MESSAGE FROM THE DEAN

Dear Friends and Colleagues,

Thank you all for your warm welcome, guidance and generous support in my first month as dean. As we continue to face difficulties with the COVID-19 pandemic, there’s one thing I hope we can take away, and that is to embrace the challenge. The best way out of this pandemic is through it, we just have to lean into it and get on with our lives and our responsibilities. This is the Cougar way. It’s in these moments when we learn the most about ourselves and find innovative ways to train our students so that they may successfully adapt to the world of pharmacy that awaits them tomorrow.

In adapting to this new reality, I have to applaud our faculty, staff, and network of preceptors for putting in countless hours to solve several logistical challenges so that our students can be practice ready when a COVID-19 vaccine comes to market. Trying to find new ways to evaluate our students, with the assistance of our network of preceptors across the nation, has helped us to overcome this tremendous task at hand and we are so very grateful for your ongoing support. Regardless of whether or not we have a COVID-19 vaccine, at the very least, we hope that our student pharmacists will be ready to administer flu vaccines when the season starts. We know that our student pharmacists are very eager to work on the frontlines of this pandemic—be it in the diagnostic testing for COVID-19 or in the management of complex patients with COVID-19—and we want to clear the path for the next generation of our health care heroes.

While there surely hasn’t been a shortage of trials and tribulations this year, I am very happy to announce exciting things happening at the WSU College of Pharmacy and Pharmaceutical Sciences. First, we have officially kickstarted our new dual degree program in pharmacy and engineering. Now, all Cougar student pharmacists are eligible to get their master’s degree or certificate in Engineering and Technology Management. As our health care system becomes more integrated, having student pharmacists educated in a broad range of disciplines will position them for the jobs of tomorrow. This new dual degree will give student pharmacists additional skills to manage supply chains, technical personnel and operations management among other things. We look forward to sharing our student stories on how they are applying these skills to their careers.

As we continue to evolve as a college, I am also pleased to announce that our PhD program has updated its name to Pharmaceutical Sciences and Molecular Medicine to better reflect the expertise of our faculty and the broad spectrum of research that they cover. This name change will also help to continue to recruit the brightest minds and support our students in their future endeavors.

Lastly, I want to thank all the alumni and friends of the college who have referred talented and promising student pharmacists to our program. What makes our college so special is our tight-knit community, which is always propelling forward the next generation of Cougar pharmacists. To continue this great tradition and formalize this
process, we have launched our referral program so that you can tell us who you think would be a great Doctor of Pharmacy candidate. Whether you are an alumni, a friend of the college, student pharmacists or faculty member, tell us about someone who you think will be a great match for our program.

Thank you all and I look forward to tackling the new academic year!

Sincerely,

Mark Leid

Mark Leid, Professor and Dean
WSU College of Pharmacy and Pharmaceutical Sciences

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Top Stories

Pharmacy researcher’s quest to help homeless during COVID-19

The COVID-19 pandemic has highlighted the integral connection between homelessness and health. To guard against an outbreak among the homeless population, several Spokane shelters have put limits on the number of people admitted to mitigate the spread of COVID-19. Ultimately, many of those experiencing homelessness in Spokane have had to find alternative places for shelter.

“A lot of individuals carry their life around with them—two to three shopping carts full of their stuff, multiple backpacks, and move from one place to another. Police crackdown on camping and these individuals can’t go to shelters because of COVID—and can’t camp because there are no camping zones, so where can they go?” said Sorosh Kherghehpoush, research fellow at the WSU College of Pharmacy and Pharmaceutical Sciences who has dedicated his career to studying the impact pharmacists can have on vulnerable populations, especially individuals experiencing homelessness.

Kherghehpoush has always had a passion to help people experiencing homelessness. Working with faculty from the Elson S. Floyd College of Medicine, outreach workers from Spokane Neighborhood Action Partners (SNAP) and the Spokane Regional Health District, Kherghehpoush and the team go out to various locations in the county to give personal hygiene packages and do routine health checks. Tucked away from the public’s eyes, these health care workers go to various encampments climbing through breaks in chain-link fences, under bridges and along the Spokane River to offer clean socks, sack lunches, and do a health check to ensure no one is experiencing COVID-19 symptoms or other health issues.

