



The Dean's Newsletter



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

June 2016

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Dear Friends and Colleagues:

Often, and I am certain that many of you have either said or heard something similar, faculty will lament the difficulties associated with “replicating” themselves. We worry, and with good reason, about the sustainability of the academy. How do we sell the idea of perhaps working longer hours, for perhaps lower pay, than in other sectors of the economy? Obviously, there are many good reasons, otherwise most of us would not be doing what we currently do. Nevertheless, we worry.

At the same time, new faculty enter into their positions with little or no formalized training in the educational process. They obviously are accomplished individuals; they all have done well as students, as scholars, and perhaps in professional practice. However, in the absence of learning how to teach, faculty often simply rely on the approaches they had observed as students, adopting those that they believe were most effective or enjoyable and rejecting the remainder. These decisions are, of course, made from the perspective of being a student.

We are about to embark on a pilot program to address both of these aspects of “renewing” the instructional ranks. Beginning this summer we will launch a formal Teaching Fellows Program by hiring one fellow for our Spokane campus and a second fellow for our Yakima campus. In 2017, as these individuals become “senior fellows”, we will add a second position to each campus. Each fellow will have a faculty mentor, and senior fellows will play an additional mentoring role for their junior colleagues. In addition to delivering components of our professional curriculum, the fellows will be engaged in ongoing discussions about the art and science of teaching, and will have the opportunity to conduct a research project focused on teaching and learning efficacy.

The Teaching Fellows Program is simply the latest step our college is taking in fundamentally changing the way we engage our students and prepare the next generation of practitioners, scholars, and scientists. We have completed a three-year transition to a competency-based approach to assessing student performance,

eliminating normed grading and the internal competition associated with traditional grading scales. We just completed our first year of a three-year implementation of active- and collaborative-learning throughout the required coursework in our professional curriculum. Although our observational data are limited, so far both changes appear to have had the desired effect: supporting the success of our students.

I am enthusiastic about the teaching fellows model, and look forward to sharing that experience as the program matures.

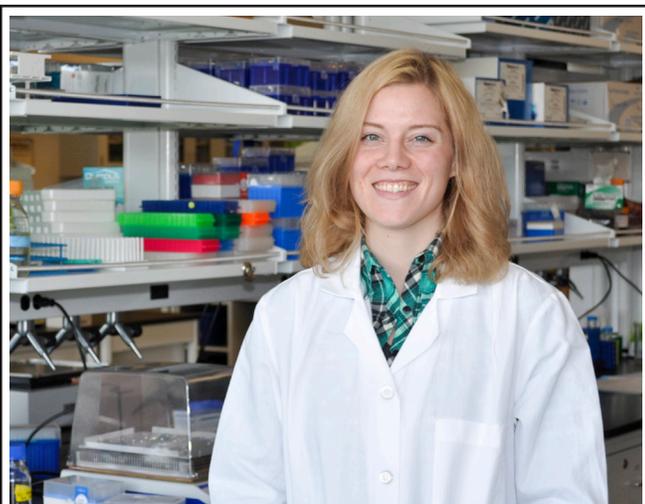
Best wishes,



Gary M. Pollack
Dean
Washington State University College of Pharmacy

Dr. Emily Johnson

College of Pharmacy Ph.D. graduate receives campus award



Dr. Emily Johnson

WSU College of Pharmacy graduate Emily Johnson received a 2016 WSU Spokane Chancellor's Award. The Chancellor's Awards recognize students for their significant leadership, academic contributions to the campus and community, and their commitment to innovation and ingenuity in their chosen field. Johnson recently completed her Ph.D. in pharmaceutical sciences at WSU in Spokane.

Johnson was presented the award during the 2016 WSU Spokane Commencement Breakfast on May 6. She was nominated by her faculty mentor, Experimental and Systems Pharmacology Associate Professor Susan Marsh, and selected by WSU Spokane Chancellor Lisa Brown.

"Emily is a perfect example of a student who has excelled in all six of the required categories for the award," said Marsh.

