



The Dean's Newsletter



From
College of Pharmacy Dean
Gary Pollack, Ph.D.

March 2015

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Dear Friends and Colleagues:

Washington State University has been in the news a lot lately with the efforts to expand medical education in Spokane. At the same time, the College of Pharmacy has received its own amount of attention regarding the extension of our Doctor of Pharmacy program to Yakima, Washington.

Expanding service and securing growth were our original motives for the Yakima extension. Having made the decision to move forward, we were faced with the challenge of providing an equivalent educational experience for students in Spokane and Yakima. In that challenge is the opportunity to fundamentally rethink and improve our approach to education, which has emerged as a powerful third motivation for this project.

Offering a Pharm.D. degree at multiple sites is not unique to our College, but our approach to solving the pedagogical problem associated with multi-site health professions education is. We have collectively agreed to forgo the videoconferencing solution, which would relegate our Yakima students to a lesser educational experience. Rather, we have adopted a teaching model that embraces the trajectory of contemporary pedagogy and prioritizes learner-centered approaches. Active learning—a catch-all phrase for learning that does not require students to be passive participants—has consistently demonstrated improved outcomes and experiences when compared against traditional lecturing. Consequently, we will be dedicating our most precious pedagogical resource, classroom contact-time between students and faculty, to this mode of learning.

Classroom time usually is devoted to the oral transmission of foundational knowledge. While the evidence of history demonstrates that the lecturing model has succeeded, pedagogical research makes clear that this model has profound flaws. Chief among these is the fact that teachers are not readily accessible to students as they tackle the independent assignments that are intended to integrate “lectured” content and promote cognitive

development. We all recognize that details heard in lectures are rarely retained unless integrated through activity: “see one, do one, teach one,” after all.

We will provide foundational content to our students prior to class using a variety of methods designed to be digestible, concise, and often interactive in their own right. When students come to class they will engage in learning activities with each other and with their teachers, who will help and motivate precisely when traditional homework assignments risk generating frustration, isolation, and demotivation. Active classrooms also help develop crucial affective skills such as communication, collaboration, and responsibility—qualities that are valued among the health professions. Our institutional commitment to delivering a Pharm.D. program built upon this approach is what makes our efforts worthy of attention.

We are very fortunate to have a faculty that is willing to embrace these paradigmatic changes. Their commitment to confront the challenges of pedagogical evolution for the sole purpose of improving our students’ learning is inspiring.

Best wishes,



Gary M. Pollack

Dean

Washington State University College of Pharmacy

Gufford receives honor for ‘sharps-free’ research

Pharmacy graduate student two-time award winner at clinical pharmacology meeting

By: Lorraine Nelson, WSU Health Sciences Spokane



Brandon Gufford

Washington State University graduate student Brandon Gufford will receive a Presidential Trainee Award from the American Society for Clinical Pharmacology and Therapeutics (ASCPT) on March 4, 2015, at the organization’s annual meeting in New Orleans, Louisiana. Gufford is a Ph.D. candidate at the College of Pharmacy, and this will be the second year in a row for him to receive this honor.

“There are a very small number of individuals who have been repeat awardees,” said ASCPT representative Judy Dalie.

Gufford was selected for this year’s award for a collaborative research project with WSU pharmacy faculty members Mary F. Paine and John R. White. The

group developed a new cost-effective, non-invasive way to measure opioid effects and reversal in people, essentially giving researchers a safe and efficient way to study the effects of opioids in healthy volunteers.

“This ‘sharps-free’ model supports the development of new rescue therapies for opioid overdose and new combination therapies that make medical opioid use safer,” said Gufford. As an alternative to using blood samples, they measured pupil diameter as a marker of pharmacodynamic effect.

Gufford was selected for this award in 2014 for his participation in research on an integrated in vitro-in silico-in vivo (meaning, test tube-computer simulation-live subject) framework for the prediction of an herb-drug interaction in healthy volunteers.

