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Cover: Cancer research by Subhash Chauhan, PhD, Meena Jaggi, PhD, and team. Photo by Jane Pate. See pages 12-14.
In accordance with the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, The University of Tennessee affirmatively states that it does not discriminate on the basis of race, sex, or disability in its education programs and activities, and this policy extends to employment by the University. Inquiries and charges of violation of Title VI (race, color, national origin), Title IX (sex), Section 504 (disability), ADA (disability), Age Discrimination in Employment Act (age), sexual orientation, or veteran status should be directed to the Office of Equity and Diversity (OED), 910 Madison Avenue, Suite 826, Memphis, Tennessee 38163, by telephone at (901) 448-2112 or (901) 448-7382 (V/TTY available). Requests for accommodation of a disability should be directed to the ADA coordinator at the Office of Equity and Diversity.
This has been a very exciting year for the college and the Health Science Center! The Health Science Center applied for separate accreditation from University of Tennessee Knoxville by the Southern Association of Colleges and Schools (SACS), and our site visit by SACS in February went very smoothly. Kudos to the teams who put together a very well-crafted self-study.

What does this separate accreditation mean for the college and UTHSC? First, it is recognition of the growth and success of UTHSC, so much so that we are truly a separate institution from UTK. Of course, we both continue to operate within the UT System, as do the campuses in Chattanooga and Martin, and the UT institutes. The college and UTHSC also benefited from our preparation for separate accreditation. The UTHSC administration and its six colleges closely examined our processes, our measures of success and failure, and our direction. As a result, we have established a procedure for ongoing evaluation of how we operate and set strategic priorities. With the assistance of consultants hired by UTHSC, the college faculty, staff, students and postdoctoral fellows have spent considerable time this past year identifying strategic priorities and the objectives needed to meet those priorities. This resulted in a strategic map – http://grad.uthsc.edu/CollegeInfo/index.php?page=StrategicMap, a one-page overview of the things the college feels are important to achieve in order to fulfill our mission. This map is not static, but will be reviewed semi-annually to gauge progress and to revise, as necessary.

Clearly, not all of our strategic priorities can be met simultaneously. Therefore, part of the process in the semi-annual review is to identify those priorities that are most in need of attention. Currently, implementation teams have been created to set specific tasks in three areas of focus: improve the application process to attract the best qualified, committed, and diverse set of students; enhance career and skill development opportunities for our trainees; and foster and reward excellence in teaching, mentoring, and advising of trainees. These areas of focus are not at the exclusion of other priorities, but such focus does acknowledge that an attempt to address all priorities simultaneously will likely not accomplish our goals.

I am confident that the introspection that has taken place during the SACS accreditation process and our strategic planning is a healthy acknowledgement of the changing landscape for graduate research education: research funding continues to erode and academic careers are extremely difficult to launch. Nonetheless, graduate research education provides skills that are universally valuable, skills such as critical thinking, analysis, and synthesis of new ideas. Through attention to the certainty of change, we can continue to attract outstanding young scientists and provide them with the tools to pursue successful and rewarding careers.

Thank you for all of your support!

Donald Thomason, PhD

With fiscal year 2015 ending June 30, now is an opportune time to reflect on how much progress our institution achieved in the past year. Major initiatives will that affect the future of UTHSC; for decades to come surged ahead in the past 12 months, including the ongoing phase-in of our Campus Master Plan, our expansion in the Nashville area, and our independent SACS accreditation as a stand-alone university (page 5). Our Music City initiative includes the Colleges of Medicine, Nursing and Pharmacy as well as Dentistry. Through the talent and diligence of team members, the steadfast support of health care partners and the ongoing generosity of donors like you, UTHSC can chart fiscal 2015 as another watershed year in our growth and development.

As we continue to upgrade the Memphis campus, changes to our physical infrastructure are apparent. Just as the new Translational Science Research building (TSRB) has risen adjacent to and connected with the extant Cancer Research facility, so early in 2015 we begin demolition of the Feurt building, adjacent to the General Education building (GEB). (See page 8.) Replacing the Feurt, we will construct a new, state-of-the-art Multi-Disciplinary Simulation Center, which will connect directly to the GEB.

Just as our investigators will reap the rewards of practicing team science in the TSRB, so our students will increase their training and benefit as members of focused, efficient health care teams in the simulation center.

Simultaneous with our physical transformation are important changes in our organizational structure. In 2014, we launched two new faculty practices in partnership with our core teaching hospitals – UT Regional One Physicians and UT Methodist Physicians. We also partnered with Le Bonheur Children’s Hospital to form the UT-Le Bonheur Pediatric Obesity Center, where we focus on both research and patient care in an effort to stem the tide of childhood obesity in the Mid-South. Then, in late February, with the UT Board of Trustees winter meeting in Memphis, we took another step to extend our relationship with our largest hospital partner, Methodist Le Bonheur Healthcare. Methodist University Hospital added the UT initials to exterior signage over its new emergency department entrance, rebranding the name as Methodist UT Hospital. This step reflects the convergence of the UTHSC and Methodist missions and visions. More than 300 physicians are currently in training in Methodist facilities and since our partnership began, more than 1,865 medical and surgical specialists have been trained in Methodist Le Bonheur Healthcare locations.