“We’ve noticed, there’s huge mental health and substance abuse problems. With the fear of coronavirus and lack of stable housing, the situation is much worse now than before. It’s an opportune time to make an impact,” said Kherghehpoush.

Spokane County health officials have stated that an outbreak among the homeless population is one of their greatest concerns. Health is already exacerbated as result of homelessness. This is why Kherghehpoush is looking to involve student pharmacists in the outreach through an elective to administer direct patient care with high-risk populations. He hopes to teach student pharmacists on how to work with people experiencing homelessness so that they don’t have inherent biases or a predetermined outlook for individual patients.

When you don’t treat these individuals like they’re a human being—it deters them from seeking care and exacerbates the condition that they are already in.
“It’s a stigma. These individuals are seen as a lesser human. Growing up I never saw this in Iran. It opened my eyes. People avoid them. They have increased risk for disease—malnourishment, violence, and always have stuff stolen. It directly affects their health,” said Kherghehpoush. “When you don’t treat these individuals like they’re a human being—it deters them from seeking care and exacerbates the condition that they are already in.”

Kherghehpoush continues to do what he can along with the team of community volunteers who comb the various encampments in the city. He hopes to educate more student pharmacists around the health issues that face those experiencing homelessness. Kherghehpoush, along with colleagues at the WSU Elson S. Floyd College of Medicine are administering COVID-19 tests via the Range Health mobile unit to surrounding areas in eastern Washington amid rising cases in the region.

**Washington State University announces new dual degree and certificates in engineering and pharmacy**

Washington State University’s College of Pharmacy and Pharmaceutical Sciences and the Voiland College of Engineering and Architecture are pleased to announce a new dual degree and certificate program for students pursuing their Doctor of Pharmacy degree.

Starting fall semester 2020, Doctor of Pharmacy students will have the option to pursue their master’s in Engineering and Technology Management or receive a certificate in six distinct areas. The dual degree program and certificates will prepare students for the growing need in technical management of manufacturing operations in the pharmaceutical industry, health care, and governmental research initiatives, among many other growing fields in health care. The dual track program also allows students to tackle complex problems with a focus on entrepreneurial and innovative thinking to manage a spectrum of job duties, including supervision of technical personnel, design and deployment of pharmaceutical technological systems, project management, production, operations management, evaluation of technology value, and safety and quality control oversight.

“We are so excited to be able to work with the Voiland College of Engineering and Architecture to give our students that extra edge as the field of pharmacy continues to expand and evolve,” said Mark Leid, dean of the College of Pharmacy and Pharmaceutical Sciences. “Recent scrutiny over medical supply chains amid the COVID-19 pandemic has really reinforced the need to give our students an arsenal of skills as health care and pharmacy advances.”

Recent scrutiny over medical supply chains amid the COVID-19 pandemic has really reinforced the need to give our students an arsenal of skills as health care and pharmacy advances.

“The ETM program is excited to offer this opportunity to WSU Pharmacy students so they may acquire valuable operational management skills that will help them excel in their pharmaceutical careers,” said Todd Vanek, director of the Engineering and Technology Management program.

“When I travel and meet alumni, I often hear about the practical and real-world value of our online Engineering and Technology Management program, said Mary Rezac, dean of the Voiland College of Engineering and Architecture. “I’m excited that this new joint program will produce graduates with both a thorough knowledge of pharmaceutical sciences as well as professional management skills needed to advance in the industry.”

The new dual degree will save students time and money thanks to integrated coursework between the two colleges. Current and prospective students are encouraged to visit the [CPPS website](https://cpps.wsu.edu) to learn more about the new dual degree program.
7 things you didn’t know about our Spokane campus

As one of the first four areas of study approved by the Board of Regents in 1891, pharmacy has a long history at Washington State University (WSU). But today’s College of Pharmacy and Pharmaceutical Sciences (CPPS) looks very different than the original School of Pharmacy. Where once the program was housed on the Pullman campus, now the college is centered on the WSU Health Sciences campus in Spokane, Washington, with an extension in Yakima.

