


PHARMACY ALUMNI ASSOCIATION
& SCHOOL OF PHARMACY NEWS

DAWG SCRIPTS

SPRING 2018

CHANGE THE WORLD



We are grateful to our donors who share their time, expertise, and resources to advance opportunities for our students and to shape the future of health. Anne Downing, a physical therapist, has mentored scores of pharmacy students on service trips around the world along with her husband, Institute for Innovative Pharmacy Practice Endowed Clinical Professor Don Downing. Anne is pictured here with PharmD student David Nguyen, '18, who worked with Anne on a Global Brigades service trip to Panama.

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SCHOOL OF PHARMACY
UNIVERSITY of WASHINGTON

Dawg Scripts

Produced by the UW School of Pharmacy, with support from the Pharmacy Alumni Association (PAA)

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On the cover: We are grateful to our donors who share their time, expertise, and resources to advance opportunities for our students and to shape the future of health. Anne Downing, a physical therapist, has mentored scores of pharmacy students on service trips around the world along with her husband, Institute for Innovative Pharmacy Practice Endowed Clinical Professor Don Downing. Anne is pictured here with PharmD student David Nguyen, '18, who worked with Anne on a Global Brigades service trip to Panama.



From the PAA President

Being President of PAA has been one of the great honors of my career.

My life was totally transformed by the opportunities I gained as a student and an alumnus of the UW School of

Pharmacy. As President, I have tried to pay that back through service. I have been honored to be a co-Chair of the Campaign for the UW School of Pharmacy and share in the efforts to increase opportunities and access for our students and faculty.

The PAA board and I have been working hard to grow membership in PAA and we have proactively increased the opportunities for our alumni to reconnect and network at a range of fantastic events (just have a look on page 3 at all our upcoming Spring events!). We are looking forward to celebrating our Golden Pharmacists classes (50+ year graduates) and the class of 1993 as they mark 25 years!

So it is with pride that I share with you my gratitude for this opportunity and announce that I am completing my term as President this summer.

As an organization, PAA is in a great place, with a growing membership and a strong partnership with the team at UWSOP. There is a clear commitment from Dean Sullivan that our alumni association is a highly valued partnership. Our connection as a Pharmacy family is strong.

With that, I invite you to join the PAA Board as a representative or officer.

For more information or to express interest, please contact Claire Forster at clbrown@uw.edu or (206) 616-3217.

As members, you allow us to connect and strengthen our alumni network and the profession itself. It's no surprise that the UW School of Pharmacy continues to hold the #1 position at the UW for alumni who give back to their School.

If your membership has lapsed or you haven't yet joined PAA, **please turn to pages 10-11 to find an envelope that will make it easy to renew your tax-deductible membership or join PAA.** Your membership even counts toward Tye points! Just fill out the form, include payment and return the postage-paid envelope or scan the QR code below to fill out the membership online—it's that easy to make a difference.



Gary Harris, '72
President, Pharmacy Alumni Association

Join or renew your PAA membership by scanning this QR code or using the envelope between pages 10-11.



From the Dean

It is more important than ever that our graduates, alumni and faculty continue to drive innovation and provide leadership to change the inefficiencies and inequities in health care. Thankfully, we are building on a long history of important advancements in health care and pharmacy directly linked back to our community. For example, it is routine now for pharmacists to maintain patient records using sophisticated software. The first pharmacy computer system in the country, used to maintain patient and prescription records, was put in place at Group Health Cooperative by **Phil Nudelman**, '66. Continuing to invest in their vision for health care leadership, Phil and his wife Sandra have established the first of its kind Diversity Scholarship at UWSOP (learn more on page 15).

Understanding that we had areas in the state where access to basic health care was lacking, faculty in the late 1970's worked with the Washington state legislature to add prescriptive authority to our practice act, making it possible for pharmacists to work with doctors and develop protocols that allow pharmacists to diagnose and prescribe medications for basic, primary care needs. In the late 1990s, two of our faculty, **Jacqueline Gardner** and **Don Downing**, found it unimaginable that the state had a <30% vaccine rate for influenza, pneumococcal, and other important vaccines that prevent disease and premature death. Thanks to their advocacy and outreach, vaccination rates have doubled in the state since that time and access to pharmacist provided vaccinations is now nationwide. Their early work continues today with the award-winning Project VACCINATE team led by **Jenny Bacci** and **Peggy Odegard**. The team leading project VACCINATE have implemented training and outreach programs to increase vaccination rates by 14% (read more on page 6).

