MESSAGE FROM THE DEAN

Dear Friends and Colleagues,

It has been a busy month for everyone in the college, but I’m pleased to say that a lot of hard work has come to fruition. The college welcomed representatives from the Accreditation Council for Pharmacy Education (ACPE) last month for our reaccreditation site visit. This 18-month process successfully concluded on October 27. While the official report on our reaccreditation does not come out until early next year, we received overwhelmingly positive feedback from our site visitors. I have been in academic pharmacy for 30 years and I have had the privilege of participating in a total of five site visits. I have never heard such positive comments from a group of site visitors. Ever. I’m so proud of our faculty, staff, students,
preceptors, and alums for their honest assessments of our college and their contributions to the accreditation visit. Thank you to everyone involved, including our site visitors who trekked through our two campuses in Spokane and Yakima, and spent an enormous amount of time getting to know the ins and outs of our college at our two locations. The exceptional reviews by our alums and students are certainly a testament to the quality education and special community we have created together.

Now that the reaccreditation site visit is over, November has been a month of getting ready for the year ahead. The month kicked off with a health science preview day on November 5 for high school and college students in the Yakima Valley area. We have been making a concerted effort to recruit students in the area to our PharmD program in Yakima as the need for pharmacists in the area is becoming increasingly apparent. Signing bonuses for pharmacists range from $50,000 to $70,000, and we know by talking to recruiters that more pharmacists are needed. Associate Dean of External Relations Julie Akers and Director of Alumni Relations Kelly Sylvester put together a fantastic networking meet and greet for students to interact with recruiters from health care systems and chain pharmacies across Washington state. If you know someone who would make a great Coug pharmacist, don’t forget to refer them!

As we head into Thanksgiving, I’m grateful for your continued support of the college. A generous, anonymous donation earlier this year helped us launch the Rural Health Initiative, which has taken on a life of its own. In just 6 months, we accepted our inaugural class of student pharmacists specializing in rural health and we are in the middle of recruiting our second class of students for the program. We are actively recruiting a faculty member focused on rural health in partnership with Providence in Centralia, and a second faculty position in psychiatric pharmacy together with Comprehensive Healthcare in Yakima. Other partnerships with our community and health care system partners continue to develop. In less than a year, the Rural Health Initiative has made significant strides to improve health care access in rural areas of in the state. While we have a long road ahead of us, I am thankful for the wonderful support you all have provided—support that will help so many people living in rural Washington for years to come.

Sincerely,

Mark Leid, Professor and Dean
WSU College of Pharmacy and Pharmaceutical Sciences
Michael Sauseda was used to providing life-saving medical care as a U.S. Army Special Forces Medical Sergeant.

When it came to his own health, however, a pharmacist was his salvation.

Sauseda had experienced traumatic brain injury during multiple combat tours in Afghanistan and Iraq, and at one point was taking 18 medications to treat his symptoms.

A clinical pharmacist helped bring that number down to “a very manageable three” medications, Sauseda said, freeing him to pursue his dreams beyond the military.

He set aside his initial plan to pursue a medical career after he retired from the military and instead enrolled in the Washington State University College of Pharmacy and Pharmaceutical Sciences.

Now a second-year student in the doctor of pharmacy program, Sauseda is intent on providing care to other veterans for his second career.

And not just any veterans – he wants to work with vets who live in rural areas.

The U.S. Department of Veterans Affairs says there are 4.7 million veterans living in rural or “highly rural” areas in the United States. More than half have at least one service-connected condition and many are older, with medically complex conditions.
To better serve this population, Sauseda is also one of the first Rural Health Initiative students at the College of Pharmacy and Pharmaceutical Sciences. Started in the fall of 2021, the Rural Health Initiative is an ambitious 10-year plan to create opportunities for student pharmacists and post-graduate pharmacists to specialize in delivery of rural health care.

Sauseda hopes to work with the Veterans Administration medical system to find ways to care for veterans in rural areas, he said.