Sadly, we must also report news of a great loss to the UTHSC family, Le Bonheur and the global health care community – the passing of Russell Chesney, MD. This world-renowned and much lauded pediatric nephrologist, who served children and the health care education community so long and so well, passed away on April 2. The article on page 4 offers a summary of Dr. Chesney’s many accomplishments and gives those who didn’t know him a glimpse at why he inspired so much respect and affection in so many.

The Latin proverb is ever true: “Tempus et maris aetatis neminem expectant”. “Time and tide wait for no man.” In that spirit, please don’t want to become more involved with UTHSC. Make note of our next Golden Graduate Homecoming Celebration on Oct. 14-16 here in Memphis. (See the inside back cover for details.) It is a great pleasure for all of us to welcome returning alumni to experience our rejuvenated campus firsthand. We look forward to seeing you soon.

Steve J. Schwab, MD
WTRFC as well as the Shelby County Medical Examiner's Office. In April, 2015, the center was reaccredited by the National Association of Medical Examiners (NAME), the premier organization of physician medical examiners, coroners, medical death investigators and medicolegal system administrators in the United States.

“we believe that we are uniquely positioned to deliver high-quality, cost-effective management of the center and to add considerable value to the educational, public service and research elements that the center has the potential to deliver,” said Kennard Brown, JD, MPA, PhD, FACHE, executive vice chancellor and chief operations officer at UTHSC, in the university’s petition to operate the center.

According to NAME, accreditation is an endorsement that policies and procedures of the office meet prescribed standards for medicolegal systems. Accreditation, which involves an onsite, peer-review process and is conferred for a period of five years, signifies that the office performs with a high degree of competence and attention to public service. “Reaccreditation confirms our success,” Dr. Brown said.

“I am proud of each person at the WTRFC for continuing to do this very difficult job, and for being the consummate professionals necessary to achieve full accreditation status.”

The contract also positions the WTRFC to better respond in instances of natural disasters and acts of terrorism, he said.

The WTRFC is located at 637 Poplar Ave. in a $10 million facility that opened in June 2012.
In just a few years, the University of Tennessee Health Science Center campus in Memphis will have at least 15 new buildings to meet expanding academic, research, clinical care and support needs. It will also have improved pedestrian and bicycle routes, better traffic flow, more parking, well-designed green spaces and landscaping, prominent signage, 10 renovated buildings and updated housing options.

The improvements are part of a Campus Master Plan designed to enhance UTHSC's stature as an urban academic medical center and secure its spot as the nucleus of the evolution of the Memphis Medical Center. The plan is the first major blueprint for growth of the university since the 1990s.

“There are few things more important to us at this particular point in time than the evolution of our Campus Master Plan,” Kennard Brown, JD, MPA, PhD, FACHE, executive vice chancellor and chief operations officer for UTHSC, said in an October open house held for faculty, staff and members of the community. At the meeting, Dr. Brown invited community leaders and partners to join the discussion of the evolution of the Memphis Medical Center, as the master plan changes the face of the UTHSC campus at its center. “We believe this conversation will serve as the nucleus for all the conversations involving the development of the Memphis Medical District and the evolution of the UT-Baptist Research Park,” he said.

The plan, drawn by the award-winning architecture and design firm of Perkins + Will, after more than a year of discussions with faculty, staff, students and community stakeholders, focuses on giving UTHSC’s urban campus a clearer sense of identity, showcasing existing and emerging research and clinical centers of excellence, strengthening the use of Health Sciences Park as the campus center, making campus open spaces useful and attractive, reinforcing strong pedestrian routes, and grouping complementary endeavors and colleges together for ease of access.

“The best academic medical centers around the country and around the world are attempting to create this incredibly rich mix of clinical care, academic instruction and research,” said Krisan Osterby, project manager with Perkins + Will. The emphasis will be on enhancing interdisciplinary cooperation, she said.

Some projects and improvements in the plan are funded and under way, and some will evolve over the next five years and beyond. “We're in the throes of in excess of $250 million in construction,” Dr. Brown told the gathering. This includes construction on the $49 million Translational Science Research Building, which is nearing completion; the $70 million renovation to buildings in the Historic Quadrangle, which will begin soon; the $6 million ongoing renovation of the Lamar Artist's conceptions of the planned buildings and renovations

Large photo: The planned Women's and Infants' Pavilion to be located on Dunlap.

Upper inset: The proposed College of Medicine building to be located at the intersection of Madison and Pauline.

Lower inset: The refectory in Mooney, once restored.
Making Way for the New

The Feurt Pharmacy Research building is coming down to make room for a $24.1 million Multi-Disciplinary Simulation building, where students from all six colleges will train together in cutting-edge simulation settings. Reshaping the UTHSC campus is an important step for the future, said Kennard Brown, JD, MPA, PhD, FACHE, executive vice chancellor and chief operations officer at UTHSC. “It will help us maintain the competitive edge.”