Johnson excelled in her coursework, published and presented her dissertation work in international journals and meetings, was a leader on campus, initiated and participated in science and community outreach, and forged new collaborations with other labs, said Marsh.

“It’s great to see her achievements receive such recognition. She has set the bar very high for graduate students in the College of Pharmacy. Emily was a wonderful student to work with and I could not have asked for a better teammate for my lab,” said Marsh.

Johnson is from Seabeck, Washington. She completed her bachelor’s in exercise physiology and metabolism at Washington State University in 2011 and began her doctorate in 2012. Last year, Johnson won the first university-wide Three Minute Thesis contest hosted by the WSU Provost’s Office in Pullman. This contest for doctoral candidates gives contestants three minutes to explain their thesis to an audience of people with non-scientific backgrounds.

Johnson’s research, which was funded by a National Science Foundation Graduate Research Fellowship, studied the effects of exercise on the diabetic heart and how anti-cancer drugs affect sugar metabolism and health in diabetic hearts. She hopes her research will lead to a new way of combating heart disease in diabetics.

During her time in the graduate program, Johnson served as the director of outreach and community engagement for the Associated Students of WSU Spokane, she was the co-founder and president of the WSU Graduate Research Student Association, and she served on the WSU President’s Commission on Gender Identity/Expression and Sexual Orientation. She has volunteered extensively at area hospitals, the Global Neighborhood’s refugee resettlement program, and she is a foster parent.

Johnson successfully defended her doctoral thesis titled, “Diabetic cardiomyopathy: phenotypes, mechanisms, and therapeutic targets,” for her Ph.D. degree in November 2015. She is currently working as a postdoctoral research associate in Dr. Mary Paine’s lab at WSU Health Sciences in Spokane.



Student pharmacist receives award from national organization

Honors Program allows students to gain expertise through research

Not a morning person? Neither are your kidneys.

Research from the Washington State University College of Pharmacy suggests there may be benefits to timing chemotherapy in cancer patients with the time of day your body is “most awake.”

Daniel Sorensen, a student in the Doctor of Pharmacy (Pharm.D.) program at WSU in Spokane, is studying chronopharmacology in the research lab of WSU Assistant Professor Shobhan Gaddameedhi as part of the college’s Pharm.D. Honors Program.

The honors program provides opportunities for student pharmacists to explore areas of interest that



Daniel Sorensen

complement and enhance their experiences in the Pharm.D. program through developing and conducting formal research projects. This research component allows a student pharmacist to strategically align his or her personal pharmacy interests and future career goals by providing deeper expertise in that interest area.

“Our laboratory is interested in understanding how cancer treatment will be more effective by administering that treatment during certain cycles of circadian rhythms,” said Panshak Dakup, a graduate student also working in Gaddameedhi’s lab.

Up to 43 percent of the genes in the body are regulated by the circadian clock, which vary in expressions at different times of the day and give rise to different physiological patterns. Among this 43 percent are 175 drug targets that are clock-controlled genes, including 56 of the top 100 best-selling drugs in the United States, said Dakup and Gaddameedhi.



Panshak Dakup

Gaddameedhi and Dakup worked with Sorensen to study the commonly used chemotherapy drug cisplatin. His project explored the expression levels of both cisplatin transporter molecules and cisplatin-DNA repair activity, which are the key players of cisplatin resistance and toxicity, against a 24-hour cycle in mouse kidney and liver tissues. Nephrotoxicity is one of cisplatin’s major limitations as a chemotherapeutic drug.

“The circadian clock regulates the genotoxic-mediated signaling pathways including drug transport, DNA repair, checkpoint activity, and apoptosis, which are key for minimizing drug toxicity in normal tissues and increasing anti-cancer therapeutic drug efficacy,” said Gaddameedhi.

Sorensen’s project builds on [previous research conducted by Gaddameedhi](#) that demonstrates the cellular and molecular mechanisms for timing of chemotherapy with circadian rhythm has a potential to minimize renal toxicity and side effects in genetic mouse models.

“This science is concerned with systematically harnessing these varying expression levels of drug targets within biological systems to administer treatments for various diseases at specific times of day,” said Dakup.



