



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

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Dear Friends and Colleagues:

Later today our college will have an opportunity to welcome Washington State University's president-elect, [Dr. Kirk Schulz](#), who will be visiting the WSU Health Sciences campus as part of his initial system-wide tour. I had the privilege of serving on the presidential search advisory committee that returned a slate of candidates to our board of regents, which is responsible for making presidential hires. I was very pleased that they selected Dr. Schulz.

Leadership changes can be messy and fraught with uncertainty. The three-ring (perhaps five-ring?) circus that is this year's presidential primary process exemplifies the issue on a daily, and sometimes hourly, basis. We have no similar concerns, however, with the impending change in leadership at WSU.

Dr. Schulz is a seasoned administrator, and currently serves as president of Kansas State University. He is sensitive to, and obviously has an excellent understanding of, the land-grant mission and philosophically is an excellent fit for WSU. From the perspective of our college, Dr. Schulz has interests that align closely with several elements of our mission and strategic plan. For the last seven years his focus has been on establishing K-State as one of the top 50 public universities in the US by 2025 (analogous to our goal of becoming a top-10 pharmacy program by 2020). He led growth of research funding at K-State so that the Carnegie Foundation reclassified the university as "highest research activity" (analogous to the rapid growth in our college's research portfolio). He led record-setting growth in enrollment at K-State, just as we have experienced unprecedented growth in enrollment in our Pharm.D. and Ph.D. programs over the last few years. He focused significant efforts on development and alumni relations, activities that we value as well.

Finally, as a chemical engineer Dr. Schulz will clearly understand not only the value of pharmacy and the pharmaceutical sciences to patient care and to economic development, but he will understand the underlying science as well. I anticipate that Dr. Schulz will be an excellent and supportive chief executive, and I am looking forward to working with him.

I would be remiss in failing to mention the importance of the university's current leadership to WSU in general and to our college in particular. Dan Bernardo has done a truly outstanding job as interim president, under conditions that are likely as difficult as any in the academic sector. He handled the aftermath of Elson Floyd's passing with a great deal of grace and diplomacy, and continued to push the university's agenda. Similarly, Ron Mittelhammer and Erica Austin stepped into the unusual role of co-provosts and managed the academic side of university operations with extraordinary talent and care. I have greatly enjoyed working with them, and have come to rely on their wisdom and insight. WSU has been extremely well-served by this leadership team, which will make the transition for the new president a relatively easy proposition.

Best wishes,



Gary M. Pollack
Dean
Washington State University College of Pharmacy

Dr. Travis Denton

WSU searches for drugs to fight ALS, Alzheimer's, other brain disorders



Dr. Travis Denton

Repairing the brain's "house-cleaning function," which could help people with Alzheimer's, Parkinson's, amyotrophic lateral sclerosis (ALS) and 100 other diseases, is the focus of recently funded research at Washington State University.

The work will make a point of including undergraduate researchers.

"Who wouldn't want to help fight diseases like these?" said Travis Denton, a medicinal chemist at the WSU College of Pharmacy in Spokane. He was awarded \$446,233 over three years from the National Institutes of Neurological Disorders and Stroke to investigate new drugs to treat neurological disorders related to autophagic dysfunction.

Autophagy is a process that recycles and clears out old or damaged particles and proteins from cells.

"Autophagy helps defend against metabolic stress, maintains homeostasis and safeguards genomic stability. It's the house-cleaning function of the brain," said Denton.

For patients with neurological disorders, autophagy doesn't work properly, or at all.

“This would be as if the housekeeper - who typically comes over once every week - just stops coming over all together,” said Denton. “In the body, when this happens, cells begin to die and the system degenerates.”

“My collaborator in this project, Dr. Kenneth Hensley at the University of Toledo, has uncovered a fundamentally new way to activate autophagy,” said Denton. “The new chemicals being prepared in our lab are developed to selectively activate autophagy - recruiting the housekeepers back to the brain and, hopefully, regenerating the system.”