“Chronic conditions have been shown to have marked improvement with chronic care teams, but those teams don’t work in smaller population centers,” he said. “I’d like to find a way to get out there and provide that care. Being part of a team that helps facilitate that would be amazing.”

That might be through telehealth or by taking care to veterans via mobile clinics, or a combination of the two, he added.

Sauseda, now 40, said of the WSU College of Pharmacy and Pharmaceutical Sciences, “I love the program. Everyone here has been really receptive, oftentimes bending over backward to ensure not only myself but other veterans feel welcomed and supported.”
Radiation is used to produce energy, power spacecraft and satellites, and diagnose and treat disease, among other uses. Exposure to radiation comes with safety risks, which are at the heart of the work done by research assistant professor George Tabatadze and his colleagues at the United States Transuranium and Uranium Registries (USTUR), a Tri-Cities-based research unit housed in the WSU College of Pharmacy and Pharmaceutical Sciences.

Tell us more about what USTUR does.

We study the biokinetics, dosimetry, and possible biological effects of radioactive elements like plutonium, americium, and uranium within the human body. We do this by studying organs and tissue samples from former U.S. nuclear workers with known radioactive exposure who have voluntarily donated their bodies—or parts of them—after their death. USTUR has a long history that started with the creation, in 1968, of the National Plutonium Registry, which changed its name to U.S. Transuranium Registry two years later. In 1978, the U.S. Uranium Registry was established. Both registries involved multiple labs and organizations at various locations that were working under government contract. In 1992, the two registries merged and became the WSU research unit known as USTUR. All of the work is now done in one central location that is housed close to the former nuclear production complex at Hanford. USTUR has been fully grant funded by the U.S. Department of Energy (DOE) since its founding.

What is the significance of the work done at USTUR?

We operate in the field of health physics, a profession that emerged during World War II after plutonium was created as a new material for nuclear weapons production. The first health physicists were industrial hygienists and MDs who were in charge of taking care of workers' health at those facilities. They were the first to notice the effects of radiation, such as skin lesions and blistering at high doses and higher incidence of cancer at lower doses. Here at USTUR, we generate data and science that is used by scientists all over the world and by national and international scientific organizations such as the International Commission on Radiological Protection (ICRP) and the National Council on Radiation Protection and Measurements (NCRP). ICRP and NCRP use our work to develop recommendations for radiation dose limits and to refine models used to measure how radiation dose affects the human body. Those recommendations are used by other
agencies such as the Nuclear Regulatory Commission and the DOE to regulate the use of radiation and limit radiation exposure to workers and the general public.

What drew you to the field of health physics and brought you to USTUR?
Physics was my passion always. I got my undergraduate degree in physics and computer science at Tbilisi State University in my home country of Georgia. It was mostly theoretical physics, and I really wanted to focus more on applied science. So I came to the U.S. to pursue a master’s degree in health physics with an emphasis in medical physics at the University of Nevada Las Vegas. There, I completed a research project aimed at understanding how the distribution of alpha-particle-emitting radioactive material in the human body affects bone, one of the organs that is the most sensitive to this type of radiation. After that, I briefly worked in medical physics consulting, visiting hospitals to determine whether their radiation-producing medical equipment met state regulations on radiation emissions. However, my passion was always to do research, and so I pursued a PhD at Idaho State University (ISU) Health Physics Program. ISU had a collaboration with USTUR at the time, and I spent several years working on the ISU/USTUR internal dosimetry team as part of my PhD project before officially joining USTUR in 2014.

What is your role within USTUR?
I’m in charge of the measurement of radioactive elements in tissue samples, data analysis, and laboratory quality assurance and quality control. Additionally, I use a machine called an autoradiography imager to gain a better understanding of the distribution of different types of radioactive materials in different tissues and organs on a micro scale, as part of my interest in microdosimetry. When we understand the radioactive dose delivered to specific organs or tissues, we can potentially translate that into the risk of developing disease.

