Leonard, Fellowship, Kansas City, MO

Myka Call Veigel, Fellowship, Iowa City, IA

## Sleep Medicine

Keng-I James Wu, Private Practice, Fresno, CA

Duana Charis Meseyton, Private Practice, Kansas City, MO

Saif Usman, Private Practice, Gaithersburg, MD

## General Surgery

Jenelle D. King, Hospitalist, Yarmouth, Nova Scotia

Jason R. LaTowsky, Fellowship, Columbia, MO

Matthew C. Sappington, Hospitalist, Kansas City, MO

Eric A. Wieman, Fellowship, Louisville, KY

Brian Haas, Private Practice, St. Joseph, MO

Clinical Cardiac Electrophysiology

Michael Spooner, Navy, Norfolk, VA

## Spotlight

### First graduate remembers those he's met along the way

*"Service is the rent we pay for living." – Marian Wright Edelman*

**Jerry Burton, M.D., '73**, said he has thought often of this famous quote throughout his life and career.

Burton, the first person awarded the M.D. degree from the School of Medicine, says life is about the people you meet. He credits his success and fulfillment to those at the School of Medicine, his mentors, colleagues, students and patients.

It's these people who continue to inspire his work and service activities. His most recent project involves collaborating with School of Medicine founder E. Grey Dimond, M.D., on the history of the first 40 years of the School. Collaborating with former deans, Take Wing Award winners, docents and other leaders, they hope to document the story of the School for generations to come. In addition to spending a significant amount of time at the School working on this project, Burton is helping teach the History in Medicine course for the Office of Humanities and Bioethics as well as courses in behavioral science.

"For me, it's obligatory that I give back to the school that gave me so much," he said. "I want to give students insights into whatever experiences I can and show them you can still practice medicine in a quality, ethical way no matter what happens with the political aspects of it."

Burton did not start his career practicing medicine. Before enrolling in the brand new UMKC School of Medicine in 1971 at the age of 28, he had a Ph.D. in pharmacology and years of teaching in pharmacy and pharmacology at the university level under his belt. He had spent some time at the University of California, San Francisco and then the University of



California-Irvine with his mentor, working toward his Ph.D. in pharmacology. When his mentor suddenly died a year into their studies at UC Irvine, Burton said he was lost and decided to head back to UMKC to complete his Ph.D. studies. Recognizing his interest in clinical medicine, Burton's mentor at the UMKC School of Pharmacy encouraged him to apply to the new medical school.

"I jumped at the opportunity to come

here," Burton said. "I was very intrigued by the School. I passed up a post-doctorate fellowship opportunity at UCSF and a possibility at Wood's Hole in Massachusetts doing research in marine pharmacology to go to this school. And, I'm really grateful that I did."

Already classically trained in the disciplines of physiology, anatomy, pharmacology and pathology, Burton and the other advanced students were paired

*"For me, it's obligatory that I give back to the school that gave me so much."*

*Jerald Burton*



**Jerry Burton, M.D., '73**, was the first to receive his diploma from the UMKC School of Medicine. SOM founder, E. Grey Dimond, M.D., gave him a medallion to commemorate his status as the first graduate.

with younger ones who came to the School directly from high school. He was paired with another student on the Red Docent Team, **John B. Nelson, M.D., '75**, who would eventually become Burton's first partner in pulmonary medicine. The mentoring docent system, Burton said, continues to be the most important aspect of the School. He credits Dimond's vision in writing the academic plan and the experiment in medical education, which has been duplicated at many other medical schools.

"If you're going to have an innovative school, like the School of Medicine here, you're going to have young students come in here who need that stabilizing experience," he said. "You need someone who not only tells them the didactic material of medicine, but also about life experiences. You can talk about clinical rotations, everybody has clinical rotations, but it's the docents that make the real difference."

As part of a docent group, students shared stories of patients they saw. One of the stories Burton shared with his docent team continues to affect him today.

As medical students, Nelson and Burton repeatedly saw a middle-aged, female patient with severe diabetes. They had admitted her to the hospital more than a dozen times, referred her to endocrinologists throughout Kansas City and even coded her. They visited her at home at the suggestion of Founding Dean Richardson K. Noback, M.D. This began what would be a lasting bond with this woman. A few years later, during an obstetrics rotation at General Hospital with Elwyn Grimes, M.D., Burton saw a teenage patient who had been sexually abused by a family member and was pregnant.

