Meibohm Published in *Nature Medicine*

Bernd Meibohm, PhD, professor of Pharmaceutical Sciences at the University of Tennessee Health Science Center in Memphis, collaborated in a joint research effort to develop a novel antibiotic for the treatment of multi-drug resistant tuberculosis. Dr. Meibohm worked alongside Richard Lee, PhD, adjunct professor of Pharmaceutical Sciences at the University of Tennessee Health Science Center, Anne Lenaerts, PhD, and Erik Böttger, PhD in developing this new semisynthetic antituberculosis agent.

The research article is titled “Spectinamides: a new class of semisynthetic antituberculosis agents that overcome native drug efflux” and was published in *Nature Medicine*, a renowned biomedical research journal, in the January 2014 online edition. Accompanying the research article is an editorial written by Carl Nathan, MD, a leading expert on anti-infective therapy. Notably, the intellectual property of these novel antibiotics lies entirely with the University of Tennessee Research Foundation. This research worked to synthetically alter spectinomycin, a naturally found product with inherent antimicrobial properties but only moderate activity against tuberculosis. Through these synthetic...
TOP STORIES

Meibohm in *Nature Medicine* – continued

modifications, the researchers developed a new class of antibiotics capable of selectively inhibiting mycobacterial protein synthesis while also decreasing drug efflux, thereby increasing activity. Dr. Meibohm commented, “This research work is highly significant not only because of the rapid rise of multi-drug resistant tuberculosis, but also because of the fact that the pharmaceutical industry has largely abandoned the development of new antibiotics and drug discovery in this area is left to academia and nonprofit organizations.”

Byrd Elected AACP Pharmacy Practice Section Chair

Debbie C. Byrd, PharmD, BCPS was recently elected Chair of the American Association Colleges of Pharmacy (AACP) Pharmacy Practice Section. Dr. Byrd is associate dean of Professional Affairs and professor of Clinical Pharmacy and Family Medicine at the University of Tennessee Health Science Center College of Pharmacy and Graduate School of Medicine. She has been active with AACP in several roles including serving on the Pharmacy Practice Section Scholarship and Research Faculty Development Task Force, chairing the Experiential Education Section Scholarship Committee, and recently serving on the Executive Planning Committee for the new Leadership Development Special Interest Group. Dr. Byrd is a 2007 graduate of the AACP Academic Leadership Fellows Program, and is an active contributor to AACP programming. She has also mentored several AACP Wal-Mart Scholars over the past several years.

The AACP Pharmacy Practice Section represents faculty involved in pharmacy practice and the clinical sciences. It aims at advancing pharmacy practice education through the use of research in teaching methods and curriculum design. The AACP Pharmacy Practice Section promotes educational methods that can be applicable in teaching pharmacy practice and the clinical sciences. AACP also has a distinct interest in developing pharmacy practice faculty through mentoring. Additionally, this section offers expertise in pharmacy practice to the House of Delegates when needed. The position of Chair-elect is voted upon by all members of the AACP Pharmacy Practice Section.

Dr. Byrd will serve the Pharmacy Practice Section for the next three years as Chair-elect, Chair and Immediate Past Chair. As Chair-elect, Dr. Byrd will serve as Chair of the Program Committee and preside over sessions at the AACP Annual Meeting. As Chair, Dr. Byrd’s duties will include serving as a representative to the Council of Sections and overseeing the conduct of Section affairs between annual meetings. The Chair also presides at all business sessions and provides recommendations for improvement of the Section. As Immediate Past Chair, Dr. Byrd will lead the Nominations Committee in identifying future leadership of the Pharmacy Practice Section.
Chauhan Receives Kosten Foundation Grant

Subhash Chauhan, PhD, professor of Pharmaceutical Sciences at the University of Tennessee Health Science Center in Memphis, was the recipient of the 2013 Kosten Foundation Cancer Research Award Grant. With his research proposal titled “Novel therapeutic approach for pancreatic cancer treatment,” Dr. Chauhan hopes to better define the mechanisms by which miR-145 (a small non-coding RNA sequence associated with gene regulation in pancreatic cells) may suppress tumor progression. Additionally, he hopes to “determine the efficacy of miR-145 replenishment” and to work on the development of a nanotechnology drug delivery system to increase drug uptake into pancreatic cancer cells.