Our students continue to do amazing things. Throughout these pages, you will read about their successes. To support these students in their efforts, I challenged our pharmacy community to help me double the amount of funding we provide in scholarship support. We did it—together. This year, I'm proud to say—thanks to the generosity of our alumni, donors, and friends—100% of all students who applied for a scholarship received a scholarship. 100%! But we're not done yet. We simply have too many great students with continuing financial need. Read about one of our student scholars on page 11.

Next year, the UW School of Pharmacy will celebrate our 125th anniversary. We have a number of hallmark events planned that we hope will bring our alumni and friends back to campus. Watch for a list of events in an upcoming Dawg Scripts. It's been wonderful seeing so many of you in person this year. I hope you will visit next time you are in Seattle or at an upcoming alumni and friends event in your area (we have a lot of wonderful events coming up this year as you can see to the right). Thank you on behalf of the entire School community. We are grateful for your continued support. Go DAWGS!

Sean D. Sullivan, Professor and Dean, UW School of Pharmacy

UPCOMING EVENTS

Don B. Katterman Memorial Lecture & Dean's Recognition Reception
May 3 @ 6 p.m.
HUB, UW Campus, Seattle, Washington

Dean Sullivan "Addressing The High Cost of Prescription Drugs" Lunch & Learn
May 9 @ 12 noon- 2 p.m.
Multnomah Athletic Club, Portland, Oregon

ICYMI: Medication Updates for 2018 Public Lecture & Reception
May 16 @ 6:30 p.m.
Kane Hall, UW Campus, Seattle, Washington

San Diego Alumni Dinner—Save the date
May 17 @ 6 p.m.
San Diego, California

The CHOICE Institute (formerly PORPP) Alumni and Friends Gathering at ISPOR
May 21 @ 5:30 p.m.
Phillips Seafood, Baltimore, Maryland

Golden Pharmacists (50+ Year) Reunion Luncheon
May 31 @ 11 a.m.
UW Center for Urban Horticulture, Seattle, WA

WSPA Northwest Pharmacy Convention UW Reception
June 2 @ 5 p.m.
Coeur d'Alene Resort, Coeur d'Alene, Idaho

Class of 1993 Reunion—Save the date
July 13 @ 6 p.m. cocktails & dinner

Dean's Club Night at the Mariners—By invitation only
July 31 @ 5:30 p.m.
Safeco Field, Seattle, WA



UWSOP and UW Bothell School of Business PharmD-MBA students (from L to R: Ashley Haley, Lena Chaitesipaseut, and Whitney Keller)

Positive impact on patient care motivates PharmD-MBA students

Last fall, three rising second-year pharmacy students, **Lena Chaitesipaseut, Ashley Hayley, and Whitney Keller**, began the PharmD-MBA dual degree program—a collaborative venture between UW School of Pharmacy and UW Bothell School of Business. While each of the students has a different reason for becoming a pharmacist, they all see the dual degree program offering them the opportunity to grow their leadership skills, knowledge, and abilities to meet the ever-changing nature of the U.S. health care system. Lena earned her undergraduate degree in Biochemistry at California State University East Bay. Before applying to pharmacy school, she worked as a Rehabilitation Aide in a skilled nursing facility and as a pharmacy technician at CVS. She enjoyed combining her work behind the scenes with providing care to patients directly. She was inspired to pursue pharmacy as she loved learning about how and why drugs have different effects on the body. With a

long-term goal of owning a nursing facility, she knew she needed to hone her business skills and increase her knowledge of geriatric pharmacy. She chose the School of Business' MBA leadership track because,

“When I was a pharmacy technician, I noticed that the pharmacists who enjoyed their work, who provided the highest quality of care, and who interacted with other pharmacy personnel successfully, demonstrated an understanding of how the clinical components of pharmacy needed to interact with operational and managerial components of the business.”