“Winning this award twice in a row is truly a testament to the high quality of research and high level of training in Dr. Paine’s lab,” said Gufford.

ASCPT is the largest scientific-professional organization serving the discipline of clinical pharmacology, which is the study of drugs and their effects in humans. The organization consists of more than 2,100 academic, industrial and regulatory scientists committed to promoting and advancing human pharmacology and therapeutics for the benefit of patients and society (www.ascpt.org).

Each year the organization selects the top scoring abstracts submitted by trainees and gives special recognition to these individuals, including a showcase of their research and an awards ceremony. This award puts Gufford and the WSU College of Pharmacy in the spotlight at the national and international levels, with an opportunity for him to promote his research to the leaders in clinical pharmacology from across the United States.

“My favorite part of this project was literally seeing if it was working right before our eyes, which is not something that normally happens,” said Gufford. “Usually there’s a two to three-month lag time from the time you collect the data to the point where you can see if it worked.”

Gufford is originally from Cambridge, Nebraska. Cambridge is a very small town in the southwest corner of the state (~1,000 people) without stoplights, Walmart, shopping malls, or universities, and definitely no one conducting research, said Gufford. “Every time that I travel to a new city to present research at a national or international meeting I am reminded of just how far one can come from very simple beginnings.”

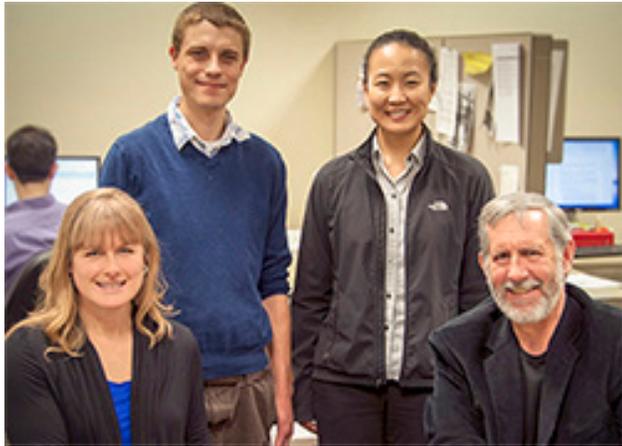
He began his undergraduate coursework at the University of Nebraska in Kearney, and then went on to obtain his Doctor of Pharmacy degree from the University of Nebraska Medical Center in Omaha. He began his Ph.D. work at the University of North Carolina at Chapel Hill, and then transferred to the WSU College of Pharmacy at Spokane in 2013 when his faculty advisor, Mary Paine, joined the College’s experimental and systems pharmacology unit.

Gufford’s main research interests focus on determining how herbal supplements interact with conventional medications.

Drug information from Spokane has international audience

Teaching laboratory provides valuable service for providers everywhere advocacy

By: Lorraine Nelson, WSU Health Sciences Spokane



Drs. Terri Levien and Danial Baker sit in front with drug information residents, Drs. Ross Bindler and Anne Kim

The Drug Information Center at Washington State University in Spokane once received a question called in from a U.S. aircraft carrier sitting in the Mediterranean Sea, says the center's director Danial Baker.

After a brief pause, Baker adds with a smile, "It was an alumnus of the WSU College of Pharmacy calling."

Still, in the absence of any advertising other than word of mouth and the alumni of the College, the center is contacted by pharmacists, physicians and other healthcare providers from all over the state of Washington as well as other states and some members of the public.

"Our pharmacy students here are the ones who answer the questions because this is a teaching laboratory as well as a service," Baker said.

Nationally, the Drug Information Center provides a valuable service for providers everywhere by submitting five written reviews of new drugs, or drugs in the late phase of clinical trials, each month to the Formulary Monograph Service (FMS). The FMS is a drug information distribution service owned by Wolters Kluwer, an international health information company.