The Kosten Foundation’s mission is to improve outcomes and quality of life for patients affected by pancreatic cancer. This is accomplished in part by the funding of research to better understand and treat pancreatic cancer.

Herrera ASPEN Nutrition Support Pharmacist New Practitioner Awardee

Dr. Oscar Herrera received the Nutrition Support Pharmacist New Practitioner Recognition Award on January 19th at the Pharmacy Practice Section meeting of Clinical Nutrition Week in Savannah, Georgia. Dr. Herrera is Fellow of Pediatric Nutrition and Metabolic Support in the Department of Clinical Pharmacy working with professor and chair, Dr. Rich Helms. This recognition honors a new practitioner pharmacist or student member of American Society for Parenteral and Enteral Nutrition (ASPEN) for recent achievements within the field. It also serves to encourage new practitioners to participate in nutrition support research, to provide an opportunity to share research with experts in the field, to network with other pharmacist members of ASPEN, and to encourage future involvement in ASPEN and the Pharmacy Practice Section. Dr. Herrera presented his research, “Plasma citrulline concentrations in neonates/infants with or without gastrointestinal disease or bowel loss,” that led to his receiving this award. Dr. Herrera is pictured right, receiving the award from Dr. Lori Schirmer, Communications Liaison for the ASPEN Pharmacy Practice Section.
Faculty Innovations Recognized by UT Research Foundation

The University of Tennessee Research Foundation (UTRF) recently hosted the Innovation Awards luncheon on Thursday, December 5, 2013. Over twenty UT Health Science Center researchers were honored, including eight College of Pharmacy investigators. The honorees had received a patent from the U.S. Patent and Trademark Office, developed a technology that was licensed to an outside company, received a UTRF Maturation Grant Fund, or a combination of the aforementioned. Drs. John Buolamwini, Steven Gurley, Duane Miller, Bob Moore, and Shivaputra Patil, faculty members in the Department of Pharmaceutical Sciences at the College of Pharmacy, were honored for receiving patents within the previous year. Dr. Bob Moore’s research involving the development of novel cannabinoid ligands led to the receipt of 7 patents from the U.S. Patent and Trademark Office. Dr. Miller recently received 3 patents for his work with selective androgen receptor modulators (SARMs). In addition, Drs. Richard Helms, Michael Storm, and Emma Tillman were honored for receiving licenses for the development of a new technology; this collaboration ultimately led to the development of a new business, which was also recognized by the UTRF. These technologies will undergo further development and commercialization. These advancements help to ensure that the public community will benefit from the UTRF’s and its investigators’ investment in research.

### Patents

| Dr. Duane Miller | SARMs usage in treating muscle wasting in cancer patients |
|                 | SARMs usage in treating androgen decline in aging males |
|                 | SARMs utility in feed composition for animals |
| Dr. Bob Moore   | Novel cannabinoid compounds for the treatment of inflammatory diseases and cancer |
|                 | Novel intervention for the treatment of mild traumatic brain injury (TBI) |
|                 | Activity of unique compounds against a spectrum of cancers |
| Dr. John Buolamwini | New anticancer compounds with a focus on \( \beta \)-carboline moiety that have inhibitory effects against colon, breast, prostate, lung, and pancreatic cancers |
| Dr. Shivaputra Patil |

### Licensure

| Dr. Richard Helms  | New technology in pediatric and infant nutrition |
| Dr. Michael Storm  | (This also led to the development of a new business) |
| Dr. Emma Tillman  | |

---
US Department of Defense Features Chauhan Research

Subhash Chauhan, PhD, professor of Pharmaceutical Sciences at the University of Tennessee Health Science Center in Memphis, was recently featured on the Department of Defense website for his research involving the development of a new treatment option for advanced stage prostate cancer. The new treatment is an innovative combination of radioimmunotherapy and radio-sensitization utilizing a nanotechnology delivery system that was created specifically to target prostate cancer cells. Click here to view the featured article on the Department of Defense website.