Christopher Waters, PhD, professor and vice chair in the Department of Physiology at UTHSC, has received a research grant totaling $1.5 million from the National Heart, Lung, and Blood Institute, a subsidiary of the National Institutes of Health. His research seeks to understand the repair process associated with various lung injuries.

The award will be used to support a project titled, “CXCR4 Signaling in Lung Epithelial Repair.” The award will be distributed over a four-year period. Patients with severe lung injury can develop a disease called Acute Respiratory Distress Syndrome (ARDS). This disease is one of the most frequent causes of admission into the intensive care unit. It can be caused by different types of injury to the lungs, including infections and exposure to toxic substances. A major feature of this disease is injury to the epithelial cells that line the respiratory tract and that normally protect the lungs from harmful substances in the inhaled air. Repair of the injured cells is important for recovery from the disease.

The patients are treated with supplemental oxygen and mechanical ventilation. Unfortunately, many patients do not survive. While this treatment is essential for survival, mechanical ventilation itself can contribute to additional lung injury and may affect the repair processes. It was recently discovered that a particular substance called CXCL12 is released by injured lung cells, and that CXCL12 is important for the repair of the lungs. Dr. Waters and his research team are studying the mechanisms of how this substance binds to its receptor (CXCR4) and promotes lung repair. In addition, they are studying how this repair process is affected by mechanical ventilation.

If successful, these studies will provide new information about how lungs repair during mechanical ventilation that could potentially lead to new treatments for ARDS patients. "ARDS is a devastating disease with very high mortality and limited treatment options,” said Dr. Waters. “The mechanisms of repair following injury are still not well understood, and this project from NIH will allow us to examine a new pathway that has not previously been studied in the lungs. We are excited to continue our studies of lung repair that we hope will lead to new treatments for ARDS patients.”
DISASTER PLAN:
Dr. Tigyi and Team Move Toward Radiation Drug

There currently is no antidote for radiation injury, but Gabor Tigyi, MD, PhD, a professor and chair of the Department of Physiology in the College of Medicine at UTHSC, and his team have spent more than 15 years working on one. Dr. Tigyi’s team has developed a drug candidate that shows promise for treating victims of acute radiation sickness from nuclear disasters like the ones at nuclear power plants in Japan in 2011 and Ukraine in 1986. It may also be useful in treating injuries suffered by cancer patients from radiation therapy.

Dr. Tigyi is the lead author of a paper about his latest radiation mitigator, DBIBB, which was published this month in the research journal Chemistry & Biology by Cell Press, and has drawn international attention.

“This drug candidate is modeled after a natural compound called lysophosphatidic acid, or LPA, that is produced in blood and promotes wound healing,” said Dr. Tigyi, the Harriet Van Vleet Professor of Physiology at UTHSC. Noticing that the same natural compound, a signaling molecule, is also generated by aggressive cancers that become resistant to radiation, the researcher and his team wondered if it could be useful in mitigating the symptoms of acute radiation sickness.

“LPA and its analogs enhance DNA repair that is caused by ionizing radiation, arrest the progression of programmed cell death for a period of time to allow the cell to repair its DNA and heal itself, and promote cell growth, and consequently, tissue regeneration,” he said.

DBIBB, the latest and most potent radiation mitigating drug candidate developed by Dr. Tigyi and his team, has been found to protect mouse embryonic cells and human cord blood-derived, blood-forming stem cells from cell death induced by radiation. It has also been shown to increase survival of mice, even when the drug is started up to 72 hours after radiation exposure. (Radiation protectors now on the market must be administered before exposure occurs.) Of mice treated with DBIBB, 93 percent were alive 30 days after radiation exposure at higher levels than are survivable by humans. Radio Inc., a biotech company founded by Dr. Tigyi and other UTHSC faculty, will continue development of DBIBB, just as they are already developing Rx100 – the first radiation mitigating compound to be discovered through UTHSC research.

“My colleagues and I hope that the real benefit and use of our compounds will not be as radiation countermeasures for first responders, the military and civilians, but in attenuating the side effects of the medical uses of radiation in cancer therapy,” Dr. Tigyi said. He also said the drug could be useful in protecting astronauts during space travel.

Stories about DBIBB in the media:
http://elpais.com/elpais/2015/01/22/ciencia/1421923637_070127.html
http://www.ibtimes.co.uk/nuclear-radiation-antiradiation-drug-could-work-days-after-exposure.html
http://www.sciencedaily.com/releases/2015/01/150122121431.htm

A $1.1 million grant from the NIH will allow Dr. Rennolds Ostrom and his research team to understand how an intracellular messenger called cAMP can carry different information based on where in the cell the signal is generated. Dr. Ostrom’s research could lead to cures for diseases such as asthma and chronic obstructive pulmonary disease.