Even before WSU set up its first Spokane office in 1989, the pharmacy program had ties to the community. In a time where experiential education and practice rotations were not yet the norm for a pharmacy education, professor R. Keith Campbell worked to develop WSU pharmacy rotations in Spokane area hospitals. The college implemented its first experimental rotations model in 1969; by the 1970s, clinical rotations were being rapidly adopted all over the country.

As the WSU Health Sciences campus developed, the pharmacy program was split between Pullman and Spokane, with students, faculty, and staff regularly traversing the 70 miles between the two campuses. That is, until November 2013, when the Pharmaceutical and Biomedical Sciences Building was completed on the Health Sciences campus and the college moved into its new home.

Now, the program is no longer split, but instead has two full Doctor of Pharmacy locations in Spokane and Yakima, Washington where students can personalize their pharmacy education through direct interaction with faculty experts in just about any field students may be interested in. As the college’s history in Spokane grows, we are taking a moment to reflect on what makes our Spokane campus so special.

Here are a few things you may not have known about our Spokane campus:

**1. Students learn alongside other future health care providers**

Where once there was nothing more than rail yards, now lies a vibrant green campus dotted with white coats and crimson scrubs as CPPS students move between classes alongside future Cougar nurses and physicians from the WSU College of Nursing and Elson S. Floyd College of Medicine.

Located in downtown Spokane, students from the WSU Health Sciences campus have easy access to nearby hospitals, clinics and health centers where they can gain clinical experience. As the largest medical hub between Minneapolis and Seattle, Spokane is the ideal place for pharmacy students to be exposed to the latest diagnostic and therapeutic care in all fields. WSU Health Sciences is further equipped with Core research facilities to further the research goals of students and faculty across the campus.

Pharmacy students spend much of their time learning hands-on in a full compounding lab, the R. Keith Campbell Applied Patient Care Lab, mock pharmacy, and may even spend one of their fourth-year Advanced Pharmacy Practice Experience rotations in the Drug Information Center answering questions from health care providers across the state about drug interactions, side effects, usage and other drug-related topics.

**2. Home to our PhD in Pharmaceutical Sciences and Molecular Medicine program**

The Spokane campus is also home to the Doctor of Philosophy (PhD) in Pharmaceutical Sciences and Molecular Medicine program. Through rigorous coursework and extensive laboratory research, the PhD program prepares future generations of pharmaceutical scientists to make breakthroughs in the advancement of human health.

Most of a PhD student’s time is spent pursuing a research project under the guidance of a faculty mentor.
contributing to groundbreaking research in drug discovery, delivery, and development. CPPS PhD students have helped make strides in research investigating everything from how likely an individual will develop an addiction based on his or her own DNA to new ways of using nanotechnology to deliver drugs to the brain to treat tumors.

Students can also engage in both pharmacy and pharmaceutical sciences coursework through electives or the PharmD/PhD dual degree program at the college.

3. Campus is a short walk from all the best things Spokane has to offer

In the heart of downtown Spokane, the WSU Health Sciences campus borders the Spokane River and students looking for a few minutes of fresh air between classes can quickly find themselves in the focal point of downtown Spokane, the Riverfront Park.

The park sits on the original location of Spokane’s Great Northern Railroad Depot and still houses the depot’s clock tower, built in 1902. The railroads were replaced by the park in preparation for the 1974 World’s Fair in-keeping with the environmental theme of the Expo. The Pavilion tent-frame from the event stands today as one of the most recognizable symbols of Spokane.

Visitors to the park find natural majesty intertwined with the city’s history. Just across the river from the clock tower sits the 1909 Looff Carrousel. A few steps away is the Spokane Falls SkyRide, the gondola cars allowing a close-up view of the Spokane Falls. Wandering the parks many paths and walking bridges, guests are accompanied by the constant presence of the river and murmur of the falls.