FACULTY

Parker Lectures in Saudi Arabia

Robert Parker, PharmD, professor of Clinical Pharmacy, recently lectured in Saudi Arabia at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS). While there, Dr. Parker presented 17 lecture hours on cardiology to second-year pharmacy students including angina, acute coronary syndrome, advanced cardiovascular life support, and electrocardiogram interpretation. Additionally, he presented a seminar on research to hospital pharmacists at National Guard Health Affairs in Riyadh. While in Riyadh, Dr. Parker was able to reunite with past University of Tennessee Health Science Center graduate, Majed Al Jeraisy, PharmD (pictured right). Dr. Parker stated, “Pharmacy practice in Riyadh is very similar to the states.” He expounded stating clinical pharmacists are well received and supported by physicians there. However, he did note, “it is a very different culture there, but everyone was always so nice and accommodating.”
FACULTY

New Addition to the Family

Clara Goodwin Herrington arrived on December 13, 2013 around 12:30 pm. She weighed 7 lbs and was 21 1/4 inches long. Both mom and baby Clara are doing outstanding, and Clara is just adorable. Mom, Cathy Crill, PharmD, BCPS, BCNSP, is an associate professor of Clinical Pharmacy and Pediatrics at the University of Tennessee Health Science Center in Memphis and practices at Methodist Le Bonheur Children's Hospital.

PUBLICATIONS

Fourth Year Student Pharmacists' Research Published

The University of Tennessee Health Science Center offers student pharmacists several opportunities to become involved with research and publication. Student pharmacists may choose to work with faculty on a Special Projects Elective through which they are actively engaged in a research project. Additionally, Applied Therapeutics acts as an introduction to true patient care and students are encouraged to identify potential case reports to be published. One student, Supriya (Suzy) Ponnapula, stated that she was initially drawn to research and publication “after realizing the impact literature has on patient care.” She went on to say, “working with Drs. Swanson, Boucher, and Wood was a great experience.” Several fourth year student pharmacists have been published recently:


PUBLICATIONS

Wang Cited by Centers for Medicare & Medicaid Services

Junling Wang, MS, PhD, associate professor of Clinical Pharmacy, was recently cited by the Centers for Medicare & Medicaid Services (CMS) in the Federal Register concerning the proposed ‘Policy and Technical Changes to the Medicare Advantage and the Medicare Prescription Drug Benefit Programs.’ Dr. Wang and colleagues’ 2010 and 2012 studies reveal disparities in eligibility for Medication Therapy Management Services (MTM) and “have led [CMS] to conclude that the current MTM eligibility criteria are overly restrictive.”

More Faculty Publications


PRESENTATIONS


MORE PRESENTATIONS


STUDENTS, GRADUATE STUDENTS, & POST DOCTORAL RESIDENTS

UT Hosts International Exchange Students

The University of Tennessee College of Pharmacy had the privilege of hosting seven international exchange students from New Zealand and The Gambia for the month of January. These students shadowed practicing pharmacists and pharmacy residents, experienced life as a student pharmacist at UT, and explored a different culture while here. The seven international students visited both the Memphis and Knoxville campuses. Dean Chisholm-Burns welcomed the international students to Memphis and invited them to experience everything the city and the state of Tennessee has to offer. Pictured left to right are Marie Tsai, Abraham George, Dean Chisholm-Burns, Angus Tan, Alasan Badjie, Isabel Cala, and Alanna Adams. (Not pictured: Hayley Velden)
Khan and Sikander Recognized for Postdoctoral Research

The UTHSC Postdoctoral Office & College of Graduate Health Sciences along with the UTHSC Postdoc Association sponsored the 2013 Postdoc Research Day on December 12, 2013. During this event, six awards are presented for 1st, 2nd, and 3rd place in Oral and Poster Presentations.