Dr. Shobhan Gaddameedhi

This means coordinating chemotherapy treatments with the time of day when a patient’s body is at peak expression of drug transporter and DNA repair molecules

could help optimize the patient’s own metabolism to fight against drug toxicity and side effects. However, further study will be needed to pinpoint the mechanistic cause associated with circadian dosing before it can be tested in patient treatment plans.

This research recently garnered Sorensen a graduate student travel award from the American Society for Pharmacology and Experimental Therapeutics (ASPET) to attend their annual meeting at the Experimental Biology conference in San Diego, California, in April.

“This award is presented to outstanding graduate students to enable them to present their research at one of the largest biological scientific meetings in the world,” said Carla Burns, a program coordinator with ASPET.

Sorensen is from Richland, Washington. He received an Associate in Science Transfer Degree from Columbia Basin College and completed his pre-pharmacy coursework at WSU Tri-Cities. He is currently in his final year of the WSU Pharm.D. program.

“My favorite part of this research has been working with one of the less understood facets of pharmacologic research, as well as working with the amazing team of researchers in Dr. Gaddameedhi’s lab,” said Sorensen.

Dakup is a graduate student working on his Ph.D. in pharmaceutical sciences. He is from Pankshin, a city in Plateau State, Nigeria, and completed his bachelor’s degree in chemistry from Columbia College in Missouri. He first came to WSU in 2014 to participate in the College of Pharmacy’s Summer Undergraduate Research Fellowship program. The “togetherness” of the faculty and students at WSU and supportive values held by the College of Pharmacy influenced him to pursue his Ph.D. here, which he began in the fall of 2015.

“In addition to the healthy environment, the quality of research being done by Dr. Gaddameedhi and at the College of Pharmacy is remarkable,” said Dakup. “My favorite part of this research was the strategic thought process involved in building a research project with little references because of the knowledge gap in the field of chronotherapy.”

Research at the WSU College of Pharmacy supports the university’s land-grant mission to address some of society’s most complex issues, specifically WSU’s efforts surrounding developing practical solutions to challenging problems in health care delivery, health care access and disease prevention.



Professor Gerald Briggs

Class of 1968 alum honored for lifetime achievement

Gerald G. Briggs, class of 1968, received the 2016 Distinguished Service Award from the Washington State University College of Pharmacy for his exemplary service to the profession of pharmacy and his contributions to WSU.

Briggs is an expert in obstetrics (OB) pharmacy and co-created a textbook on the subject titled, “Diseases, Complications, and Drug Therapy in Obstetrics.”

Briggs saw the benefit of having a pharmacist on the health care team with OB doctors and nurses. In 2014, he personally funded a WSU OB pharmacy residency at the Maternal-Fetal Medicine (MFM) Clinic in Spokane.



Gary Pollack, Gerald Briggs and
Linda Garrelts MacLean

His goal was to demonstrate the value of a pharmacist on OB teams and develop a “best practice” model of care that can be duplicated in other hospitals.

Alyson Blum, class of 2014, was the first OB pharmacy resident at the WSU College of Pharmacy. She is now a clinical assistant professor for WSU. Her objective this past year has been to lecture pregnancy topics for many courses in the Doctor of Pharmacy program, and she will also serve as instructor of record for the online OB pharmacy elective. WSU’s online course, which shares the same title as Brigg’s book, can be found on the college’s web site at: <http://www.pharmacy.wsu.edu/online/index.html>.

Blum’s research focus is also on obstetrics. Blum will study the cost effectiveness of having a pharmacist in charge of managing a pregnant patient’s diabetes medication therapy. Pharmacists typically have more time than physicians for patient education, she said, freeing doctors to focus on diagnosis and complex cases. This translates into better patient care, which is what she aims to show through her research.

“High blood sugar is so toxic for babies,” said Blum. “Pregnant women need and want someone who really understands insulin. A drug expert (a pharmacist) makes a good fit in that role.”

Blum’s faculty appointment is part of a pilot project also sponsored by Briggs.