4. There is so much to do!

Just across the road from the Riverfront Park is the thriving metropolis of downtown Spokane. As the second largest city in Washington, Spokane has all the amenities of a big city ranging from music venues, to museums, to an up-and-coming food scene. In the last 10 years, the city has become especially popular for its cottage industry of craft brew beer, and the thriving community of local artists and creatives.

Want to catch a glimpse of Spokane before visiting the campus? Check out all the movies that used the Lilac City as their backdrop or “Downtown” by Macklemore and Ryan Lewis.

According to Livability’s Top 100 Best Places to Live in 2019, “Spokane is a perfect mix of urban and natural, which means the options are endless.” And we’d have to agree.

With more than 100 parks, 76 lakes in the Spokane area, five ski resorts within a two-hour drive of downtown, and plenty of hiking and biking trails, the city offers a variety of outdoor recreation year-round. While enjoying the outdoors, anyone keeping their eyes peeled might even see a bald eagle, a moose, or any of the diverse wildlife that calls the area home.

5. Students have an impact on the community

Pharmacy students show a dedication to community involvement that goes beyond their WSU experience. Outside of the college, students have donated their time to aid Covid-19 testing efforts.

Pharmacy students further work with the WSU Health Sciences Office of Community Engagement & Service Learning to get involved in the community at events such as free immunization clinics and health screenings at schools, health fairs, and homeless shelters. Through these activities, students gain valuable hands-on experience with patients in the areas of pharmacy that most
interest them. Student leaders have also set up projects to further help those in need from improving women’s health to alleviating poverty in under-served areas.

To prepare them for all of these civic engagement opportunities, all second-year pharmacy students complete our point of care testing curriculum and APhA vaccination training certificate program.

6. Students influence change

WSU pharmacy students make an impact beyond Spokane’s borders as well. Students have learned to be leaders and advocates for the profession, working to find ways to expand the opportunities for students such as themselves.

Recently, one WSU pharmacy student, Joanna Gourley, proposed the addition of a student to the American College of Veterinary Pharmacists (ACVP) national board, giving pharmacy students across the nation a voice in the organization. They took her proposal to heart, making Gourley herself the first AVCP student board member.

Another pharmacy student, Brandy Seignemartin, championed a bill, which in turn changed Washington state law, to allow pharmacy, nursing and medical students to be supervised by preceptors from any of those professions while volunteering. The new law gives students in health care easier access to experiential learning with mentorship and facilitates and makes it easier for them to participate in community health fairs and vaccination clinics.

7. Graduates go on to do great things

When our students finish their Doctor of Pharmacy degree, they follow a variety of paths. One class of 2017 graduate even returned to the college last winter to talk about his career in Medication Management. Another has been teaching the WSU Veterinary Pharmacy elective since her graduation in 2017 while working at the University of Wisconsin (UW) School of Veterinary Medicine as the residency director for the Clinical Veterinary Pharmacy Residency program and pharmacy manager at UW Veterinary Care. Others have gone on to a variety of fields, or instead chosen to pursue residencies and fellowships where they can further develop their leadership skills, improve patient care, refine skills, and advance their growth in clinical judgement. In recent years, the college has seen an ongoing increase in residency matches and 34 WSU Doctor of Pharmacy Spokane 2020 graduates went on to a residency.

A NOTE FROM LINDA GARRELTS MACLEAN

Dear Friends and Colleagues,

I hope that you all are well and enjoying your summer with a chance to spend time with loved ones and unwind with everything that is happening in the world today. Summer months give me a chance to catch up with friends of the college. In one particular exchange, a former colleague reached out to tell me that he had managed to reduce his usual expenditures due to stay-at-home orders and wanted to make a contribution with his extra savings to support our student pharmacists during this difficult time. This act alone really made me see that even in times of hardship, human kindness always prevails.