Dr. Sheema Khan received 1st place in both Oral and Poster Awards. Dr. Khan received the Oral Award for the abstract titled as “A novel approach to enhance delivery and sensitivity of gemcitabine in pancreatic cancer by suppression of desmoplasia.” She also received the Poster Award for the poster titled as “MicroRNA-145 targets MUC13 and suppresses invasion and metastasis of pancreatic cancer cells.”

Dr. Mohammad Sikander placed 3rd in the Poster Award for the poster titled as “Novel Cucurbitacin analogue exhibits anti-proliferative effect and down-regulates miR-21 expression in pancreatic cancer cells.”

Leadership Conference Held for Undergraduate Students

The University of Tennessee College of Pharmacy Knoxville Campus participated in the thirteenth annual Clifton M. Jones Student Leadership Conference on January 18, 2014. This event is sponsored by the Center for Leadership and Service in the Division of Student Life at the University of Tennessee, Knoxville. This event, in combination with the Martin Luther King, Jr. Day of Service, aims to engage UT’s student leaders in a day of leadership and service-learning by providing leadership development opportunities and connecting volunteers to the local community. Pictured standing, Stephanie Weathers, MS and Melissa Smith, MS, Coordinators of Student Services for the College of Pharmacy, led Team WoRx: Leadership in Pharmacy and Other Health Professions, in which 30 UT undergraduate students learned about the key component of teamwork in all areas of health professions. Interactive sessions were utilized to emphasize the importance of making connections with others and learning to work with a team to accomplish a goal: excellent care for patients.
STUDENTS, GRADUATE STUDENTS, & POST DOCTORAL RESIDENTS

APhA-ASP Chapter Hosting Race for the Summitt 4 Miler in Memphis

APhA-ASP is hosting the annual 4-mile Race for the Summitt on Saturday, March 22 at 9 am in Downtown Memphis. The race will start near the College of Pharmacy building and end at Forrest Park, where there will be post-race party. The race benefits The Pat Summitt Foundation, which seeks to promote education and research for Alzheimer’s disease. You can become a ‘Memory Donor’ with donations starting at $15. Memory Donors will receive the official race shirt and recognition on the race website. ‘Know Your Pharmacist’ sponsorships are available for pharmacists who donate $250. The Know Your Pharmacist sponsors will receive two complimentary race entries and recognition on the race website and the “Know Your Pharmacist” banner. Visit the Race for the Summitt website to register for the race and to find out more about how you can help us “Back Pat!”

ALUMNI & FRIENDS

Kessler Appointed President of Florida Society of Health-System Pharmacists

E. Richard (Dick) Kessler, PharmD (’79) was appointed president of the Florida Society of Health-System Pharmacists (FSHP) this past August. Dr. Kessler has served as director of Pharmacy Services at various institutions including most recently the senior director at VHA Southeast, Inc. Dr. Kessler was recently featured in the Sunday edition of the American Society of Health-System Pharmacists Midyear Meeting & Exhibition Newspaper. In this article, he gave a welcoming address on behalf of FSHP. He continued by inviting all attendees to partake in the many educational and networking opportunities that the meeting affords.
Canaday and Tucker Elected to ACPE Executive Committee

Two alumni of the University of Tennessee College of Pharmacy, Drs. Bruce Canaday ('73) and Timothy Tucker ('88), were recently elected as members of the Accreditation Council for Pharmacy Education (ACPE) Executive Committee.

Dr. Canaday will serve as vice president of ACPE during the 2014-2015 term of office. He is currently professor and chair of Pharmacy Practice and Pharmacy Administration at the College of Pharmacy of the University of the Sciences in Philadelphia. Dr. Canaday has served as president and on the Board of Trustees for both the American Pharmacists Association (APhA) and the American Society of Health-System Pharmacists. He was appointed to the ACPE Board of Directors by APhA. Dr. Canaday is pictured above on the right with Dr. Stephanie Gardner, ACPE president-elect and Dr. Michael Mone', who was re-elected as ACPE secretary/treasurer.