“The contributions Gerald has made to WSU through the OB online course, pharmacy residency, and now our faculty position will continue to make a profound impact on the quality of pharmacy education offered at WSU and, in turn, the quality of care our pharmacists provide to their patients,” said Linda Garrelts MacLean, an associate dean for the college.

Briggs was also honored in 2008 as the College of Pharmacy’s Outstanding Alumnus of the Year, and last year was recognized as a new WSU benefactor.



Other College News

FACULTY SCHOLARSHIP

Publications

- Pharmaceutical Sciences Associate Research Professor **Zuping Xia**, Pharmaceutical Sciences Associate Research Professor **Gang Chen**, Pharmaceutical Sciences Boeing Distinguished Professor and Chair **Philip Lazarus**, and two others published, “Impact of nonsynonymous single nucleotide polymorphisms on in-vitro metabolism of exemestane by hepatic cytosolic reductases,” in the journal *Pharmacogenetics and Genomics* available online starting Apr 22, 2016 (PMID: 27111237). [read abstract](#)

- **Gang Chen**, Pharmaceutical Sciences Visiting Scientist **Shaman Luo**, **Philip Lazarus**, and one other published, “Glucuronidation genotypes and NNAL metabolic phenotypes in smoker’s urine,” in *Cancer Epidemiology Biomarkers & Prevention*, a peer-reviewed journal published by the American Association for Cancer Research. [read abstract](#)
- Pharmaceutical Sciences Associate Professor **David X. Liu** and 19 co-authors published, “eEF-2 kinase is a critical regulator of Warburg effect through controlling PP2A-A synthesis,” in the May 16 issue of *Oncogene*, a peer-reviewed journal from Nature.com. [read article](#)
- Pharmacotherapy Clinical Associate Professor **Brenda S. Bray**, Pharmacotherapy Clinical Associate Professor **Lisa J. Woodard**, Pharmacotherapy Clinical Associate Professor **Megan N. Wilson**, and eight others published, “Development, implementation and evaluation of a longitudinal interprofessional education project,” in the June 2016 *Journal of Interprofessional Education and Practice*, an online-only peer-reviewed publication affiliated with the University of Nebraska Medical Center and is the official journal of the National Academies of Practice. [read article](#)
- Pharmacotherapy Associate Professor **Joshua J. Neumiller** and one co-author published, “Prandial insulin dosing: how long does it take to go 80 miles?” in *Diabetes Spectrum*, the peer-reviewed journal of the American Diabetes Association. (2016;29(2):67-69). [read article](#)
- Pharmacotherapy Clinical Assistant Professor **Anne P. Kim** and Pharmacotherapy Professor and Associate Dean for External Professional and Continuing Education **Danial E. Baker** published, “Idarucizumab,” in the independent, peer-reviewed journal *Hospital Pharmacy* (2016;51(3):256-262). [read article](#)
- Pharmacotherapy Professor and Chair **John R. White, Jr.**, and seven co-authors published, “Connecting patients to prescription assistance programs: effects on emergency department and hospital utilization,” in the April 2016 issue of *Journal of Managed Care & Specialty Pharmacy*, a peer-reviewed journal of the Academy of Managed Care Pharmacy.
- **John White** published the feature article, “Advances in insulin therapy: a review of new insulin Glargine 300 units/ml in the management of diabetes,” in *Clinical Diabetes*, a journal of the American Diabetes Association. [read article](#)
- Pharmacotherapy Clinical Assistant Professor **Alyson K. Blum** published, “Insulin use in pregnancy: an update,” in the journal *Diabetes Spectrum* in May 2016. [read article](#)