Rennolds Ostrom, PhD, associate professor in the Department of Pharmacology, College of Medicine, at UTHSC, has received this grant, with a total of $1,136,476, from the National Institute of General Medical Sciences, a subsidiary of the National Institutes of Health. The award will be used to support a project titled, “Molecular Signal Transduction of cAMP Compartments,” and will be distributed over four years.

Currently, asthma and chronic obstructive pulmonary disease (COPD) are treated with drugs that relax airways. These drugs stimulate receptors by using the intracellular messenger, cAMP, which regulates contraction, metabolism, survival, growth, division and many other functions of all cells in the body. This messenger is utilized by a vast array of hormones, neurotransmitters and other signals to alter cell function. Research in Dr. Ostrom’s lab focuses on understanding how this chemical messenger can carry different information based on where in the cell the signal is generated. So far, the research team has found that cAMP can be produced in different locations inside cells and that different hormones can stimulate cAMP signals in some of these locations but not in others.

“The researchers are also interested in knowing what elements are present inside cells to create these cAMP ‘compartments’ and how these different locations regulate various cell functions. If these elements can be better manipulated to control how the cell responds to a given signal, new drugs can be developed that are safer and more effective for treating asthma and COPD.

“We are grateful to the National Institutes of Health, specifically the National Institute of General Medical Sciences, for funding our efforts to understand CAMP signaling compartmentalization,” said Dr. Ostrom.

“This is a fundamental biological process that is likely important in all cells. We believe our efforts can eventually improve not just the treatment of asthma and COPD but also many other diseases, including cardiovascular, renal and neurological disorders.”

The National Institutes of Health (NIH), the nation’s medical research agency, includes 27 Institutes and Centers and is a component of the U.S. Department of Health and Human Services. NIH is the primary federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. For more information about NIH and its programs, visit www.nih.gov.

Internationaly known infectious disease control expert Sean Kaufman, who trained and managed the Emory University staff responsible for treating the first clinical cases of Ebola in the United States, gave a presentation about Ebola at UTHSC Nov. 21, 2014.

He was invited to UTHSC to present a three-day training series at the BSL-3 Regional Biodefense Laboratory on campus about containment strategies for clinical treatment of Ebola.

Kaufman, founding partner of Behavioral-Based Improvement Solutions in Woodstock, Georgia, spoke about “Ebola and Beyond: A Discussion Ranging From U.S. Hospitals to the Front Lines of West Africa.”
Subhash Chauhan, PhD, and his team have received a three-year grant totaling $562,500 from the U.S. Department of Defense to research therapies for advanced-stage prostate cancer.

"Prostate cancer is the most commonly diagnosed cancer in men and the second leading cause of cancer death in men in the United States," Dr. Chauhan said. The American Cancer Society estimated earlier this year that roughly 233,000 men in the United States would be diagnosed with prostate cancer and 29,480 would die from it. African-American men experience 2.5 times greater risk of prostate cancer death compared to Caucasian men.

"We don't have any effective therapies for metastatic prostate cancer," Dr. Chauhan said. "Presently, chemotherapy is used to treat advanced-stage prostate cancer, but results are limited. More needs to be known about the molecular activity of this disease in order to develop new and effective treatments."

Dr. Chauhan, Meena Jaggi, PhD, associate professor of Pharmaceutical Sciences, and other members of their team will investigate whether the drug ormeloxifene (currently used as an oral contraceptive) can be repurposed as a treatment for prostate cancer, inhibiting the pathways that signal metastasis and blocking the estrogen and progesterone that trigger the abnormal cell growth.

Ormeloxifene is an established and safe drug for human use, and thus would be safe for multiple administrations during cancer treatment. It has never been investigated for use as an anti-cancer drug, but if research proves its effectiveness, clinical translation could be rapid.

The award is a prestigious one given only to a small number of researchers annually. "We feel very good about it," Dr. Chauhan said.

Subhash Chauhan, PhD, has received a $562,500 award to study new treatments for metastatic prostate cancer.

See Dr. Chauhan discuss his research at https://www.youtube.com/watch?v=kKljSgfNc. Zwi&feature=youtu.be.
In addition to their research into prostate cancer (see pages 12-13), Drs. Chauhan and Jaggi are engaged in research into pancreatic cancer, prompting a grant from the Herb Kosten Foundation of Memphis. The gift will be used to provide stipends for three newly recruited graduate student researchers, and UTHSC is matching this gift.

“We are all about pancreatic cancer,” said Alan Kost, chairman of the board of the foundation and Herb Kosten’s brother. “We would love to have all cancer wiped out. We were pleased to know that he (Dr. Chauhan) was already working in this area. As a foundation, we try to keep our money at home and are happy to support this project at UT.”

Bernd Meibohm, PhD, associate dean of Graduate Programs and Research for the College of Pharmacy said, “The support of Drs. Chauhan and Jaggi by the Kosten Foundation is an excellent example of how this important research is also increasingly recognized by the local community.”