WHITNEY KELLER, PHARMD-MBA STUDENT, '21

“it attracts students with diverse backgrounds, like a human resources manager, accountant, engineer, or banker. It is interesting to learn from everyone’s experiences.” Lena is on track to be well-prepared for a future providing patient care to promote healthy aging. Ashley’s interest in pharmacy stems from watching her grandfather run his pharmacy. “I was always, even as a small child, struck by the care and selfless attitude he

showed while interacting with his patients,” she reflects. “A desire to leave a similar legacy is what led me to this profession.” She has chosen the leadership track in the PharmD-MBA program to grow her skills

and increase her success as a manager and future owner of an independent pharmacy. Ashley says that “being a contributing and beneficial member of a smaller, rural community has always been a dream.” She sees her work as a health care provider as a partnership with patients, to promote preventative care and help patients manage their chronic conditions. Whitney earned her BS in Marine Biology

at the University of Hawaii at Manoa and went on to earn her pharmacy technician certificate at North Seattle College. “When my father was injured at work and spent time recovering in the hospital, I was inspired to go back to school, and my positive interactions with the pharmacist encouraged me to pursue pharmacy,” she shared. Whitney looks forward to interacting with patients and their family members as a pharmacist.

Where are they now?

We check in with UW's first class of PharmD-MBA students!



"I have learned so much more than I expected. I have grown as an academic and scholar, and this program has also allowed me to improve as a person, growth which is priceless to me."—**Gilbert Ko**



"This program has taught me valuable skills from fundamentals in operations to learning the latest trends in the practice of pharmacy from guest speakers in pharmacy management."—**Christian Michelet**



"Pharmacy and business are inherently intertwined. This program has provided the opportunity to engage from a business perspective and explore a number of career options leveraging a unique skill set."—**Michael Sporck**

Change curriculum; change pharmacy... change the world

In 2015, Dean Sean D. Sullivan engaged a team to develop the UWSOP's Five-Year Strategic Plan. Out of that process and with the new provider status legislation (SB 5557), there emerged a need to update our PharmD curriculum so our students can step into the new role as Washington state pharmacy providers fully-prepared. For the past two years, the Curricular Innovation team has been working to develop a plan to prepare our student pharmacists for a future that calls for more leadership, entrepreneurial skills, even marketing and advocacy ability, in addition to the excellent training they already receive in medicinal chemistry, pharmacology, clinical pharmacy, and patient care. Whether it's to be full members of the health care team or to pitch a new approach to patient care, to manage an independent pharmacy, or to lead a health system, our students' professional and interprofessional skills need to be as strong as their scientific knowledge. Led by Associate Dean Peggy Odegard, the Curricular Innovation planning teams include over 70 people, faculty, staff, practitioners, and students. Together, they have articulated the foundation of the new curriculum and what it means to be a Husky Pharmacist (see below). More so than other Pharmacy Schools

"Looking back, I want this to be the point where we can say 'we changed the world.'"

PEGGY ODEGARD, '85, '90, ASSOCIATE DEAN, LYNN & GERALDINE BRADY ENDOWED PROFESSOR OF PHARMACY

nationally, our new curriculum will equally value learning inside and outside the classroom—formalizing the value of leadership in student organizations, health fairs, and community events. Being a leader is different from being a manager, Peggy emphasized. "When our Husky Pharmacists see gaps and opportunities, we want them to step up and negotiate for the benefit of the patient." In addition, student pharmacists will train for the skills to be a pharmacy provider, an effective team member, and be able to practice at the top of their license. As Washington state is first to affirm pharmacists as paid providers, this curriculum leads the way nationally. "Pharmacists are trained to think like a drug—how it gets in to the body, what it does once it is there, and how it gets out of the body—and to consider the holistic needs of the patient with regard to drug therapy. That same way of thinking is crucial to our health care teams as they make decisions about how best to help their patient," said Peggy.