Presentations

- **Lisa Woodard** with two others presented, “Strategies for implementing diabetes prevention programs,” at the Pre-Diabetes and Weight Management Symposium, hosted by Inland Northwest Health Services in Spokane, Washington, on May 20, 2016.
- Pharmaceutical Sciences Associate Professor **Grant D. Trobridge** presented the oral abstract, “A direct comparison of foamy and lentiviral vector genotoxicity in SCID-repopulating cells shows foamy vectors are less prone to clonal dominance,” at the American Society of Gene and Cell Therapy in Washington, D.C., on May 4, 2016. Contributing authors include: Pharmaceutical Sciences Research Intern **Elizabeth M. Everson** (Trobridge lab), Pharmaceutical Sciences Research Intern **David J. Leap** (Trobridge lab), Pharmaceutical Sciences Research Technologist **Jonah D. Hocum** (Trobridge lab), **Grant Trobridge**, and one other.
- **Jonah Hocum** presented the oral abstract, “Retargeted foamy virus vectors integrate less frequently near proto-oncogenes,” at the American Society of Gene and Cell Therapy in Washington, D.C., on May 4, 2016. Contributing authors include: **Jonah Hocum**, **Grant Trobridge**, and four others.

- Pharmaceutical Sciences Research Associate **Arun K. Nalla** (Trobridge lab) presented the poster, “Development of a safe and effective combinatorial foamy virus vector for HIV gene therapy,” at the American Society of Gene and Cell Therapy in Washington, D.C., on May 7, 2016. Contributing authors include: Pharmaceutical Sciences Research Associate **Arun K. Nalla** (Trobridge lab), **Elizabeth Everson**, **Grant Trobridge**, and three others.
- Experimental and Systems Pharmacology Assistant Professor **Shobhan Gaddameedhi** presented, “Circadian clock, UV-DNA repair and skin: implications in skin carcinogenesis and sunburn erythema,” at the American Society for Photobiology conference in Tampa, Florida, on May 26, 2016.
- Experimental and Systems Pharmacology Research Associate **Rajendra Gajula** (Gaddameedhi lab), Experimental and Systems Pharmacology Research Intern **Kenneth Porter** (Gaddameedhi lab), **Shobhan Gaddameedhi**, and one co-author presented the poster, “Characterizing core clock gene dynamics in mouse and human peripheral blood using simulated shift work protocols,” at the Society for Research on Biological Rhythms (SRBR) Biennial meeting at Tampa, Florida, on May 22, 2016. Contributing authors include: **Rajendra Gajula**, **Kenneth Porter**, **Shobhan Gaddameedhi**, and four others.
- **Joshua Neumiller** presented, “What’s new? An antihyperglycemic medications update,” at the 2016 Washington Association of Diabetes Educators (WADE) Annual Meeting in Spokane, Washington, on April 15, 2016.

Service

- Pharmaceutical Sciences Postdoctoral Research Associate **Heidi M. Medford** (Lazarus lab) visited Capitol Hill in Washington, D.C., on May 17 as part of her Early Career Advocacy Fellowship through The American Physiological Society. Medford met with legislative staffers from the offices of Senators Cantwell and Murray, where they discussed the importance of substantial increases to the NIH and NSF budgets, as well as proposed changes to the Small Business Innovation Research program.
- United States Transuranium and Uranium Registries Director and Associate Research Professor **Sergei Y. Tolmachev** has been elected to serve as a member of the Board of Trustees for the [Herbert M. Parker Foundation](#).
- **John White** has been invited to serve as associate editor for Medications for the Treatment of Diabetes, which is part of the ADA’s Medical Management of Diabetes clinical series electronic database project.
- Pharmaceutical Sciences Associate Professor **Salah-uddin Ahmed** served as an expert reviewer for the Musculoskeletal, Oral and Skin Sciences (MOSS) special emphasis panel review meeting at the National Institute of Arthritis and Musculoskeletal and Skin (NIAMS) institute.

Grants

- Pharmacotherapy Clinical Assistant Professor **Kimberly C. McKeirnan** received \$2,500 over seven months from the National Associations of Chain Drug Stores (NACDS) to conduct community practice research as part of her work in the NACDS Faculty Scholars Program.
- **Sergei Tolmachev** received \$30,000 from the U.S. Department of Energy to sponsor a series of scientific events dedicated to the 50th anniversary of the United States Transuranium and Uranium Registries.