The Hensley compound mimics the natural brain metabolite lanthionine ketimine (LK) that activates autophagy by:

- Keeping abnormal proteins from building up and potentially shutting down major organs (heart, liver and nervous system, to name a few)
- Protecting the brain’s functions of learning and memory against neurotransmitter toxicity
- Activating or increasing the activity of proteins that promote the initial growth, maintenance and survival of brain neurons
- Enhancing the movement of proteins, lipids and other cell parts through the cytoplasm of cell bodies.

ALS, Alzheimer’s disease, Parkinson’s disease, traumatic brain injury, and aging differ fundamentally but all share the element of autophagic dysfunction.



“This new funding means we can start the medicinal chemistry investigation into the nature of the compound’s membrane (brain) permeability, esterase liability and overall effectiveness as a drug,” said Denton.

In addition, “one of the goals of this proposal is to give undergraduate students the opportunity to experience all that graduate school in the biomedical sciences at an R1 university setting has to offer,” he said.

While the WSU College of Pharmacy is primarily a professional (Pharm.D.) and graduate education (Ph.D.) college, Denton’s lab has agreements with Gonzaga University, Whitworth University and

Eastern Washington University so undergraduate students can obtain course credits.

Getting students into the lab where they can see the real-world application of the basic chemistry that is still fresh in their memory does a lot to spark their interest, said Denton.

“Being able to create a drug that could help, or cure, a devastating disease like ALS is what turned me from pre-med as an undergraduate to studying medicinal chemistry,” he said.

The research complements WSU’s Grand Challenges initiative stimulating research to address some of society’s most complex issues. The work is particularly relevant to the challenge “Sustaining Health: The Uncompromising Pursuit of Healthier People and Communities,” including its theme of changing the course of disease. The grant number is R15NS093594.

Dr. Joshua Neumiller

Pharmacy professor receives national leadership award



Dr. Joshua Neumiller

Joshua Neumiller has won the national Albert B. Prescott Leadership Award from the Pharmacy Leadership and Education Institute. It is given annually to a pharmacist less than 10 years into his or her career who has demonstrated the potential to become an influential force in pharmacy.

“Dr. Neumiller is already emerging as a leader in pharmacy,” said Gary Pollack, dean of the Washington State University College of Pharmacy. “He truly is an example of the classic ‘triple-threat’ faculty member – excellent scholar, excellent educator and committed to academic, administrative and professional service.”

Neumiller is a WSU alumnus and associate professor and vice-chair for the Department of Pharmacotherapy. He is a certified diabetes educator and a fellow of the American Society of Consultant Pharmacists. He is editor-in-chief of *Diabetes Spectrum*, a journal of the American Diabetes Association.

Prescott was an advocate for an academic basis for pharmaceutical education in the late 1800s. He was the founder and dean of the College of Pharmacy at the University of Michigan.



Research advocacy

Graduate student takes her love of science to Capitol Hill



Kari Gaither, Ph.D. candidate in pharmaceutical sciences

Kari Gaither from WSU traveled to Washington, D.C., this spring as part of a group of 15 early-career scientists from across the United States to participate in biomedical research advocacy for the inaugural American Association for Cancer Research (AACR) Early-Career Hill Day.

Gaither represented more than 14,000 graduate students, medical students and residents, and clinical and postdoctoral fellows that make up the associate membership of the AACR.

Gaither’s group included one other young scientist and an AACR staffer. They made the rounds thanking legislators for their support and advocating for the continuation of funding of research through NIH programs. They visited representatives from the offices of Senator Maria Cantwell (D-WA), Senator Patty

Murray (D-WA), Representative Chris Van Hollen (D-MD), Representative Andy Harris (R-MD), Senator Barbara Mikulski (D-MD), and Senator Brian Shatz (D-Hawaii).

Senators Murray, Mikulski and Shatz are members of the Senate Appropriations Subcommittee on Labor Health and Human Services, which has purview over NIH funding.