Drs. Chauhan and Jaggi joined UTHSC in 2013. Their research is aimed at the identification and characterization of biomarkers that aberrantly express or localize in cancer cells to develop new tools for early cancer diagnosis and treatment. Their lab is located in the Cancer Research Building on the Memphis campus. Using nano-particle technology, the chemotherapy process used in pancreatic cancer treatments is refined so that it will more accurately attack cancer cells, causing less damage to healthy tissues.

“If there is a killer in this world, it is pancreatic cancer,” said Duane Miller, PhD, department chair of Pharmaceutical Sciences (see page 17). “If you are diagnosed with stage-four pancreatic cancer, you have a one percent chance to survive five years. Today, we use surgery, radiation and chemotherapy to treat this disease. We are interested in researching the chemotherapy and how you develop the best treatments for patients. We hope to find drugs and deliver them in the most important way.”

Two researchers at UTHSC, Ilsa Schwarz, PhD, CCC-SLP, FASHA, professor emeritus, and Jillian McCarthy-Maeder, PhD, CCC-SLP, assistant professor in the Department of Audiology and Speech Pathology, received a grant totaling $1,002,883 from the Department of Education, Office of Special Education Programs. The funds will support the training of master’s-level students in an area of high national need – literacy and language outcomes.

The award will be used to support a project titled, "Preparing Speech-Language Pathologists to Improve Literacy and Language Outcomes for Children Who Are Deaf or Hard of Hearing," and will be distributed over a five-year period.

This award will finance the preparation of 32 graduate students with three semesters each of tuition remission and stipend support. Upon completion, the students will graduate with specialty training to improve the language and literacy outcomes for children who are deaf or hard of hearing.

The specialty preparation will include courses on the topics of language, literacy, aural habilitation and deaf education; and four semesters of practicum in settings with children who are deaf or hard of hearing.

The mission of the U.S. Department of Education is to promote student accomplishments and ensure academic excellence and alignment with global competitors. Created in 1980, the organization’s 4,400 employees and $68 billion budget are dedicated to guaranteeing educational equality in all areas. For more information, visit www.ed.gov.

Drs. Schwarz and McCarthy-Maeder: $1,002,883 for Literacy and Language Outcomes in Audiology and Speech Pathology

The U.S. Department of Education has awarded Drs. Ilsa Schwarz (left) and Jillian McCarthy-Maeder (right) with a $1,002,883 grant that will allow them to train master’s-level students in the areas of language and literacy outcomes.

All of the trainees will also prepare a capstone research project about the language and literacy development of children who are deaf or hard of hearing. Additionally, trainees will complete the disciplinary requirements for state licensure and the prerequisites for starting the clinical fellowship year required for certification by the American Speech-Language-Hearing Association.

Nine students began the program in January. “The funds from this grant will help to recruit some of the best students in the country to our program and make a significant difference in improving the outcomes for children who are deaf or hard of hearing,” said Dr. Schwarz.

The University of Tennessee Health Science Center
Dr. Teresa Waters: Medicare Penalties Improve Results for Some Hospital-Acquired Conditions

Medicare penalties implemented in 2008 have made a difference in reducing certain hospital-acquired complications, according to a paper authored by Teresa M. Waters, PhD, chair of the Department of Preventive Medicine in the College of Medicine at UTHSC. The paper was published in JAMA Internal Medicine, an international peer-reviewed journal for practitioners in general internal medicine and related subspecialties.

The paper titled, “Effect of Medicare’s Nonpayment for Hospital-Acquired Conditions: Lessons for Future Policy,” examined Medicare’s Hospital-Acquired Conditions Initiative, which denies payment for eight complications of hospital care known as “never events.” The penalties are an effort to reduce the occurrence of these complications. Specifically, Dr. Waters and her co-authors looked at four of the conditions: central line-associated bloodstream infections, catheter-associated urinary tract infections, hospital-acquired pressure ulcers, and infections in inpatient falls.

Using data from the National Database of Nursing Quality Indicators, the American Hospital Association’s Medicare Cost Report, and local market data, the study looked at adult nursing units in 1,381 hospitals in the United States. The researchers found the initiative was associated with reduced infections: an 11 percent reduction in the rate of change in central line-associated bloodstream infections and a 10 percent reduction in the rate of change in catheter-associated urinary tract infections. It did not significantly change the number of infectious falls or pressure ulcers.

The authors hypothesize that penalties may result in improvements for conditions with standardized protocols to achieve better outcomes. Evidence-based prevention protocols for hospital infections were well developed before penalties were implemented in 2008.

For events like falls, where there are few widely adopted interventions that have been demonstrated to improve outcomes, it is more difficult to affect change. “Our results provide important insights for new policies related to hospital-acquired conditions. When a strong evidence base and standardization are absent, it may be important to first invest directly in science, rather than rely on incentives to drive scientific development,” Dr. Waters said. “As Medicare moves away from traditional fee-for-service toward alternative payment models that emphasize value-based purchasing, it is critical to study what actually works to increase value, or quality and outcomes.”