"As I was holding this young lady's hand and listening to her tragic story, I felt a hand on my shoulder," he said. "I turned around, and it was the lady from years before that we had treated and

visited in her home. The young girl was her daughter. She gave me a huge hug and said, 'I feel really good about being here now.' This was life transformative for me. I truly began to think in an Oslerian fashion: it's not about the disease you're treating, it's about the patient you're treating with the disease."

It is this way of thinking that Burton credits the School with striving to instill in its students.

"I'm incredibly honored to be the first graduate of the School of Medicine, and what I'm also honored to show other people, not only in the Kansas and Missouri area, but also the West Coast, is that the UMKC School of Medicine produces graduates that are very high quality."

After completing two years of his residency at General Hospital, he headed back to California for a fellowship then a year of teaching in the University of California, Los Angeles system. He and his wife, whom he met as a student at the SOM and who was the first education assistant at the School, returned to Kansas City where he practiced pulmonary medicine while he was also serving as medical director at a chemical dependency treatment hospital, which specialized in treating health care professionals.

Today, he is actively giving back to the community through his work on the advisory board for the William Osler Society and the John Locke Society – groups of retired physicians that provide lectures around the Kansas City area about medical topics as well as mentoring medical students from both UMKC and the University of Kansas. He said meeting new people along the way continues to be his favorite aspect of the work he does.

"If it weren't for the people I've met who have guided and supported me, I would not be the person I am today," Burton said. "It is a blessing to be able to do my small part in the continuation of our profession."



### SOM alumni part of UMKC Proud campaign

School of Medicine alumni and faculty were among the faces featured on University of Missouri-Kansas City billboards displayed throughout the metro area touting some of the city's outstanding leaders.

The billboards were part of the UMKC Proud campaign, showcasing alumni who are making an impact on Kansas City and designed to bring awareness of the University's contributions to the region. The two-month campaign ran from September to October with a set of six different billboards featuring UMKC graduates appearing each month.

A billboard with the image of **Michele Kilo, M.D., '84**, associate professor of pediatrics, appeared throughout September along I-29 near Kansas City International Airport.

Kilo serves as director of developmental and behavioral sciences at Children's Mercy Hospital, was appointed by Governor Jay Nixon to serve a two-year term

on the Missouri Autism Commission, and has served on the Juvenile Diabetes Research Foundation Board. She also served as chair of the Jellybean Conspiracy, a group of high school performers from both regular and special education classes who perform together to show peers throughout the region how to recognize similarities, respect differences and celebrate one another's talents and gifts.

A past recipient of the Leonard Tow Humanism in Medicine Award, Kilo was also selected during her residency as the outstanding resident of the year at Children's Mercy Hospital.

"It is well known that I am eternally grateful for the opportunities afforded me in my education and resulting career at Children's Mercy — all because of my attending the UMKC School of Medicine," Kilo said in her UMKC Proud bio. "I have sustained a deep loyalty to UMKC and the School of Medicine for the experience of a lifetime and for helping to keep me here in

Kansas City, a town that I love dearly and enthusiastically call home!"

Brett Ferguson, D.D.S., assistant professor and chair of oral surgery for the School of Medicine, also appeared on a campaign billboard throughout September. Ferguson is an alumnus of the UMKC School of Dentistry. Born in Kansas City, Ferguson remains committed to his hometown through volunteer service to a number of Kansas City organizations, including the American Red Cross and Kansas City Friends of Alvin Ailey. In addition, he delivers presentations on dentistry and oral surgery careers to Southeast Health Magnet Schools.

**Tracy Stevens, M.D., '90**, was featured on a UMKC Proud billboard in October. She is a School of Medicine professor of medicine and medical director of the Muriel I. Kauffman Women's Heart Center at Saint Luke's Hospital, where she works in preventive cardiology and heart transplantation.