According to the AACR, continued growth in the NIH budget for the future is required to fully reverse the effects of more than a decade of stagnant funding. Gaither went advocating to highlight to legislators the impact that stagnant funding has on the scientific research community.

“The success rates for NIH grants is abysmal and the resulting atmosphere is stifling,” she said.

In fact, it is so difficult to secure funding and establish a career in research that many people leave the field for more lucrative and/or less demanding career choices.

“This is a major reason that the progress in cancer research has been so slow over the last 40 years. Cancer is one of the biggest challenges of the millennium. We need more funding overall in cancer research to allow for innovation and translation of basic research to clinical results, and to strengthen America’s place in the health sciences,” said Gaither.

“There’s still so much we don’t know and we need to continue to gain knowledge,” she said. “This early-career investigators program is important to promote why we need sustained increases in NIH funding—to continue to have growth in progress in the cancer research field.”

Gaither is from Sunnyside, Washington, a community located in the Yakima Valley.

“I have always had a love of science and wanted to become a research scientist in order to improve the human condition.”

She earned her Bachelor of Science degree from Evergreen State College. During that time she held internships, and later worked as a post-baccalaureate, at Pacific Northwest National Laboratory in Richland, Washington.

“I love the Pacific Northwest. So when I decided to pursue graduate studies, I naturally looked at Washington State University as one of my options. I could tell right away that it was going to be a good fit. The atmosphere in the College of Pharmacy has been very supportive and conducive to learning.”

Gaither is currently completing her Ph.D. in pharmaceutical sciences at WSU. She is a National Science Foundation Graduate Research Fellow and is working in the research lab of Assistant Professor David Liu, studying a specific protein called ATF5 and its role in the progression of breast cancer. Gaither is hoping her research will result in novel ways this protein can be targeted in certain cancer cells for treatment.

“Classical chemotherapies are not specific, so cancer cells and regular cells are both hit,” said Gaither. “It’s very important to continue this type of research so I’m grateful for the opportunity to tell some of our nation’s legislators about my work at WSU.”



Other College News

FACULTY SCHOLARSHIP

Publications

- Pharmacotherapy Associate Professor **Joshua Neumiller** published the WebMD patient education, “Can SGLT2 inhibitors raise my chances of fractures?” [available online](#)
- Pharmacotherapy Clinical Professor **Terri L. Levien** and Pharmacotherapy Professor and Associate Dean for External Professional and Continuing Education **Danial E. Baker** published, “Fenatnyl iontophoretic transdermal system,” in the independent, peer-reviewed journal Hospital Pharmacy (2016;51(1):71-82).
- **Danial Baker** published, “Approvals, submission, and important labeling changes for U.S. marketed pharmaceuticals,” in the journal Hospital Pharmacy (2016;51(1):86-88).
- Pharmacotherapy Clinical Assistant Professor **Jeffrey A. Clark**, Pharmacotherapy Clinical Professor and Associate Dean for Professional Education **Brian J. Gates**, Pharmacotherapy Clinical Assistant Professor **Kimberly McKeirnan**, and one co-author published, “Assessed value of consultant pharmacist services in home health care agency,” in Consultant Pharmacist, the peer-reviewed journal of the American Society of Consultant Pharmacists (2016;31(3):161-167).
- Pharmaceutical Sciences Assistant Professor **Zhenjia Wang**, Pharmaceutical Sciences Postdoctoral Research Associate **Dafeng Chu**, Pharmaceutical Sciences Associate Research Professor **Hui Zhang**, and one co-author published, “Nanoparticle targeting of neutrophils for improved cancer immunotherapy,” in Advanced Healthcare Materials, a peer-reviewed journal of Wiley-VCH Verlag GmbH. [read abstract](#)

Presentations

- Pharmacotherapy Research Associate and Specialty Resident in Drug Information **Ross Bindler**, Pharmacotherapy Research Associate and Specialty Resident in Drug Information **Anne P. Kim**, **Terri Levien**, and **Danial Baker** presented the poster, “Utilizing an electronic drug information request database to reduce the time to response,” at the American Society of Health-System Pharmacists (ASHP) Midyear Clinical Meeting in New Orleans, Louisiana.