One big project I’ve been working on for the past year and a half is developing the USTUR quality assurance program plan. Although health physicists have been measuring radiation dose since the 1940s, advances in technology and our understanding of the data itself provide us with an opportunity to better control the quality of the data we generate.

What do you enjoy most about the research that you do?
I have always been fond of human health, and half of my family consists of medical doctors. My current career is the perfect marriage between science, biology, and medicine. I really enjoy helping people by understanding the effects of radiation and contributing to the development of models that will better predict radiation dose to humans.

What are the gaps in knowledge in health physics research?
The almost century-old, million-dollar question is what the effects of low-dose radiation are. The effects of high-dose radiation are well-known from nuclear accidents like the Chernobyl disaster and nuclear bomb survivor studies at Hiroshima and Nagasaki. But the data on the effects of lower dose radiation is quite uncertain and so spread out that given the same data multiple conflicting conclusions could be drawn. Our
work is trying to contribute to filling that gap. What it will take is lots of data to minimize the uncertainty and be able to develop a better model to predict the effects of low doses of radiation.

What has it been like working at USTUR?
It’s been really nice to be part of the team here at the USTUR. I’m extremely grateful to my fellow USTUR faculty Sergei Tolmachev, Maia Avtandilashvili, Stacey McComish, Dan Strom, and Martin Šefl, as well as USTUR staff Elizabeth Thomas, Florencio Martinez, and Margo Bedell. We work as a unit and help each other to do better research. As we always say, a few minds are better than one.

This interview has been edited and condensed for clarity.
Pharmacy has evolved quite a bit since you were in pharmacy school. What advice can you give to students considering pharmacy school?

There are three pieces of advice that I could offer: be hungry, stay curious, and break boundaries.

Be hungry

As pharmacists, we are notorious for being particular. From the patient care lab, we are taught to review prescriptions and look for what is wrong. This trained thought process makes us limit change in our lives. We find a pattern we are comfortable with and with which it is easier to operate. However, health care, the world, and everything is changing rapidly. COVID has only expedited the speed at which we are moving. It is important to then have a hunger to do more and to make things better, thinking of new ways to try something different.
Stay Curious

Once a pharmacist is locked into a way of thinking, it is very hard to break their mindset. It is important that we do not get comfortable with how things are today. Staying curious gives us the ability to be agile in thought, career, and position. This keeps us pushing to higher limits, both professionally and personally. Without curiosity, we will be passed by as health care evolves.

Break Boundaries

There will always be people who say, “You can’t...” – the unfortunate result of being hungry and curious is that you will often find yourself frustrated by other’s limitations. If you are comfortable in where you are, you aren’t pushing yourself hard enough. If you aren’t making a mess, you aren’t moving fast enough. You will always have nay-sayers in your life. Stop listening to them and go make waves.

You obviously have had an incredibly successful career. What advice can you give to current students about building success?

Whether you pursue an outpatient pharmacy job, a clinical hospital job, an administrator’s job, or anything else, you are in control of where your degree will take you. The most important thing you can do is think about where you want your career path by developing a Life Plan. There are enough examples on the internet to model afterwards. Life plans must contain your personal and professional plans. Note the order. You need to be personally happy before you become professionally satisfied. Once this is done, make sure that every opportunity you are presented with checks a box on this plan or ‘dance card.’ Don’t forget to celebrate your success AND failures. Any time you think you’ve failed – you’re just figuring out one way that doesn’t work. Keep at it.

How did WSU help to launch your career in pharmacy?

Your training only gives you the tools for your success. WSU helped give me the drive to learn more and to push myself in my career. It is always good to have my Cougar pharmily to journey with. One of which, my class of 2007 WSU PharmD wife, Dr. Laura Tanas, has been with me on this path and for whom I’m grateful for. I had mentors who helped me get early publications that helped launch my career and with whom I have stayed connected with on my journey. To know where you are going, you must remember where you have come from.