THE HUSKY PHARMACIST

DEMONSTRATES EXPERTISE in medications, population health, and practice —that is both fundamentally sound and state-of-the-art

THINKS CRITICALLY, prioritizes effectively, identifies solutions

Has **STRONG DECISION-MAKING SKILLS** and the ability to justify those decisions

WORKS COLLABORATIVELY with other healthcare professionals and appreciates the value of working as a team

DEMONSTRATES LEADERSHIP, professional engagement, and management skills

ADAPTS AND THRIVES as the profession of pharmacy, health care and society evolve

COMMUNICATES WELL



Members of the Project VACCINATE team (L to R): Michelle Bonjour, Lara Popovich, James Lin, '17, Marci Reynolds, '04, Christina Ree, Jennifer Bacci, Jenny Arnold, '06, Peggy Odegard, '85, '90,

APhA honors Project VACCINATE, led by Bacci and Odegard

The American Pharmacists Association (APhA) presented the National APhA Immunization Champion Award (Partnership) to Project VACCINATE at their 2018 Annual Meeting and Exposition in Nashville. Likely the largest partnership effort to improve adult immunization care in Washington state, Project VACCINATE created a real-world immunization neighborhood across western Washington communities through effective collaboration, coordination, and communication among key stakeholders, including patients. Co-led by UWSOP's **Peggy Odegard** and **Jenny Bacci**, Project VACCINATE brought together Bartell Drugs, and QFC

“As a community pharmacist, I know the positive impact we, as pharmacists, can have on health in our communities—and Project VACCINATE proves it.”

JENNI BACCI, ASSISTANT PROFESSOR, PHARMACY

Pharmacy, Washington State Health Care Authority, Washington State Department of Health, Washington State Pharmacy Association, and Scientific Technologies Corporation. The team worked with 70 community pharmacies to identify new ways to improve vaccination rates through: forecasting immunization rates; sharing documentation of immuniza-

tion data and communication with providers through the state's immunization registry; training pharmacy teams to improve vaccination rates through value-based incentives; and enhancing pandemic vaccine preparedness and capacity in the region. The team was proud to see a 14% increase in the number of influenza, pneumococcal, herpes zoster, and pertussis vaccinations provided to adults 18 years and older in just a one year time period as a direct result of Project VACCINATE. The demonstration project is supported by the Centers for Disease Control and Prevention (CDC) and National Association of Chain Drug Stores (NACDS).



Kent Kunze, '77, retired as Chair of Medicinal Chemistry in March. He wrote, “I am leaving the department in good hands with **Bill Atkins**, our Sid Nelson

Endowed Professor of Medicinal Chemistry, who will become Chair. As many of you already know, Bill is an exemplary scientist, mentor, and colleague. We are grateful that he is stepping into the leadership role for the department. As for me, I am embarking on some adventures in climbing and exploration in the far reaches of our world.” We wish Kent the very best in his global travel adventures!

Doug Barthold, PhD., joined the faculty of The CHOICE Institute in the Department of Pharmacy. As a health economist and health services



researcher, Doug is interested in the relationships between health policies, health care utilization, and health outcomes, especially in the pharmaceutical sector.

Congratulations to Pharmaceutics' faculty **Qingcheng Mao** and **Jashvant Unadkat** who were presented the American Association of Pharmaceutical Scientists (AAPS) Journal High Impact Article Award.



Joanne Wang and post doc **Weibin Zha**, with Plein Endowed Research support, published a paper demonstrating a direct effect of selective serotonin reuptake inhibitor (SSRI), use on estrogen synthesis and further



identified estrogen as a critical factor that contributes to depression treatment-induced metabolic abnormalities as well as other

adverse effects of SSRIs.

Shelly Gray led a team that studied almost 3500 patient records and found there is not a link between long term PPI use and dementia, findings contrary to smaller studies published a year earlier by other researchers.



Andy Stergachis was named a Fellow of American Pharmacists Association (APhA) Academy of Pharmaceutical Research and Science (APhA-APRS).

Beth Devine and Abhi Nath receive Faculty Innovation Awards to support their breakthrough research

Congratulations to **Beth Devine** and **Abhi Nath**, '08, who have received this year's UWSOP Faculty Innovation Awards. First awarded in 2017 to **Brian Werth**, Pharmacy, and **Libin Xu**, Medicinal Chemistry, the Award provides recognition and



Medicinal Chemistry Assistant Professor Abhi Nath's proposal will look at new ways to predict how the body metabolizes biologics, also known as "large-molecule" drugs or protein-based therapeutics. These drugs display immense potential in the treatment of many challenging forms of cancer, autoimmune disorders, and infectious and degenerative diseases. However, a major hurdle to their development is a lack of understanding of the factors that govern their pharmacokinetics and disposition. "We don't yet recognize the 'flags' that indicate that a given large-molecule may behave problematically or unpredictably, as we do for conventional small-molecule drugs," said Abhi. This knowledge gap makes the development of biologics challenging, increasing the time and costs to bring these promising medications to market. By using a combination of biophysical measurements and machine learning analyses, the team anticipates they will shed new light on the disposition of protein-based therapeutics, and will give trainees hands-on experience in modern data science techniques.

financial support for projects that showcase high-risk and research innovation. The findings from Brian and Libin's breakthrough research was recently published in mSphere, with Senior Fellow **Kelly Hines** as first author.