## Updates



**Denise Davis, M.D., '81**, presented the 2013 Marjorie S. Sirridge, M.D., Outstanding Women in Medicine Lecture-ship on Sept. 19 at the School of Medicine. She spoke to UMKC faculty, staff and students, as well as other members of the community, about "Pride and Presence: Narratives of Women Physicians and their Daughters." Davis, an internist, is an associate clinical professor of medicine at the University of California San Francisco, a member of the core faculty for the Center of Excellence, San Francisco VA Medical Center and a faculty member at the American Academy on Communication in Healthcare.

**William Fish, M.D., F.A.A.F.P., '81**, was installed as the 65th president of the Missouri Academy of Family Physicians during the awards and installation dinner at the MAFP's annual meeting on June 8 in Lake Ozark. He is board certified by the American Board of Family Medicine. He resides in Liberty with his wife, Mary Beth, and their three children. Fish has been a member of the MAFP since 1984 and served as MAFP Advocacy Commission Chair from 2008-2011.



**Timothy Buie, M.D., '84**, was chosen to teach a master class as part of UMKC's 2013 Founders' Week, which began Sept. 28. Buie is a pediatric gastroenterologist at Massachusetts General Hospital in the Lurie Center for Autism, a multidisciplinary program that treats children, adolescents and adults with autism spectrum and other neurodevelopmental disorders. He is a sought after lecturer with parent groups of children with autism and pediatric and physician conferences throughout the country.

**Stephen Butler, M.D., F.A.C.S., '85**, has joined HealthPoint Medical Group in the Lakeland and Plant City areas of Florida. Board certified in general surgery, he is the former chief of medical staff and chairman of the department of surgery at South Florida Baptist Hospital in Plant City. Butler, a Fellow of the American College of Surgeons and a member of the Florida Medical Association, was instrumental in the development of the hospital's GI Endoscopy Center, Laparoscopic Bariatric Surgery programs, and the design of its current operating rooms. He is also a past chairman of the Department of Surgery and informaticist for the EMR Implementation program at Lakeland Regional Hospital.

**David Burkart, M.D., '91**, has opened, along with his partners, the Healign Physician Group, a physician-owned, multi-specialty group in Leawood, Kan. Burkart and four other Kansas City area physicians formed the group to provide care to patients suffering from cardiac, peripheral vascular, wound healing and vein problems, as well as to those with radiology or interventional radiology needs. The name Healign is a combination of the words, healing and patients. To learn more Healign Physician Group, which opened its doors in June, visit [www.healign.com](http://www.healign.com).

**Richard Burke, M.D., '98**, a community and family physician in Rock Port, Mo., received the Missouri Academy of Family Physicians' 2013 Family Physician of the Year Award. Burke currently serves as the medical director of the local nursing home, ambulance district, and county health agency and mentors local high school students entering the medical field. He is also a preceptor for medical students, physician assistants and nurses. Burke resides in Rock Port with his wife, Joanna, and their three children, Journi, Alex, and Aidan. He has been a member of the MAFP since 2001.

**Cathy Cody, M.D., '10**, joined Centralia Family Health Clinic in Centralia, Mo. She is on staff at the Boone Hospital Center and the BJC Medical Group. Cody, a Missouri native, completed her family medicine residency at the University of Missouri-Columbia.



## In Memoriam



**William Wu, M.D.**, a long-time friend of UMKC and professor emeritus at the School of Medicine, died June 18.

In his autobiography, "Monsoon Season," published in 1996, Wu recounts his early childhood in a Chinese peasant village in Toisan, his later childhood in Philadelphia's Chinatown, and his experiences as a surgeon with the 22nd Field Hospital of the U.S. Army. He was awarded a Bronze Star during the war for treating wounded soldiers. He came to Kansas City in 1950 and became the first nonwhite doctor to break the color line in the local medical society.

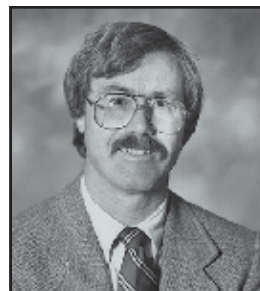
Knowing the struggles Chinese students face and hoping to advance friendship and understanding between the Chinese and Americans, Wu created the William Q. Wu Merit Scholarship Fund in 1990. The fund assists Chinese students studying at UMKC and UMKC students studying in China. UMKC International Academic Programs manages the scholarship fund.