Where is the future of pharmacy going and what can students do now to get ahead?

Health care is undergoing a renaissance after the marathon of COVID these past two years. The brokenness of the health care systems was only further exposed, inflationary costs are causing organizations around the country to falter, and the exodus of retirement-aged workers has left workforce gaps.
Understanding these pressures will help us identify the next care need. A lot of care will be automated by big tech. We are already seeing encroachment on existing care models. Pharmacy will need to have driven leaders and clinicians to help push the care/practice models forward. Students should be pushing themselves now to get the most training and board certification to demonstrate mastery of medication management. Simply stopping with the PharmD may not be enough for the future.

You continue to be involved with the college. Presenting at the Career Seminar Series, and staying in touch. Why is that?

I love students, interns, and residents. When I was in your shoes, I had to figure this all out myself. I want to help those coming behind me to prevent them spending time to figure out the landscape of health care themselves. Many get locked in early to a career path they might not find as rewarding as they develop. I want to break the model so that we have WSU Pharmacy leaders who can change the world.

There seems to be a lot of negative sentiment floating around about the future of pharmacy. Are there any bright spots you can shine a light on?

Change is inevitable. We can’t stop it. We can’t control it. But we can influence it. So, let’s have a dialogue. With the workforce being where it is, I expect there to be a high degree of automation coming.

That said, this change is exciting. We are starting to see the cracks in the barriers that have prevented pharmacists from getting reimbursed for their clinical activity. We are seeing the aging population overwhelm primary care, where pharmacists are the most accessible health care provider. Getting the extra training, board certification, and pushing ourselves to the front lines will require a team effort.

In the US alone, there are roughly 3 million nurses, 1 million providers, and about 300,000 pharmacists. This 9:3:1 ratio means we need to be that much louder about what we can do for our patients. Being well trained and clinically relevant will get our nursing and provider colleagues asking, “Where have you been all this time?” Don’t stay on traditional career paths. Explore and make waves!

Is there anything that I didn’t ask that you would like to add here?

If we do the right thing for our teams and our patients, we are doing our job. Everything else will sort itself out. Go Cougs!
PHILANTHROPY FOCUS

Several times each semester, pharmacy leaders gather on campus to speak to our students about the many different career paths a PharmD degree offers. For several years, we’ve been fortunate to have the support of STCU (Spokane Teachers Credit Union), our corporate sponsor for this program. STCU provides lunches for these events, as well as financial advice as part of the Career Seminar Series. Kudos to STCU (Spokane Teachers Credit Union) and their wonderful team, Erik Puthoff, Traci McGlathery, and several others, who provide leadership in financial education, information on banking services, and other important life skills as part of this program. And, of course, the free lunches are a big hit too! Thank you, STCU. We appreciate all you do for the college!

Alum Updates

We had a chance to catch up with some alums from the Walgreens team at the recent meet and greet networking reception on the college’s Yakima campus. The event was held on November 9 to give student pharmacists and companies who want to hire them a chance to meet in person and network. Also at the meet and greet was Darick Chai, class of 2022, who was working the Albertsons booth with Annie Stout, Manager of Pharmacy Recruitment and College Relations for Albertsons. Darick graduated from the Yakima campus and worked at Albertsons as an intern while he was a student pharmacist. He was recently named pharmacy manager for an Albertsons store in Yakima, making him one of the youngest pharmacy managers for the company in this region. Congratulations, Darick!

Darick Chai, class of 2022

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Darick Chai, class of 2022

to r) Walgreens representatives Edward Simpson, Danielle Shook, class of 2008, and Troy Cole, class of 2018, who are joined by Associate Dean Angela Stewart.
After 13 years at Yakima Valley Farm Workers Clinic, Monica Graybeal, class of 2008, has taken a position as Pharmacy Director with Heritage Health in Coeur d’Alene. Heritage Health is North Idaho’s largest provider of integrated medical, dental, and behavioral health services. Monica, who specializes in Hep-C treatments and ambulatory care pharmacy, was named one of WSU’s preceptors of the year in 2018 and is looking forward to precepting WSU student pharmacists in her new role.