Dr. Tucker was elected to serve as the ACPE board liaison to the International Commission. He is a practicing community pharmacist and owner of City Drug in Huntingdon. Dr. Tucker is a former president and speaker of the house for APhA, who also appointed him to the ACPE Board of Directors, and past national president of Phi Lambda Sigma. Dr. Tucker is pictured on the left in the photo to the right with Dr. Donna Wall, appointed to the ACPE Board of Directors by NABP and Dr. John Kirtley, incoming board liaison to the CPE Commission.

Caillouet Featured For Compassionate Service

Corey Caillouet, PharmD ('09) was recently featured in his local newspaper, the St. Thomas Source, for dispensing not only medications but his ‘unbiased advice’ as well. Dr. Caillouet is well known in his community for giving honest, professional advice even when it comes with no monetary benefit to him or the pharmacy. “We want you to have the best solution, not necessarily one that’s going to sell something today,” Caillouet was quoted. He is currently a pharmacist at Chelsea Drug Store in St. Thomas, Virgin Islands. For the full story, click here.
The Office of Development and Alumni Affairs, in conjunction with the College of Pharmacy, hosted a reception at the American Society of Health-System Pharmacists (ASHP) Midyear meeting in Orlando, Florida. This reception is an annual event that is open to all alumni of the University of Tennessee Health Science Center and its current students. Approximately 200 attendees were present at the reception. Dean Chisholm-Burns welcomed everyone to the event by giving out door prizes. Alumni in attendance ranged from the Class of 1969 – 2013. This reception always serves as a forum to reconnect with fellow alumni and meet new colleagues. Pictured to the left are past and present Pharmacy Student Government Association (PSGA) presidents with Dr. Jim Eoff. Left to right: James Wheeler (’11), Jacob Marlow (’10), Carol White (’09), Jim Eoff (’71), Lindsey Wells (’13), Clayton Johnson (’14), and Jacob Smith (’12).
Continuing Education: 37th Annual Pharmacy Update 2014

The University of Tennessee College of Pharmacy, in association with the Tennessee Pharmacists Association and the Tennessee Board of Pharmacy, presents the annual 15 hour live knowledge-based continuing education seminar, Pharmacy Update. Participation in both days of this seminar will grant 15 live contact hours of CE or you may choose to attend either the 8 live contact hour session *Drug Update* or the 7 live contact hour session *General & Legal Update*. Also, you may attend one session in one location and another session in a different location. These events will be presented on Saturdays and Sundays at the locations below. Pre-registration is encouraged to ensure your space. To register online, visit [http://www.uthsc.edu/pharmacy/ce](http://www.uthsc.edu/pharmacy/ce) and click on “2014 Live” under “Upcoming Opportunities.” Emails can also be sent to Dr. Glen Farr at gfarr@uthsc.edu.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jackson</td>
<td>February 8 &amp; 9</td>
<td>West Tennessee Research and Education Center 605 Airways Boulevard</td>
</tr>
<tr>
<td>Murfreesboro</td>
<td>February 15 &amp; 16</td>
<td>Embassy Suites Conference Center 1200 Conference Center Boulevard</td>
</tr>
<tr>
<td>Memphis</td>
<td>March 1 &amp; 2</td>
<td>UT College of Pharmacy 881 Madison Avenue</td>
</tr>
<tr>
<td>Cookeville</td>
<td>March 8 &amp; 9</td>
<td>Leslie Town Center One West First Street</td>
</tr>
<tr>
<td>Chattanooga</td>
<td>March 15 &amp; 16</td>
<td>Chattanooga Choo Choo Hotel 1400 Market Street</td>
</tr>
<tr>
<td>Franklin (Nashville)</td>
<td>March 22 &amp; 23</td>
<td>Embassy Suites 820 Crescent Centre Drive</td>
</tr>
<tr>
<td>Knoxville</td>
<td>April 5 &amp; 6</td>
<td>Hilton Airport 2001 Alcoa Highway</td>
</tr>
<tr>
<td>Johnson City</td>
<td>April 26 &amp; 27</td>
<td>The Millennium Centre 2001 Millennium Place</td>
</tr>
</tbody>
</table>