I am grateful to people like him and others who continue to keep our next generation of student pharmacists and scientists in their thoughts despite the financial challenges that many endure today. It is during these challenging times when generous donations are most critical and can make a significant impact on our students. Whether they are paying for groceries or reducing their financial burdens, these funds have helped our students get through these uncertain times.
As we head into the fall semester, I hope that you will keep our student pharmacists in your thoughts. We are proud of what our students and faculty are doing in the community to help battle the ongoing pandemic. Several have stepped up to help the less fortunate, or volunteer with COVID-19 testing in hot spots. I’m glad to see that in these moments of darkness, our students and faculty shine bright.

Thank you all again for your continued support and guidance.

With best regards and much respect,

Linda Garrelts MacLean, Vice Dean of External Relations
WSU College of Pharmacy and Pharmaceutical Sciences

Spotlight on Success

Embedded: Student pharmacist on the frontlines of COVID-19 testing in Yakima

In early June, Yakima county experienced a spike in COVID-19 cases, becoming a West Coast hot spot. According to the Yakima Herald, the reproductive number for the virus in early June stood at 2.0. In other words, for every person that is infected, that individual would infect another two people. By comparison, that number for eastern Washington stood at 1.20 for the same period.

Doctor of Pharmacy students from the College of Pharmacy and Pharmaceutical Sciences quickly stepped up to help with mitigation efforts. Working alongside the Yakima Health District and the US National Guard, WSU student pharmacists volunteered to help direct people in improvised testing centers set up in various parking lots. The college sat down with third-year pharmacy student, Brian Wu, from Lakewood, Washington, to hear about his experience volunteering at the test site.

What made you want to volunteer?
I wanted to volunteer because I want to play a part in helping my community and in this public health crisis. Yakima is my home and it is seeing the worst of the pandemic on the West Coast. Since I have some free time, I’m happy to help Yakima get through this situation.

Can you describe the people who were going in to get tested?
There were many people of all ages and ethnicities. The population of Yakima is primarily white and Latino. Although I do not speak Spanish, I was fortunate to work with Cathy, a bilingual Health District employee. We saw people from older adults to young parents with small children. I saw many people driving with friends or family members. There were entire families coming to get tested. Just today I saw a woman who was discharged from the hospital for COVID-19 with an oxygen cannula driving her son to get tested. There were even several patients who were visibly very sick and feverish who I was surprised were able to drive to the site on their own.

Is there any advice you can give to future pharmacy students about getting into this profession during this pandemic?
I would tell pharmacy students that the profession of pharmacy is concerned with a lot more than just drugs. As health care professionals, we have the ability and responsibility to serve our communities and improve public
I expect that pharmacists and interns will play a vital role in providing coronavirus immunizations when the time comes.

Is there any advice you can give the general public on how to stay safe during this pandemic?
I can’t give better advice than we have been receiving from health care workers and public health officials for the past few months. Wash your hands often, wear a face covering, limit your contact with those outside of your household, and maintain a 6-foot distance from those around you.

Can you describe the testing center?
I worked my third 4-hour volunteer shift this month at Eisenhower High School in Yakima. Yakima Health District was looking for volunteers to help screen patients coming for COVID-19 testing at various sites throughout Yakima county. Volunteers helped representatives from the Health District direct traffic, screen patients for symptoms, and provide information about health and hygiene. I previously worked at a site in the Valley Mall parking lot in Union Gap.

Who arranged the testing site and who are the people working there?
The testing site was being operated by the US National Guard in coordination with the Yakima Health District and the Yakima County Emergency Operations Center. Volunteers assisted representatives from Yakima Health District. I understand that volunteers were students in health care programs throughout the Yakima area. I had the pleasure of working with an osteopathic doctor student from PNWU and a master’s student from Central Washington University who was working in a fellowship program with the Health District.

Was there anything from your day in volunteering that stood out to you the most?
I was struck by the wide range of opinions and emotions among people coming to get tested. There were people who were very kind and thanked me for helping. I had people exasperated about their friends and family who weren’t taking masking and social distancing seriously. I had a person angry about what he considered infringements on his personal liberties and accused me of perpetuating government disinformation. People are reacting to the pandemic differently and opinions are divided. I think that health care workers have a critical role in helping others understand that this is not a political issue—it is a public health issue.