An interdisciplinary team led by CHOICE Associate Professor Beth Devine, with Pharmaceutics' **Isabelle Ragueneau-Majlessi**, '10, and Pharmacy's **Jennifer Wilson-Norton**, '93, earned the award for their proposal, "Evaluating the Impact of Pharmacogenetic Testing on Clinical Outcomes in Retirement Communities: A Proof-of-Concept Feasibility Study." Due to the significant impact of genetic variability on drug efficacy and adverse drug events, pharmacogenomic-guided medication management has long been recognized for its potential to optimize medication use. "This is particularly important for older populations, as declines in organ function, coupled with comorbidities and the accompanying need for polypharmacy increase," said Beth. Yet, there are few studies that demonstrate the impact of this approach on clinical outcomes and the two studies published in 2017 were not conducted in a retirement community setting. The team will work with residents in the Broadview and University House communities, two of eight Era Living partner sites. UWSOP's **Jenny Bacci**, and Basia Belza, from the UW School of Nursing, will serve as advisors.



Medicinal Chemistry student & recent Hope Barnes Fellow Baughman investigates a natural defense against Alzheimer's

Hannah Baughman, graduate student in **Abhi Nath's** lab, is first author on an article looking at molecular chaperones, which may unlock keys in the fight against neurodegenerative diseases like Alzheimer's, which seem to be caused by buildup of the protein

tau. The proteins have been shown to interact with each other and aggregate into fibrillar structures that are damaging to neurons. Hannah focused on ways certain proteins in neurons—molecular chaperones—work to prevent this aggregation from happening, as

part of the native defense against these diseases. Of the two studied, one, HspB1, acted during the early stages of aggregation, and the other, Hsc70, targeted later stages and was able to prevent tau fibril formation efficiently. This suggests that the two chaperones play complementary roles within neurons and shows how different chaperones work to defend against tau fibril formation. Hannah is co-mentored by Abhi Nath and Rachel Kleivit, used multiple biophysical techniques, including fluorescence in the Nath lab and NMR spectroscopy in the Kleivit lab. Hannah's paper "HspB1 and Hsc70 chaperones engage distinct tau species and have different inhibitory effects on amyloid formation," was published in the *Journal of Biological Chemistry*.



"I am honored to receive the **Hope Barnes** Fellowship and blown away to learn what an inspiring woman she was. I am grateful for her family's support for women in science," says Hannah.

UW PharmD business plan team create a blueprint for telepharmacy services to benefit rural, underserved areas

UW PharmD students consistently place in the Top 10 nationwide in the NCPA Pruitt-Schutte Student Business Plan Competition. In 2017, the UWSoP team of five PY2 students, led by **Tanner Roberts**, with **Anna Liu**, **Gilbert Ko**, **Kyle Bigham**, and **Christian Michelet**, earned a Top 10 placement with their business plan to implement telepharmacy services into an established pharmacy. The project focused on meeting the unmet needs of underserved, rural populations by extending the reach of an existing community pharmacy in a cost-conscious method. The telepharmacy model allows a pharmacist located at a central pharmacy location to verify the safety and efficacy of prescriptions prepared by a certified technician at a remote-site via telepharmacy-specific software. Upon dispensing each prescription, the pharmacist then performs counseling with the

patient via a live audio/visual link. In addition, their plan included the pharmacist traveling to the remote site one day a week to offer point-of-care testing and chronic disease management. Their plan was based on real pharmacy data—from community pharmacies owned and operated by Tanner's family—so the team worked to create a blueprint that could be implemented into a real pharmacy. What advice does the team have for

an independent pharmacist interested in telepharmacy? "Patients and customers are the most important part of any business; it is critical to understand the population you are serving. Criteria to consider if telepharmacy is a good option for your patients and your pharmacy, you must consider factors like average age, work and living environments, insurance coverages, and transportation needs," shared Tanner.