Want to be listed in our alum updates? Send us your career information or let us know what you’ve been up to at pharmacy.gocougs@wsu.edu!

Other News

A Native voice in their care
WSU Spokane’s Center for Native American Health addresses longstanding health disparities in Native American and Alaska Native communities, where higher rates of chronic illness and shorter lifespans are the norm.
Read more from the WSU Insider

Research Week Awards recognize researchers and staff excellence
Director for the Center for Pharmacy Practice Research and Associate Professor of Pharmacotherapy Kimberly McKeirnan was selected for the 2022 Technology with an Impactful Contribution to Society Award for her work focused on increasing access to vaccinations, including running a vaccine administration training program for pharmacy technicians along with conducting research that supports expanding clinical services which can be provided in a community pharmacy.
Read more from the WSU Insider

Upcoming Events

Virtual Open House – Focus on Dual Degrees
December 1 at 3 p.m. PST Online via Zoom

Holiday Party
December 1 at 5 p.m.
Pharmaceutical and Biomedical Sciences Lobby
WSU Spokane

CougaRx Nation Alumni and Friends Reception at ASHP
December 5 at 5:30 p.m.
MGM Grand, Lobby Bar
Las Vegas, NV
FACULTY SCHOLARSHIP

PUBLICATIONS

Pharmacotherapy Vice Chair & Allen I. White Distinguished Professor Joshua J. Neumiller and eight co-authors published, “Diabetes management in chronic kidney disease: a consensus report by the American Diabetes Association (ADA) and Kidney Disease: Improving Global Outcomes (KDIGO)” in Diabetes Care in October 2022.

Director for the Center for Pharmacy Practice Research and Associate Professor of Pharmacotherapy Kimberly McKeirnan and five co-authors published, “Cultures of support and resilience are associated with certified pharmacy technicians embracing new roles,” in Research in Social and Administrative Pharmacy in October 2022.


Pharmacotherapy Assistant Professor Lexie Powell published, “Getting rid of leftovers,” in the Inlander Health and Home in October 2022.

Josh Neumiller and two co-authors published the continuing education course, “Updates in glucagon-like peptide-1 receptor agonist use for patients with type 2 diabetes to maximize glycemic and non-glycemic outcomes: Part 1,” through PowerPak CE in October 2022.

Pharmaceutical Sciences Assistant Professor Ayesha Ahmed and two co-authors published, “Therapeutic role of nitroglycerin against copper-nitrilotriacetate induced hepatic and renal damage,” in Human & Experimental Toxicology, a peer-reviewed scientific journal, in October 2022.

Postdoctoral Research Associate Jingrui Chen, Pharmaceutical Sciences Adjunct Professor Clark Kogan, Pharmaceutical Sciences Associate Professor Zhaokang Cheng and two co-authors published, “Loss of Rbl2 (retinoblastoma-like 2) exacerbates myocardial ischemia/reperfusion injury,” in Journal of the American
Heart Association, an authoritative, peer-reviewed Open Access journal focusing on cardiovascular and cerebrovascular disease, and an official journal of the American Heart Association.

**PRESENTATIONS**

**Josh Neumiller** served as faculty for the American Society of Nephrology (ASN) Diabetic Kidney Disease Collaborative (DKD-C) course titled, “Management of chronic kidney disease in people with diabetes.” Josh served as the primary faculty member of the section titled “Antihyperglycemic Agents,” and as the secondary faculty member for the module titled: “Proteinuria and RAS Inhibition.”

Pharmacotherapy Chair and R. Keith Campbell Distinguished Professor in Diabetes Care **John R. White, Jr.** presented, “What’s new in 22?” at the Touro University College of Osteopathic Medicine 2022 Diabetes Update, High Impact Management for Clinicians on November 6, 2022.