Service

- **Josh Neumiller** served as one of three faculty speakers for the program “Clinical updates in Type 2 diabetes: new strategies for insulin replacement therapy,” at the 2016 APhA Annual Meeting in Baltimore, Maryland, on March 6, 2016.
- College of Pharmacy Dean **Gary M. Pollack** was interviewed for the AACP magazine Academic Pharmacy Now feature, “A better grade,” explaining the WSU College of Pharmacy’s competency based curriculum. [read article](#) (page 17)

Grants

- **Kimberly McKeirnan**, with co-investigators **Linda Garrelts MacLean** and **Lisa Woodard**, were awarded \$250,262 over 18 months for the project titled, “Building the prototype of a regional system that will increase access to quality patient care through medication optimization,” from the Empire Health Foundation in Spokane.

STUDENT ACHIEVEMENT

Doctor of Philosophy (Ph.D.) students

- **Sara Dumit** (Tolmachev lab, pharmaceutical sciences) presented, “Plutonium decorporation following complex exposure: inception,” as part of the WSU College of Pharmacy Graduate Research Seminar Series on March 4, 2106, in Spokane.
- **Solomon Agere** (Ahmed lab, pharmaceutical sciences) presented, “RANTES/CCL5 in tissue remodeling of rheumatoid arthritis: novel mechanism and potential therapeutic regulation,” as part of the WSU College of Pharmacy Graduate Research Seminar Series on March 11, 2016, in Spokane.
- **Yadira Perez Paramo** (Lazarus lab, pharmaceutical sciences) presented, “Contribution of drug metabolism enzyme genotype to nicotine metabolic phenotype: implications for tobacco cessation,” as part of the WSU College of Pharmacy Graduate Research Seminar Series on March 25, 2016, in Spokane.
- **Xiaomeng Jiang** (Pollack lab, pharmaceutical sciences) presented, “Disease progression models for Huntington’s disease,” as part of the WSU College of Pharmacy Graduate Research Seminar Series on April 1, 2016, in Spokane.
- **Daniel Sorenson** (Gaddameedhi lab, experimental and systems pharmacology) received a graduate student travel award to attend the ASPET Annual Meeting at Experimental Biology 2016 in San Diego, California.
- **Sara Dumit** presented the poster, “Modeling Pu Decorporation Therapy following occupational exposure,” at the Harvard University Brazilian Graduate Students Conference (BRASCON), in Cambridge, Massachusetts, March 12-13, 2016.
- **Sara Dumit** presented the poster, “Modeling Pu Decorporation Therapy following occupational exposure,” at the WSU Graduate and Professional Student Association (GPSA) Research Exposition in Pullman, Washington, on March 25, 2016.
- **Faya Zhang** (Zhang lab, pharmaceutical sciences) co-authored, “Nanoparticle targeting of neutrophils for improved cancer immunotherapy,” with pharmaceutical sciences faculty Zhenjia Wang, Dafeng Chu, and Hui Zhang. [read abstract](#)

Doctor of Pharmacy (Pharm.D.) students

- **Karl Nacalaban** and **Alec Sisneros** were elected ASWSU Spokane president and vice president, respectively, for the 2016-17 school year.
- **Tory Knebel**, **Carmela Severin** and **Lauren Pollock** were selected to participate in a national pharmacy business training hosted by Live Oak Bank.
- **Kim Paulson**, **Bonnie Chih** and **Shauna Maple** placed third overall at the National Student Pharmacist Compounding Competition held at the University of Southern California in Los Angeles.

Coming Events

- April 22, 2016 | 5:30 p.m.
Donor Appreciation & Awards Night: The college's annual night of celebrating generosity for its alumni and donors, along with the CougaRx Alumni Community annual meeting, will take place starting at 5:30 p.m. on the WSU Health Sciences campus in Spokane, Washington.



College of Pharmacy

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