2017 NCPA Team (L to R): Kyle Bigham, Tanner Roberts, Anna Liu, Christian Michelet, and Gilbert Ko.

In finding a different linking protein, Plotnik and Hu Lab open new possibilities for HIV therapies & treatments

Pharmaceutics graduate student **David Plotnik** is first author on a paper published in the *Journal of Virology* with his mentor **Shiu-Lok Hu** as senior author. David discovered that the HIV virus does not bind to intestinal T cells the way previously thought. Why is that important? HIV causes disease by killing the immune system's protective T cells, most of which are located in the intestines. When HIV invades the intestines, it destroys intestinal T cells, a loss that plays a major role in the development of AIDS. Finding strategies for protecting intestinal T cells are expected to improve HIV vaccines and therapies. Most of the intestinal T cells have a receptor called $\alpha 4\beta 7$ that had been thought to bind to the HIV envelope protein, causing the infection—so this interaction between the receptor and HIV is being investigated as a potential target for therapies and vaccines. David discovered that—contrary to previous reports—the HIV envelope protein does not bind to $\alpha 4\beta 7$. There is a different protein, fibronectin (normally found in tissue), that forms a link between the HIV

envelope and $\alpha 4\beta 7$. This finding changes the understanding of how intestinal T cells are targeted by HIV, and suggests new therapeutic approaches for protecting these cells. This work was supported by the Bill and Melinda Gates Foundation, NIH grant P51 OD010425, the UW Proteomics Resource grant UWPR95794, and Milo Gibaldi Endowment. David was supported by the Pharmaceutical Sciences Training Grant also (T32 GM007750).



David's paper, "Extracellular Matrix Proteins Mediate HIV-1 gp120 interactions with $\alpha 4\beta 7$," found new insights to HIV and T cell interactions.

Findings of CHOICE student Grewal, Gates Foundation, & UW START support increase in typhoid vaccine funding

Since January 2017, CHOICE PhD student **Simrun (Simi) Grewal** has worked alongside Epidemiology PhD student Lola Arakaki with UW's Strategic Training, Analytics, and Research Center (START) as a research assistant with the Bill & Melinda Gates Foundation's (BMGF) Integrated Portfolio Management (IPM) Team. Recognizing the inherent trade-offs across investments to develop, introduce, and deliver healthcare solutions in low-and middle-income

countries, the team uses a systematic approach to estimate and compare the economic value, health impact, and risks of different vaccines and interventions. Through this kind of process, potential investments can be prioritized to maximize total health impact across disease areas. In addition to its internal function, the integrated team was designed to provide a public good in valuation modeling support to various communities facing tough decisions for allocating global healthcare resources. As part of this aim, the team has collaborated with Gavi, the Vaccine Alliance. Founded in 2000, Gavi carries a mission to save children's lives and protect people's health by increasing equitable use of vaccines in the world's poorest countries. During the summer of 2017, the team, led by Program Officer Sarah Metzgar including Simi and Lola, conducted an analysis to assess the health impact of a typhoid conjugate vaccine (TCV) in countries eligible for Gavi support. The analysis contributed to information presented to the World Health Organization and the Gavi Board. In November 2017, Gavi announced its decision to provide \$85 million between 2019-2020 to support to use of TCV in eligible countries.



CHOICE PhD graduate student Simi Grewal

“We are fortunate to have alumni, friends, and faculty who care passionately about the School.

Year after year, our alumni have the highest rate of giving back to the UW compared to any other school. We deeply value our alumni, we involve them and recognize them—we stay connected. Together, we are the Husky Pharmacy family.”