The drug reviews have an interesting history at the College. As Baker tells it, more than 30 years ago a WSU pharmacy alumnus was working late one night researching a drug and after subsequent conversations about drug research with a physician, they started the drug review service. It was later purchased by Facts & Comparisons® and has since become part of Wolters Kluwer, which in turn pays the center and partially funds it.

Baker joined the Drug Information Center in 1983. He and the center moved from the Pullman campus to what was then the College's small office suite in Spokane in 1988. As director, Baker set up a pharmacy residency. Terri Levien was the first resident in 1990 and has been on faculty and working at the center since shortly after that residency. Levien is now coordinating a new service the center provides for Wolters Kluwer. Monthly, the center compares the efficiency, safety and dosing of medications for about 30 disease states and sends the summaries to Wolters Kluwer for their health information products serving hospitals, physicians and pharmacists.

The center's information also ends up in the professional journal Hospital Pharmacy where once a month one of their drug reviews is used for 1.5 units of Continuing Education for pharmacists. Baker also writes a monthly column for the journal. Meanwhile, Levien and the pharmacy residents at the center produce an e-newsletter for

practicing pharmacists in the state of Washington.

There are two residencies in the center and in addition to helping with the work for Wolters Kluwer, the residents work with student pharmacists in the center's six-week Pharm.D. drug information rotation program, helping them to find answers to the questions the center receives.

The questions have become more complex over the years as the answers to the simpler ones—such as identifying a particular tablet or capsule—can be found online. Still, they vary widely from the more common about drug interactions, adverse drug reactions, or appropriate drugs for a specific disease state to more complex and unusual, such as drug dosing for a patient in renal failure or the care of a particular patient. Questions about herbal products and their possible interaction with medications are frequent, along with inquiries about vaccines for international travel or medicine prescribed in a foreign country because of an illness contracted there.

One clinical psychologist with an elderly clientele sometimes sends the center a list of medications for a specific patient, wanting to know if the patient's trouble could be related to the medications. The students research and respond.

WSU student pharmacist selected for FDA internship

Student pharmacist discovers interest in drug information specialty



James Leonard, a third-year student pharmacist at Washington State University, has been selected for a summer internship with the Division of Drug Information at the U.S. Food and Drug Administration (FDA). Leonard will participate in the FDA program as one of his Doctor of Pharmacy program's advanced pharmacy practice experience (APPE) rotation requirements. He will be working under Lieutenant Lindsey Wagner who is a pharmacist at the Center for Drug Evaluation and Research and a health promotion officer with the FDA. Leonard was one of about 700 applicants nationally for the program.

Leonard discovered an interest in specializing in drug information after working with College of Pharmacy Associate Dean and Pharmacotherapy Professor Danial Baker at WSU's Drug Information Center in Spokane. "I researched

online and found the FDA internship program. After talking to Dr. Baker and our experiential program director about it, I decided to apply," said Leonard. "I attended ASHP [Midyear Clinical Meeting] where I was able to meet Dr. Wagner and make a face-to-face connection. There is power in networking because I got the internship. It's hard to see as a student, but it can open doors for your education."

Leonard will begin the six-week internship this May at the FDA's drug information headquarters in Silver Spring, Maryland. Throughout the program, Leonard will attend interdisciplinary lectures coordinated through the FDA on a variety of medical topics. He also plans on conducting a research project working with his assigned preceptor.

As a pharmacist, Leonard wants to be involved with clinical trials. One of the benefits this experience will provide a trial team is the ability to help connect what the team wants to study and what the FDA will accept, said Leonard. “A rotation with the FDA would let me see the communication that helps develop mutual goals between researchers and the agency.”

“I’m excited to work with the FDA because this will give me exposure to the regulatory and drug information environments on a grander scale,” said Leonard.