Awards

- The WSU College of Pharmacy staff excellence awards were presented on Friday, May 6. **Danielle Teague** from the Central Operations category and **Julie Foster** from the Departments/Teams category each received \$500.

STUDENT ACHIEVEMENT

Doctor of Philosophy (Ph.D.) students

- **Faya Zhang** (Zhang lab, pharmaceutical sciences) presented, “Chronic alcohol consumption inhibits peripheral NK cell development and maturation by decreasing the availability of IL-15,” as an oral presentation and poster at the IMMUNOLOGY 2016 conference in Seattle, Washington, May 13-17, 2016.
- **Kari Gaither** (Liu Lab, pharmaceutical sciences) received a travel award of \$1,000 from the WSU Graduate School and a \$500 Associated Students of WSU Spokane travel award to present the poster “A role for microRNAs in the regulation of transcription factor ATF5” at the 2016 American Association of Cancer Research (AACR) Annual Meeting on April 16-20 in New Orleans, Louisiana. Contributing authors include: Associate in Pharmaceutical Sciences **Bhanupriya Madarampalli** (Ahmed lab) and **David Liu**
- **Sara Dumit** (Tolmachev lab, pharmaceutical sciences) received a \$500 College of Pharmacy Dorothy O. Kennedy travel award and a \$500 Associated Students of WSU Spokane travel award to present the poster, “Modeling Pu decorporation therapy following occupational exposure,” at the Brazilian Graduate Students Conference (BRASCON) at Harvard University in Cambridge, Massachusetts, in March 2016.
- **Sara Dumit** received a \$300 Health Physics Society Travel grant to present, “USTUR case 0785: modeling Pu decorporation following complex exposure,” at the Annual Health Physics Society Meeting in Spokane, Washington, in July 2016.
- **Amity Platt** (Lazarus lab, pharmaceutical sciences) with faculty co-authors **Zuping Xia**, **Gang Chen**, **Philip Lazarus**, and one other published, “In vitro metabolism of exemestane by hepatic cytosolic reductases,” in the journal *Pharmacogenetics and Genomics* available online starting April 22, 2016 (PMID: 27111237).
- **Shannon Kozlovich** (Lazarus lab, pharmaceutical sciences) with faculty co-authors **Gang Chen**, **Shaman Luo**, and **Philip Lazarus** published, “Glucuronidation genotypes and NNAL metabolic phenotypes in smoker’s urine,” in the journal *Cancer Epidemiology Biomarkers & Prevention*.
- **Victor M. Bii** (Trobridge lab, pharmaceutical sciences) received a \$3,500 research award through the College of Pharmacy’s Sue Harriet Monroe Mullen Graduate Fellowship to develop novel biomarkers for breast cancer.
- **Panshak Dakup** (Gaddameedhi lab, experimental and systems pharmacology) received a Society for Research on Biological Rhythms (SRBR) Diversity travel award and a College of Pharmacy Dorothy O. Kennedy travel award to attend the SRBR 2016 Biennial meeting.

Doctor of Pharmacy (Pharm.D.) students

- **Alina Yanovich** won the local Point of Care Disease Management Competition and will represent WSU in the national competition at the Next Generation Diagnostics Conference in Washington, D.C., this August.

Coming Events

- June 28-29, 2016
The WSU College of Pharmacy will host the inaugural Transformation & Innovation in Pedagogy (TIP) Summit for Pharmacy in Spokane, Washington. [summit details](#)
- July 17-21, 2016 | 61st Annual Health Physics Society Meeting, Spokane, Washington
The USTUR will host the special session, “Five decade follow-up of plutonium and uranium workers.” USTUR staff will also conduct four podium presentations, and will co-present five podium presentations.

JOBS

- Clinical Assistant Professor
Pharmacotherapy, Yakima Valley Memorial Hospital, Yakima, Washington
- [Postdoctoral Research Associate](#)
Experimental & Systems Pharmacology-Gaddameedhi Lab, Spokane, Washington



College of Pharmacy

P.O. Box 1495, Spokane, WA 99210-1495 | www.pharmacy.wsu.edu