Dr. Ryan Yates: Research Grant

Ryan Yates, PharmD, PhD

Ryan Yates, PharmD, PhD, professor in the Department of Pharmaceutical Sciences at UTHSC, is the recipient of a $15,000 award from the University of Tennessee Research Foundation (UTRF). The award will support a project titled, “Pre-clinical ADMET of JP-153: A Treatment for Retinal Neovascularization.”

Diabetic retinopathy and age-related macular degeneration (AMD) are the leading causes of blindness. While one affects primarily working-age adults and the other aging adults, both contribute to the growth of abnormal blood vessels in the retina, causing bleeding and scar formation. Current treatments for the condition require the monthly injection of drugs directly into the eye. Unfortunately, many patients do not benefit from these various treatments.

Dr. Yates and his collaborator, Duane Miller, PhD, professor in the Department of Preventive Medicine, have identified a new drug that blocks the growth of abnormal blood vessels in the eye, which shows promise in the treatment of diabetic retinopathy and AMD. Importantly, the drug can be applied as an eye drop, without injection. Such a topical treatment, if shown to be effective, will revolutionize the treatment and management of these conditions.

Dr. Miller and Yates have partnered with Edward Cham, MD, PhD, UTHSC Foundation Professor and retina specialist, to advance the clinical and commercial development of this breakthrough drug.

Dr. Miller estimates that he and his collaborators have roughly 400 patents or patent pending for synthetic medicinal structures to attack diseases. “We’re trying to design drugs for the future,” Dr. Miller said. “That’s what’s exciting to me.”

Dr. Miller is in good company. The 41 NAI Fellows represent more than 150 prestigious research universities and governmental and nonprofit research institutions, including:

• 10 recipients of the U.S. National Medal of Science
• 16 recipients of the U.S. National Medal of Technology and Innovation
• 21 Nobel Laureates
• 23 inductees of the National Inventors Hall of Fame
• 61 presidents and senior leaders of research universities and institutes

Dr. Miller originally wanted to be a sports coach, but was inspired to change course after a hometown pharmacist helped when his father was diagnosed with emphysema. A semester in a lab during pharmacy school at the University of Kansas cemented his career choice.

Dr. Duane Miller: National Academy of Inventors

Duane Miller, PhD, professor and chair of the Department of Pharmaceutical Sciences in the College of Pharmacy at UTHSC, was named a Fellow of the National Academy of Inventors (NAI). He was inducted on March 20 during the academy’s fourth annual conference in Pasadena.

“It’s a very humbling experience,” Dr. Miller said.

The honor is given to academic inventors who have demonstrated a prolific spirit of innovation in creating or facilitating inventions that have made a tangible impact on the quality of life, economic development or the welfare of society. Those elected to the rank of NAI Fellow are named inventors on U.S. patents and nominated by their peers.

Dr. Miller, who was nominated by the UT Research Foundation, has collaborated on a number of successful research efforts since he joined the UTHSC faculty in 1992. They have resulted in patents for SARMS (Selective Androgen Receptor Modulators) for treating some cancers; radiation mitigators now under development; and tubulin inhibitors or targeted therapies for resistant cancers.

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Dr. Miller originally wanted to be a sports coach, but was inspired to change course after a hometown pharmacist helped when his father was diagnosed with emphysema. A semester in a lab during pharmacy school at the University of Kansas cemented his career choice.

“Once I got into the lab, it got me thinking in a totally different way.”

The University of Tennessee Health Science Center

Shaquita Starks Receives Award

Shaquita Starks, MSN, FNP-BC, PhD candidate at UTHSC, is the recipient of the Minority Fellowship Program Award at the American Nurses Association funded by the Substance Abuse and Mental Health Services Administration (SAMHSA).

SAMHSA is the agency within the U.S. Department of Health and Human Services that leads public health efforts to advance the behavioral health of the nation. Shaquita Starks’ project will examine the connections between social influences and mental and physical health in ethnic minorities.

Teresa Waters, PhD

Her long-term goal is to practice nursing and develop a program of research that will examine the connections between social influences and mental and physical health in ethnic minorities.

Duane Miller, PharmD, PhD

Dr. Miller is in good company. The 41 NAI Fellows represent more than 150 prestigious research universities and governmental and nonprofit research institutions, including:

• 10 recipients of the U.S. National Medal of Science
• 16 recipients of the U.S. National Medal of Technology and Innovation
• 21 Nobel Laureates
• 23 inductees of the National Inventors Hall of Fame
• 61 presidents and senior leaders of research universities and institutes

Dr. Miller originally wanted to be a sports coach, but was inspired to change course after a hometown pharmacist helped when his father was diagnosed with emphysema. A semester in a lab during pharmacy school at the University of Kansas cemented his career choice.
Inner Mongolia is a long way from Memphis, but Lishi Wang, PhD, found her way from there to the University of Tennessee Health Science Center as a postdoctoral researcher and an instructor. Along the way, she has studied at prestigious universities in China, Korea and Italy.

Probably few Americans have heard of Inner Mongolia. There is a country named Mongolia, but Inner Mongolia is a region of China, just as New Mexico is a state of the United States. Inner Mongolia is the home of the Great Wall of China as well as the Gobi Desert.