Other College News

FACULTY SCHOLARSHIP

Publications

- U.S. Transuranium and Uranium Registries Director and Associate Research Professor **Sergei Tolmachev**, was a co-author on the article, “Study of the distribution of actinides in human tissues using synchrotron radiation micro X-ray fluorescence spectrometry,” published in the journal Analytical and Bioanalytical Chemistry [2015, 407(6): 1559-1566].
- Experimental and Systems Pharmacology Assistant Professor **Shobhan Gaddameedhi** co-authored with four others the article, “The circadian clock controls sunburn apoptosis and erythema in mouse skin,” published in the Journal of Investigative Dermatology [doi: 10.1038/jid.2014.508 (2015)].
- Experimental and Systems Pharmacology Associate Professor **Susan A. Marsh** co-authored with two others the article, “Establishing strategic exercise prescriptions for cardiac hypertrophy: Evidence for distinct effects of exercise in different hypertrophic disorders,” published in the international journal Life Sciences (123: 100-106, 2015).
- Experimental and Systems Pharmacology Postdoctoral Research Associate **John T. Barr** and Experimental and Systems Pharmacology Associate Professor **Mary F. Paine** with two others published, “Inhibition of human aldehyde oxidase activity by diet-derived constituents: Structural influence, enzyme-ligand interactions, and clinical relevance,” in the journal Drug Metabolism and Disposition, a publication from the American Society for Pharmacology and Experimental Therapeutics (ASPET) [43:34-41, 2015. PMID: PMC4279085].
- Experimental and Systems Pharmacology Research Associate **Garret Ainslie** and **Mary Paine** co-authored with five others the article, “Mechanistic basis of altered morphine disposition in nonalcoholic steatohepatitis,” published in the Journal of Pharmacology and Experimental Therapeutics, a publication from ASPET (352:462-70, 2015).
- **Mary Pain** co-authored with 13 others the article, “Chemotherapy of second stage human African trypanosomiasis: comparison between the parenteral diamidine DB829 and its oral prodrug DB868 in vervet monkeys,” published in the peer-reviewed open-access scientific journal PLOS Neglected Tropical Diseases (9:e0003409, 2015).
- Pharmacotherapy Professor **Tracy L. Skaer’s** research project on the treatment of chronic pain was featured in the spring 2015 edition of Washington State Magazine. [read article](#)

- Pharmacotherapy Clinical Professor **Terri L. Levien** and Pharmacotherapy Professor and Associate Dean for External Professional and Continuing Education **Danial E. Baker** published, “Suvorexant,” in the journal Hospital Pharmacy [2015;50(1):59-74].
- **Danial Baker** published, “Approvals, submission, and important labeling changes for U.S. marketed pharmaceuticals,” in the journal Hospital Pharmacy. The article presents information on new drugs and indications as well as dosage forms and safety-related changes in labeling or use approved by the U.S. FDA from October 16, 2014 through November 15, 2014 [2015;50(1):75-77]. [read article](#)

Service

- Pharmaceutical Sciences Associate Professor **Grant D. Trobridge** served as a reviewer for the Gene and Drug Delivery Systems Study Section (GDD) for the National Institutes of Health in Bethesda, Maryland.
- **Susan Marsh** was appointed as an ad hoc reviewer for Health Research Council of New Zealand (HRC NZ) beginning in February 2015.
- **Susan Marsh** was appointed as an ad hoc reviewer for the NIH Center for Scientific Review special emphasis grant review panel study section on physiology and pathobiology of cardiovascular and respiratory systems [F10A] beginning in March 2015.
- **Susan Marsh** was appointed as an ad hoc reviewer for the American Heart Association’s cardiac biology basic sciences review panel beginning in March 2015.

Grants

- **Shobhan Gaddameedhi** received \$249,000 per year for three years from the National Institutes of Health (R00) for the research project titled, “Role of the circadian clock in melanocyte biology and UV-induced melanomagenesis.”
- Pharmacotherapy Assistant Clinical Professor **Julie Akers** received \$535,000 over the next three years from the National Association of Chain Drug Stores Foundation for the research project titled, “Increase access to quality patient care in community pharmacies for minor illnesses in Washington state.”