Donations in Wu's honor may be made to the William Q. Wu Merit Scholarship Fund c/o UMKC Foundation, 202 Administrative Center, 5100 Rockhill Rd., Kansas City, Mo., 64110. The scholarship promotes U.S.-China student exchanges and intercultural relations.



**Cynthia A. Alsup, M.D.**, a 1991 UMKC OB/GYN residency alumna, died Aug. 1. Alsup, who grew up in Washington, Okla., received her bachelor's and M.D. degrees from the University of Oklahoma. She completed her OB/GYN residency at the UMKC School of Medicine. In 1991, she began her OB/GYN practice in Shawnee.

Memorial contributions can be made to Pottawatomie County Project Safe or Pottawatomie County Free Medical Clinic through the United Way, or the March of Dimes.



**Owen J. Smith, M.D.**, died Aug. 12 at KU Medical Center. Smith was a docent at the School of Medicine from 1982 to 2000 and an associate professor of internal medicine from 2001 until the time of his death. His daughter, Lindsey Smith, M.D., '09, is a graduate of the School of Medicine.

He practiced with the Plaza Gastroenterology Associates before continuing his career at Children's Mercy Hospital and Clinics as professor of pediatrics and director of interventional endoscopy in the Department of Gastroenterology. Originally from Oak Park, Ill., Smith received his undergraduate degree at the University of

Notre Dame and his M.D. from the University of Nebraska Medical School. He completed a residency in internal medicine and fellowship in gastroenterology at the University of Massachusetts.

Memorial contributions may be made to [www.nothingbutnets.net](http://www.nothingbutnets.net) or to Children's Mercy Hospital, 2401 Gillham Road, Kansas City, Mo., 64108.



**Ray Snider, M.D.**, died Aug. 19 in Big Rapids, Mich. The former faculty member and department chair arrived at the School of Medicine in 1974 when he started as a professor in the Department of Surgery. From 1975 until his retirement, Snider was chief surgeon for Kansas City General Hospital, later renamed Truman Medical Center, and chair of the SOM Department of Surgery.

Snider, a Missouri native, completed his undergraduate and M.D. degrees at the University of Michigan. He then completed his surgical internship and residency at the Kansas City General Hospital before serving in the U.S. Navy as a lieutenant commander and chief surgeon at Whidbey Island, Wash.

During his time at the School, he co-chaired the First International Symposium on General Surgery in Beijing, China, in 1986. After his retirement, he and his wife spent many years in Santa Fe, N.M., before moving to Big Rapids, Mich., to be closer to family. Donations in his memory may be made to the Truman Medical Center Charitable Foundation, which helps fund the medical expenses of the needy, at <http://tmcgiving.com/>.

## From the president of the SOM Alumni Association

As the seasons change, I'm not only reminded that we are approaching the beginning of a new year, but we are also embarking on new terrain in the medical field.

Our fellow alumni are on the frontlines of the biggest changes affecting the field today. As we continue to deal with the shortage of primary care physicians, we are tackling the challenge of increasing physician satisfaction while providing the utmost quality of care. We are in the process of enabling doctors to focus on what we love: practicing medicine.

As bioinformatics reshapes the way we are able to collect, gain access to and



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store information, our fellow graduates are on the cutting edge of bioinformatics research. The School continues to prepare future alumni to stay ahead of the curve through innovative training and programs.

It was great to see those of you who were able to make it to Founders' Week. I really enjoyed learning more about what you do and connecting with old friends. Don't forget to mark your calendars for the 2014 School of Medicine Alumni Reunion on April 25-26.

I wish you all a happy holiday season and all the best in the coming year.

In the best of health,

**Raymond A. Cattaneo, M.D., M.P.H., F.A.A.P., '03**, President, UMKC School of Medicine Alumni Association

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Formal invitation to follow. Questions? Contact Catherine O'Sullivan at 816-235-5162 or [osullivanc@umkc.edu](mailto:osullivanc@umkc.edu)

## 2013 Graduation

**An Duc Pham, M.D., '13**, celebrates with family after the School of Medicine's graduation ceremony on May 24 at the Swinney Recreation Center, where the School held its first combined graduation, recognizing those receiving their Doctor of Medicine, Master of Science in Anesthesia, Master of Science in Bioinformatics, and Graduate Certificate in Clinical research.