Dr. Wang did not start out to be a scientist, though she says she was always “extremely interested” in the life sciences. She began her career as a physician, specializing in obstetrics and gynecology after graduation from Inner Mongolia Medical University in her hometown of Hohhot City, the region’s capital.

After four years in clinical practice at a hospital, however, she chose to go back to school, completing a master’s degree in histology and embryology in 1999. In 2003, she earned her PhD in biochemistry and molecular biology from the Medical School of Fudan University, located in Shanghai, China. (According to Dr. Wang, Fudan is one of the top five most prestigious universities in China.)

Dr. Wang returned to Inner Mongolia Medical University as a researcher, but soon was off again, to spend 2007-2008 doing postdoctoral work at Hanyang University in Ansan, Korea. This was followed by a semester as a fellowship guest researcher in Milan, Italy with the FIRC Institute of Molecular Oncology Foundation. In Korea, her professor Eun Kyu Lee, PhD, gave her a great deal of help and support.

Not surprisingly, Dr. Wang speaks several languages. Besides her native Mandarin and English, which she calls her “first second language,” Japanese is her “second second language” acquired during her PhD courses in Shanghai, China. She also picked up some Korean and Italian during her fellowships.

Dr. Wang’s postdoctoral work focuses on mapping genes in mice. This means taking out tissues and analyzing genes. Dr. Wang gives a great deal of credit to her two mentors, Weikuan Gu, PhD, and Robert Williams, PhD. “Without their help, I could not have come so far,” she said. “Dr. Williams has given me many good suggestions about manuscripts.”

One set of genes she has studied may indicate an inclination toward alcohol use, while another may predict bone mass density. Both areas of study may have implications for humans down the road.

As with humans, some mice seem to like alcohol more than others. They may have a genetic predisposition toward alcohol use or even abuse. If such genes can be identified in humans, it might be possible to anticipate and prevent alcohol-related health problems. “That’s just our hypothesis,” she said. “Humans, of course, are bigger and far more complicated than mice. There are more factors.”

She and her team collaborate with many universities around the world, including Harbin University in Heilongjiang province of China. Back in China, Dr. Wang said she was too focused on work. In the United States, however, she said there are more activities and events, enabling people to lead “a more comprehensive, colorful life – a life outside of work.”

Outstanding Junior Postdoc: Dr. Lishi Wang

Lishi has achieved a lot during the past several years. I hope that she has a bright future.”

Weikuan Gu, PhD
Department of Orthopedic Surgery

The University of Tennessee Health Sciences Center
Graduate Health Sciences – Summer 2015
“I’ve always been interested in science,” said Jordy Saravia, PhD. Originally from a small town in southern Louisiana named New Iberia, Dr. Saravia’s mother was a math teacher and his father a paramedic. In 2009, he earned his BS degree in biological sciences from Louisiana State University in Baton Rouge.

“I did some research there and found I really liked it,” he said.

He went on to Louisiana State University Health Sciences Center in New Orleans where he earned his PhD in Pharmacology in 2013. Almost immediately thereafter, he followed his mentor, Stephanie Cormier, PhD, from LSU in New Orleans to UTHSC in Memphis.

She joined UTHSC as an associate professor in the Department of Pediatrics in 2013, bringing $727,500 in grant money and five members of her staff — including Dr. Saravia. Her new Memphis research lab is part of the Children’s Foundation Research Institute, located at Le Bonheur Children’s Hospital.

Dr. Saravia’s research at UTHSC focuses on respiratory syncytial virus – RSV. The leading cause of bronchiolitis or lower respiratory tract infection in young children, RSV is responsible for significant mortality of infants worldwide.

“RSV is the most common cause of hospitalization of children in the United States,” Dr. Saravia explained.

“Anyone can get it, but it is more pathogenic in infants.” There is no vaccine available, Dr. Saravia continued, or even any adequate therapeutic. There is no way to fight the virus other than providing supportive care. While most infants who have it recover, it leaves them statistically more prone to develop asthma later in life.

“It has long-term, lasting effects,” he said.

Dr. Cormier’s and Dr. Saravia’s data in their RSV study suggests that age at initial infection is an important factor in determining whether asthma develops. Most instances of RSV occur by the time a child is one year old. But the sickest infants are those infected prior to six months of age. Their research is aimed at understanding the mechanisms responsible for the influence of age on asthma development.

If successful, the concepts established will not only have important implications for understanding RSV-related asthma, but for infant immunity, so that better pediatric vaccines can be developed.

Part of their research utilizes nasal wash samples taken from infants being treated for RSV at Le Bonheur, which enables them to confirm some of the data that they acquire from their mouse model of RSV.

“One important difference in the RSV work that we do here, as compared to other labs, is that we use an age-appropriate mouse model of RSV in order to mimic what is happening in human infants,” Dr. Saravia said. This means that the mice used are five days old, and thus comparable in age to the infants at Le Bonheur.

“We use that mouse model to tease out some of the immunology,” he said.