How did you feel when you went to volunteer?
I can’t pretend I wasn’t a little worried about getting sick, but I don’t think that I’m endangering myself more than I otherwise am by working in a pharmacy. The Health District provides volunteers with gloves and N-95 masks and we talk to patients at a distance from outside their cars. I have limited my contact with other people outside of work and home in case I do become sick.

Do you plan to volunteer again?
Yes! This is my third time volunteering. The mobile testing sites are planned to continue through July and I will help whenever I am free until that time.

Keeping students and faculty connected while socially distanced
As COVID-19 swept through the nation, many institutes of higher education were faced with the prospect of suddenly moving instruction to a virtual setting. The WSU College of Pharmacy and Pharmaceutical Sciences (CPPS) was no exception. With only a few days’ notice, the CPPS IT team had to spring to action to provide the IT infrastructure for nearly 700 students and 160 faculty and staff to work from home as the Washington state governor issued a mandated stay-at-home order in March.

On a normal day, the CPPS IT team could be doing multitude of tasks, from supporting video conferencing or helping with connectivity issues, to system maintenance, custom applications or finding ways to collect and move data in a
more streamlined manner. They serve CPPS students, faculty, and staff with any technological needs. As COVID-19 made its way across Washington state, these daily tasks turned to outfitting computers with cameras and virtual private networks (VPN) for teleworking.

“We’re very different than a lot of IT organization where everyone is specialized in one job,” said CPPS Director of Information & Instructional Technology Ryan Maynard; instead, he explained that every member of his three-person team is ready for any task the college throws at them.

Beyond ensuring that all faculty and staff had the equipment they needed, the IT team needed to ensure students could access all the systems and resources they would need on a daily basis. This meant mapping out places with free Wi-Fi access and helping students in rural communities get internet connection in order to take tests or go to class virtually.

“When you move a whole world online in a short amount of time there’s a lot of infrastructure that hasn’t been tested,” explained Maynard. “The biggest distinction is a faculty teaching 160 students — it affects all those people whereas for a student, just one person is being impacted. It’s stressful for faculty.”

Lately his team has been working to ensure faculty, students and staff stay connected in this time of social distancing. Working with individuals who are not physically on campus presents a whole new group of challenges for his team. Where all the infrastructure would normally be housed on campus and within the IT team’s control, now they are facing issues with home internet connectivity and working to solve problems from a distance.

Even so, “Just about everyone transitioned very quickly given what was thrown at them,” said Maynard.

The college’s progressive active-learning model helped make this transition a little smoother. With this model, known as the flipped classroom, WSU pharmacy students review materials ahead of time so class time can be used for self-guided learning and informed discussion with instructors and peers.

“Looking at the big picture, it absolutely made it easier to have the flipped classroom,” said Maynard. “Faculty were already used to a different way of teaching and were a little more prepared for moving that group instruction online.”

The IT team continues to work with students and faculty as the college prepares for the fall semester. With classes going virtual for the start of the academic year, the IT team says that they face fewer hiccups than when the stay-at-home order first began.

“I’m fortunate to have Kelly [Bronson] and Mike [Johnson]. They’re absolutely amazing. They’ve been able to solve all the problems, come up with solutions, and work to make sure everyone’s needs are met,” said Maynard of his CPPS IT team.

“I think the hardest transition [for the college] is the social and emotional piece of isolation.”

Treating the incurable: WSU researcher makes strides in prostate cancer research

Originally published in the College of Pharmacy and Pharmaceutical Sciences 2019 Annual Report

In 2019 alone, there will be an estimated 174,650 new cases of prostate cancer. It is the second leading cause of cancer death in American men and approximately one man in 41 will die of prostate cancer.

Dr. Boyang (Jason) Wu, an assistant professor in the Department of Pharmaceutical Sciences, wants to change that. After researching prostate cancer for nearly a decade, Wu is devising new strategies to treat incurable forms of the disease.