*Portions of the program are supported by an educational grant from Pharmacy Plus*

Alumni Information Update Request

In order to keep in touch with our alumni, the College of Pharmacy asks alumni update their contact information online. To update your profile, visit the [UTHSC Alumni and Friends webpage](http://www.uthsc.edu/pharmacy/ce), click on “Keep in Touch,” then “Update Your Profile.” First time users will need to register in order to update their information. If you know a classmate or other alumni whose information may be out of date, please share this [website](http://www.uthsc.edu/pharmacy/ce) with them, as well. Being up-to-date will ensure all UTCOP alumni receive the latest news!
ALUMNI & FRIENDS

Condolences

The College would like to extend our deepest sympathy to the family of **Philip B. Enkema** on his passing on December 13, 2013 at the age of 74. Dr. Enkema was a 1961 graduate of the University of Tennessee Health Science Center College of Pharmacy. Upon graduation, he established Bloomingdale Drugs in Kingsport until his retirement in 1997.

In addition to his lifelong commitment to delivering excellent patient care as a model pharmacist in his community, Dr. Enkema also served on the Board of Pharmacy from 1985 – 1991, President of the Board in 1990, President of the Tennessee Pharmacists Association from 1993 – 1994, President of the First District Pharmaceutical Association, and President of the UT College of Pharmacy Alumni Association. Dr. Jim Eoff, Executive Associate Dean at UT College of Pharmacy, stated that “Dr. Enkema was a true gentleman who represented our profession and the College of Pharmacy in an exemplary way throughout his career.” In honor of his lifetime commitment to pharmaceutical care, Dr. Enkema received many awards including the Bowl of Hygeia Award for Community Service in 1991, First District Pharmaceutical Association Pharmacist of the Year, and Outstanding Alumnus of the College.

“*We lost two giants in the profession of pharmacy in Tennessee at the end of 2013: Phil Enkema and Tom Sharp. I consider it a privilege to have had the opportunity to know and work closely with both of these great men in my professional career and their influence on me and many other pharmacists across the state will be long remembered.*”

-Jim Eoff

The College would like to extend our deepest sympathy to the family of **Tom C. Sharp, Jr** on his passing on December 23, 2013 at the age of 90. Dr. Sharp was Executive Director **Emeritus** of the Tennessee Pharmacists Association. He succeeded his father, Tom C. Sharp, Sr., as a leader of the Tennessee Pharmaceutical Association for over 30 years. Dr. Sharp was a graduate of the University of Tennessee College of Pharmacy in Memphis. His wife, Evelyn Holeman Sharp, stated that “Tom truly loved the UT College of Pharmacy. It meant so much to him to see the new Pharmacy building completed. He was so proud of it and thankful that he was able to attend the dedication, which he thoroughly enjoyed.”

For over 40 years, Dr. Sharp was involved in the Tennessee State Legislature, maintaining a recurrent presence each time important healthcare decisions were discussed. He worked, while serving as Executive Director **Emeritus** to help pass the Pharmacy Practice Act in 1996. Jim Eoff, PharmD, Executive Associate Dean of UT College of Pharmacy, stated, “[Tom] was a personal mentor and close friend to me who had a great influence on my professional career and introduced me to the pharmacy leadership in the state.” Dr. Sharp was the recipient of many professional honors for his immeasurable impact on the profession of pharmacy in the State of Tennessee, these included the Bowl of Hygeia (1994) and the “Tom C. Sharp Pharmacist of the Year” award named in honor of his father.
ALUMNI & FRIENDS

Acknowledgements

Special thanks to fourth year student pharmacists Levi Lancaster and Sarah Wright for their invaluable contributions to this edition of the newsletter.

The University of Tennessee College of Pharmacy

Visit our website at: www.uthsc.edu/pharmacy

Please submit news items to dbyrd4@uthsc.edu