STUDENT ACHIEVEMENT

Doctor of Philosophy (Ph.D.) students

- **Brandon Gufford** (Paine lab, experimental and systems pharmacology) received a \$500 Dorothy Otto Kennedy Travel Award from the College of Pharmacy graduate program to support the presentation of his poster and acceptance of the ASCPT Presidential Trainee Award at the 2015 American Society for Clinical Pharmacology and Therapeutics Annual Meeting in New Orleans, La., March 3–7, 2015. [video abstract](#)
- **Brandon Gufford** presented, “Medication and nutritional interactions in the perianesthesia world,” to approximately 80 RNs on February 21, 2015, at the Northwest PerAnesthesia Nurses’ Association (NPANA) Spring Fling at Sacred Heart Medical Center in Spokane, Wash.
- **Solomon Agere** (Ahmed lab, pharmaceutical sciences) will present his abstract titled, “Epigallocatechin-3-gallate (EGCG) inhibits RANTES/CCL5-induced MMP-1 and MMP-13 expression in human rheumatoid arthritis synovial fibroblasts,” at the Experimental Biology annual meeting on April 1, 2015, in Boston, Mass. Additional authors: Pharmaceutical Sciences Research Associate **Nahid Akhtar** and Pharmaceutical Sciences Associate Professor **Salah-uddin Ahmed**
- **Solomon Agere** received a \$500 Dorothy Otto Kennedy Travel Award from the College of Pharmacy graduate program to support the presentation of his poster at the Experimental Biology meeting in Boston, Mass., March 28-April 1, 2015.
- **Amity Platt** (Lazarus lab, pharmaceutical sciences) will present, “Identification of active exemestane metabolites: Significance in breast cancer prevention,” for the College of Pharmacy Graduate Student Research Seminar on March 13, 2015, on the WSU Health Sciences campus in Spokane.
- **Sihan Wang** (Lazarus lab, pharmaceutical sciences) will present her recent research for the College of Pharmacy Graduate Student Research Seminar on March 20, 2015, on the WSU Health Sciences campus in Spokane.
- **Anna Sherman** (Denton lab, pharmaceutical sciences) will present, “Brain sulfur amino acid metabolites in the treatment of neurodegenerative diseases,” for the College of Pharmacy Graduate Student Research Seminar on March 27, 2015, on the WSU Health Sciences campus in Spokane.

Doctor of Pharmacy (Pharm.D.) students

- **Madison Block**, **Amanda Hack** and **Stephanie Lind** will compete at the national Student Pharmacist Compounding Competition March 21-22, 2015, in Gainesville, Fla.
- **Hanhla Phan** received first place in the WSU APhA-ASP local counseling competition and will compete at the APhA annual meeting March 27-30, 2015, in San Diego, Calif.
- The names of WSU student pharmacists qualifying for The Dean’s List for fall 2014 were released in February. [view list](#)
- **James Leonard** was selected for a six-week summer internship with the Division of Drug Information at the U.S. Food and Drug Administration.

Coming Events

- March 16-17, 2015
Sergei Tolmachev has been invited to present, “United States Transuranium and Uranium Registries and research,” at the 2015 Department of Energy (DOE) Annual Occupational Medicine Workshop and Webinar at the DOE Headquarters in Washington, D.C.
- March 29, 2015
WSU College of Pharmacy Alumni and Friends Reception: The College is hosting a reception at the APhA Annual Meeting in San Diego, Calif., for WSU Pharmacy alumni and friends. Contact our advancement and alumni relations office at gocougs@pharmacy.wsu.edu for details and to RSVP.
- May 24-25, 2015
Sergei Tolmachev has been invited to present USTUR research findings at the 2015 International Workshop on Sample/Tissue Archiving of Radiobiology (STAR2015) in Kyoto, Japan.



College of Pharmacy

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