“Although prostate cancer affects a large population of men, we still lack therapies that treat the most lethal forms of prostate cancer,” said Wu.
The current most common treatment for prostate cancer is hormone therapy, which mediates the effect of hormones linked to prostate cancer, such as testosterone, in the body. While these initial treatments are very effective, the cancer often progresses into the terminal stage of the disease known as castration resistance. Castration-resistant prostate cancer continues to grow despite very low levels of testosterone in the system. This form of the disease is extremely aggressive and leads to the death of over 30,000 men every year in the U.S.

The castration-resistant stage of the disease is treated with more aggressive hormone therapies but can rapidly develop a resistance to those therapies as well until it becomes neuroendocrine prostate cancer. According to Wu, neuroendocrine prostate cancer is when the disease progresses to the very lethal stage.

Currently, there is no effective treatment for neuroendocrine prostate cancer, and the life expectancy of patients suffering from this deadly disease is approximately seven months.

However, Wu’s latest research has revealed that when prostate cancer develops to this point the cells begin to mimic nerve cells. Wu believes this phenomenon, called neuromimicry, allows the cancer cells to become more aggressive.

“Targeting neuromimicry means we have a new way to treat late stage prostate cancer—and at the moment, there are no options to treat late stage prostate cancer,” said Wu.

By mimicking nerve cells, the cancer cells interact with true nerve cells, meaning the cancer can spread through nerves to other parts of the body. This mimicry also allows the cancer cells to survive treatment because they no longer express the biomarkers being targeted by treatment.

Now, with funding from a new three year $500,000 grant from the US Department of Defense, Wu will further work to understand neuromimicry in the hopes of targeting neuronal genes and prolonging patient survival.

“Because neuromimicry is a novel concept, maybe we can develop new ways to treat late stage prostate cancer and other cancers such as pancreatic and gastric cancers which have similar neuromimicry patterns,” Wu said.
-- **Stephanie Staniewski**, class of 1991, passed away in April after a valiant battle with brain cancer. She is survived by her loving husband, Dr. John Staniewski, of Sandpoint, Idaho, and three children. Our heartfelt condolences to the family on their tragic loss. [View obituary](#)

Want to be listed in our alumni updates? Send us your career information or let us know what you’ve been up to at [gocougs@pharmacy.wsu.edu](mailto:gocougs@pharmacy.wsu.edu).

### Other News

**An update on the WHO and ACIP 2020-2021 influenza vaccine recommendations**
Pharmacotherapy Associate Professor Kimberly McKeirnan provides an update on influenza vaccine recommendations and the role pharmacists can play in building public awareness of the importance of receiving the annual vaccine.
[Read more from Pharmacy Times](#)

**PTCB collaborates with American Pharmacists Association to develop immunization credential program for pharmacy technicians**
The Pharmacy Technician Certification Board (PTCB), the nation's leading certifying organization for pharmacy technicians, is collaborating with the American Pharmacists Association (APhA) to provide pharmacy technician credentialing in immunization delivery to those completing the APhA/Washington State University Pharmacy-Based Immunization Administration by Pharmacy Technicians program. Developed by APhA in partnership with the Washington State University College of Pharmacy and Pharmaceutical Sciences, the training program provides pharmacy technicians with the knowledge and skills they need to safely administer vaccinations to patients.
[Read more from PTCB](#)

### Faculty Scholarship

**PUBLICATIONS**
Pharmaceutical Sciences Associate Professor **Bhagwat Prasad** and four co-authors published, “OATP-mediated hepatic uptake of glucuronide metabolites of androgens,” in Molecular Pharmacology in June 2020. [View abstract](#)


**Fan Zhang**, Pharmaceutical Sciences Assistant Professor **De Cheng**, **Shuwen Wang**, and **Jiyue Zhu** published, “Crispr/Cas9-mediated cleavages facilitate homologous recombination during genetic engineering of a large chromosomal region,” in Biotechnology and Bioengineering in May 2020. [Read article](#)

J. Roberts and Marcia Fosberg Distinguished Professor of Pharmacotherapy **Danial Baker** published, “Drug evaluation – isatuximab-irfc (Sarclisa),” in Wolters Kluwer Health’s The Formulary Monograph Service (FMS) in July 2020. Wolters Kluwer Health is a drug and health information publisher, the FMS is a resource used in the formulary decision making process for hospitals and managed care systems on recently released and investigational drugs.