When asked about his long-term plans, “I want to have my own lab,” Dr. Saravia said. “Be an independent researcher. I’d like to do basic science and have a translational component. I’d like to go directly and verify the things we find in patients here.”

“Jordy is an energetic, ambitious and career-oriented scientist with great potential to develop into an internationally renowned investigator.”

Stephanie Cormier, PhD
Department of Pediatrics
UTHSC Hosts 7th Annual Postdoc Research Day

UTHSC’s Postdoc Office and Postdoctoral Association (PhDA) sponsored the seventh annual Postdoctoral Research Day on Dec. 10, 2014. More than 90 postdocs, research associates, faculty mentors, and students attended. This year’s keynote speaker was Dr. Brett Jennings, a past UTHSC postdoctoral fellow who now is the director of Nephrogenesis R&D and adjunct faculty at UT Chattanooga. Dr. Jennings recalled his postdoctoral experience, and spoke about the path he took.

A total of 19 UTHSC postdocs and research associates gave poster presentations on their latest research and competed for awards; seven UTHSC postdocs and research associates gave oral presentations on their research. Winners in the poster and oral presentation categories were determined by 17 UTHSC faculty members who served as judges.

**POSTER PRESENTATION WINNERS**
- First place: Dr. Lynda Wilmott, Anatomy and Neurobiology (mentored by Dr. Catherine Kaczorowski)
- Second place: Dr. Sheema Khan, Pharmaceutical Sciences (mentored by Dr. Subhash Chauhan)
- Third place: Dr. Wenyan Han, Pharmacology (mentored by Dr. Hao Chen)

**ORAL PRESENTATION WINNERS**
- First place: Dr. Kwame Nyarko, Preventive Medicine (mentored by Dr. Teresa Waters)
- Second place: Dr. Ajeeth Pingili, Pharmacology (mentored by Dr. Kafait Malik)
- Third place: Dr. Jordy Saravia, Pediatrics (mentored by Dr. Stephania Cormier)

Additionally, postdocs competed for $1000 travel awards to be used toward a spring scientific conference of their choice. The Postdoctoral Advisory Committee made their selections based on the quality of the submitted abstracts, NIH Biographical Sketch, and participation in PhDA-sponsored events. Drs. Sheema Khan, Pharmaceutical Sciences (mentored by Dr. Subhash Chauhan), Sridhar Jaligama, Pediatrics (mentored by Dr. Stephania Cormier), and Kamalika Mukherjee, Pharmacology (mentored by Dr. Kafait Malik) each won a travel award.

UTHSC’s PhDA is dedicated to facilitating communication between postdoctoral fellows, their mentors and members of the UTHSC administration plus career development and networking.

For more information about the Postdoc Office or the PhDA, call (901) 448-2661 or email postdoc@uthsc.edu.
All of the student yearbooks produced at the UT Health Science Center have been digitized and uploaded online, where they are available to review and download. The first yearbook was produced in 1922 and was called The Volunteer of Memphis. The title of this one book carried the same name as the yearbooks published at the main campus in Knoxville while also indicating that it was for the Memphis campus. The Health Science Center began continuously publishing yearbooks in 1958. The title was changed to Asklepieion in honor of the temple of the same name in Memphis, Egypt, that was erected in honor of the Egyptian physician Imhotep. (None, however, were published from 1975 to 1982.)

The PDFs are a moderate size for easy downloading. They are bookmarked to be able to locate departments or programs easily. They can also be searched by text word to locate people. Go to http://library.uthsc.edu/history/yearbooks, find the year that you are interested in, and click on the icon.

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1911 Society

1911 Society Benefits

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1911 Society Benefits

- Milestone: $100 - $249
- Visionary: $250 - $499
- Dean’s Alliance: $500 - $999
- Chancellor’s Circle: $1,000 - $2,499
- Patron: $2,500 - $4,999
- Hyman Associate: $5,000 - $10,000

1911 Society Decal
- FY13 and FY14 members identified as Charter Members
- FY15 and FY16 members
- FY17 and FY18 members
- FY19 and FY20 members
- FY21 and FY22 members

Recognition in annual Roll of Honor
- College and campus publications
- Annual VIP events

Communication from UTHSC Students
- Email, letter and/or postcard contacts
- Annual newsletters

Communication from UTHSC Dean
- New year correspondence, update after board meetings
- Special invitations to campus events

Special Invitations to Campus Events
- Milestone: •
- Visionary: •
- Dean’s Alliance: •
- Chancellor’s Circle: •
- Patron: •
- Hyman Associate: •

1911 Society Lapel Pin
- Milestone: •
- Visionary: •
- Dean’s Alliance: •
- Chancellor’s Circle: •
- Patron: •
- Hyman Associate: •

Annual VIP Communication from the Chancellor
- Milestone: •
- Visionary: •
- Dean’s Alliance: •
- Chancellor’s Circle: •
- Patron: •
- Hyman Associate: •

Special Recognition at Events
- Note on roster, note on name tag, recognized from the podium when possible

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