**Sergei Tolmachev** presented two posters at the Annual Meeting of the Radiation Research Society in October 2022:

- “EasySkel: Estimation of plutonium concentration in the skeleton,” by USTUR Postdoctoral Research Associate **Martin Šefl**, USTUR Assistant Professor **Maia Avtandilashvili**, **Sergei Tolmachev** and one co-author.
- “Comparison of latent bone modeling and simple average method for estimating plutonium activity concentration in human skeleton,” by USTUR Assistant Professor **George Tabatadze, Martin Šefl, Maia Avtandilashvili, Sergei Tolmachev** and one co-author.

**SERVICE**

Two members of the USTUR – **Maia Avtandilashvili** and Adjunct Professor **Daniel Strom** were selected to serve on EPA advisory board to review report on cancer risk coefficients.

Associate in Research **Stacey McComish** wrote a short news article for USTUR website: USTUR faculty selected to serve on advisory board to review draft EPA report on cancer risk coefficients

**Maia Avtandilashvili**, and **Daniel Strom**, have been selected to serve on the science advisory board that will conduct a peer review of the Environmental Protection Agency’s draft document Federal Guidance Report No. 16. FGR 16 “Cancer Risk Coefficients for Environmental Exposure to Radionuclides” is an update to FGR 13, which was published in 1999.
USTUR welcomed Associate in Research **Xirui Liu**. **Xirui Liu**'s primary responsibilities include but are not limited to evaluating effects of death certificate misclassification on epidemiological studies. The tasks include using simulation approach to evaluate impact of death certificate misclassification on the risk estimates taking account of over- and under-classification rates, prevalence/incidence of health outcome, strength of association between exposure and health outcome, study population size etc. The data from the USTUR will be used as a “real world” example to validate the simulation study. Statistical analysis support for USTUR may be assigned as needed.

**AWARDS**

Kim McKeirnan was selected by the Washington State University Office of Research as the Technology with Impactful Contribution to Society Award for 2022 in recognition of her research and commercialization activities on a novel training program dedicated to increasing access to vaccination. McKeirnan was recognized during the virtual Research Week Awards Ceremony on Friday, October 21, 2022.

**STUDENT ACHIEVEMENT**

**PHARMACEUTICAL SCIENCES AND MOLECULAR MEDICINE STUDENTS**

Deepak Ahire (Prasad lab) received the best presentation award (second place) at the International Society of Study of Xenobiotics (ISSX) meeting held in Seattle, September 11-14, 2022. The meeting focuses on different aspects of drug discovery and development including drug metabolism and pharmacokinetics. Deepak presented his part of the PhD thesis work on a novel approach to quantifying the absolute composition of homologous proteins. The data generated in this study will allow better prediction of drug metabolism and drug-drug interactions in humans. This work was recently accepted for publication in the *Drug Metabolism and Disposition* journal.

At the 2022 Annual Meeting of the Pacific Northwest Association of Toxicologists (PANWAT) Regional Chapter held on the WSU, Health Sciences campus there were four WSU pharmaceutical sciences and molecular medicine student award recipients:

- **Rakshit Tanna** won first place in the graduate student platform presentation for the presentation titled, “Clinical assessment of the drug interaction potential of the psychotropic natural product kratom.”
- **Victoria Oyanna** won second place in the graduate student platform presentation for the presentation titled, “Green tea-raloxifene pharmacokinetic interaction: decrease in solubility and systemic exposure.”
- **Michael “Ridge” Call** won first place in the graduate student poster presentation for the presentation titled, “Silymarin reduced microcystin-LR-elicited hepatotoxicity.”
- **Namrata Bachhav** won second place in the graduate student poster presentation, for the presentation titled, “Cell type specific effects of MCLR: hepatocytes and stellate cells in co-culture system.”