Pharmacotherapy Associate Professor (Yakima) Rustin Crutchley contributed his expertise to the “Human immunodeficiency virus” chapter for the second edition of the American College of Clinical Pharmacy’s publication, Pediatric Pharmacotherapy.

Pharmacotherapy Associate Professor Kimberly McKeirnan published, “An update on the WHO and ACIP 2020-2021 influenza vaccine recommendations,” in Pharmacy Times in July 2020. Read article

Pharmacotherapy Assistant Professor Katie MacCamy and one co-author published, “Dexmedetomidine for treatment of delayed peak symptoms of cannabis withdrawal syndrome: a case report,” in the peer-reviewed journal Hospital Pharmacy in May 2020. View abstract

Bhagwat Prasad, Pharmaceutical Sciences Assistant Professor Abdul Basit Shaikh and one co-author published the chapter, “Quantifying drug metabolizing enzymes and transporters by LC-MS/MS proteomics,” in the book Identification and Quantification of Drugs, Metabolites, Drug Metabolizing Enzymes, and Transporters (Second Edition). View abstract

PRESENTATIONS

Pharmacotherapy Associate Professor Julie Akers and Pharmacotherapy Associate Professor Jennifer Robinson presented “Pharmacy leadership and management: building effective teams,” at the virtual Society of Veterinary Hospital Pharmacists Annual Meeting on June 29, 2020.


Pharmacotherapy Assistant Professor (Yakima) Damianne Brand-Eubanks, Pharmacotherapy Assistant Professor (Yakima) Anne Kim, Jennifer Robinson, and co-speakers presented, “Mental health first aid: increasing student pharmacist preparedness to respond through simulation,” at the virtual AACP Annual Meeting on July 22, 2020.


Pharmacotherapy Associate Professor (Yakima) Angela Stewart and co-speakers presented, “Moving IPE to the Next Level: Enhancing Collaborative Practice Through Legislative Change and Advocacy,” at the virtual AACP Annual Meeting on July 24, 2020.

Pharmacotherapy Assistant Professor Nicole Perea and co-speakers presented the pre-recorded session, “All generations work the same? Fake news!” at the 2020 virtual AACP Annual Meeting.

SERVICE

Danial Baker was selected to serve as a 2020-2025 member of the Healthcare Safety & Quality Expert Committee for the United States Pharmacopeial Convention (USP).

The WSU College of Pharmacy and Pharmaceutical Sciences named Julie Akers the Director of Health Outreach and External Residency Research in July 2020.

Julie Akers was appointed to the Board of Directors for BAVIHEALTH.

Pharmaceutical Sciences Professor Salah-uddin Ahmed was quoted in the article, “Rheumatoid arthritis treatment: drink this tea to preserve cartilage and bone,” published on July 15, 2020 in Express (UK). Read article

AWARDS

Danial Baker was awarded the 2020 Albert Nelson Marquis Lifetime Achievement Award from The Marquis Who’s Who Publications Board. Read more
Student Achievement

DOCTOR OF PHARMACY (PHARMD) STUDENTS
Vanessa Gutierrez with faculty co-authors Brittany Craft, Terri Levien, and Danial Baker published, “Drug evaluation – peanut (Arachis hypogaea) allergen powder (Palforzia),” in the FMS in July 2020.

Nicole Perea and the student group, Generation Rx took part in, “Opioids – Let’s Talk About It, A Community Connected Event,” on July 28, 2020. This event was meant to engage health professionals and the community in a conversation about the continued increase in substance use disorders due to the ongoing disruption of the pandemic.