SEAN D. SULLIVAN, PROFESSOR & DEAN, UW SCHOOL OF PHARMACY



100%
SCHOLARSHIPS AWARDED
to students who applied for
support in 2017



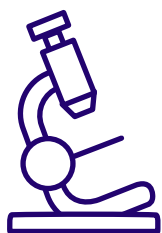
#2 FACULTY STAFF
RETIREE (FSR) GIFTS
Our community was second
in giving back among the UW
Health Sciences Schools



13
Research and innovation
centers...and growing



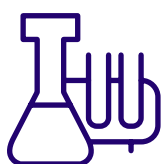
30+ YEARS
Training pharmacists in
geriatric pharmacy



#2 IN THE U.S.
National Institutes of Health
(NIH) grants to Schools of
Pharmacy
BLUE MOUNTAIN INSTITUTE FOR
MEDICAL RESEARCH (2017)



#9 IN THE U.S.
Nationally ranked Schools of
Pharmacy
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#5 IN THE WORLD
for Pharmacology &
Toxicology at university
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EXPLORE THE WAYS YOU CAN MAKE AN IMPACT
FOR WASHINGTON, FOR THE WORLD

From struggle to straight As, Edogun shares his path to leadership

From Osa's speech given at this year's Dean's Scholarship Reception.

I have been thinking a lot about what it means to be a leader and my own convoluted path to leadership that brings me here today. When I was five years old, I came to the United States from my home country of Nigeria with my mother and siblings. Life in Nigeria was harder. There was a lack of health care and not as many treatments available. I had two uncles with sickle cell anemia. Hearing the stories as a young boy of how my mom took care of them and how much my uncles struggled and suffered to get the care they needed got me thinking about a career in healthcare from a very young age. But I'll be honest, even with all my parents' sacrifices I wasn't the best student when I first came to America. I almost failed second grade and it was only until around middle school when I remember having a serious "Academic Talk" for the first time with my parents. They reminded me of my uncles and how much harder it was in Nigeria—that people in our home village were still suffering and that I had such enormous opportunities to be successful. They reminded me that everyone back home was rooting for me and that it was my responsibility being blessed with so much that I HAD to do well. In comparison, my

older sister was a straight A student and on her way to nursing school and here was young me barely scraping by. I had to make a change. Nigerians have a long history of academic accomplishment. There are a lot of Nigerians with PhDs but a lack of infrastructure and systemic innovation to keep their jobs. Nigerian fathers are proud of their children who do well academically and I wanted to make my Dad proud. Plus he sweetened the deal by awarding money for straight A's. So, I quit football and focused more on my academics. It took several years, but in 10th grade, I finally earned my first set of straight As. The way that my father lit up with enjoyment was a moment that I could hardly forget followed by the words, "I'm proud of you my son." I loved the feeling and I wanted to go even farther. In college at California State University East Bay, I was a mentor to younger students, I co-founded the pre-pharmacy club, and began to think about what I would do with my future. I knew Pharmacy would allow me to combine my interest in biochemistry, helping people, and growing my leadership skills. And I would still be able to get that White Coat that I had always longed for. Now I am working at a Walgreens specialty pharmacy clinic and I get to focus on helping patients

who have complex health conditions with medications that need regular monitoring, such as Hepatitis C, Multiple Sclerosis, and HIV, not unlike my uncles who had sickle cell anemia. Every day I am learning and growing as a future practitioner both in and out of the classroom. If you ask me what leadership is, it is taking personal responsibility for ensuring that the future of others is brighter because of the efforts and passion that you bring towards helping people and the institutions you serve in. When I think about my uncles who passed away, my family back in California, and my broader family members spread across the entire globe, I think about how I can make the world a better place for them and how my career in pharmacy and exceptional training here at the UW School of Pharmacy will impact the lives of others. Thank you again, **Dean Sullivan** and the Scholarship committee. Thank you to all of our generous donors. You give us hope and inspiration that the efforts we make in preparing ourselves for the future of pharmacy will pay off tremendously for the communities we serve. You help challenge us to grow and develop. We are truly grateful. I hope the award recipients in this room will make you proud as well and validate your kind generosity.



"I chose the UW School of Pharmacy as it was outstanding in its tradition for educating leaders in health care. I wanted more than just a school—I wanted to connect with my peers and the faculty."

OSA EDOGUN, 2ND YEAR PHARMID STUDENT

Guttman lab team engineer new tools and processes to study the ‘last frontier of biology’: sugars

“There are a lot of unresolved questions in biochemistry, some that require creative solutions to address,” reflects **Miklos “Mike” Guttman**. “We are in a new frontier of research. Here at the UW, I have the freedom to try radically new approaches to solve these problems.” The freedom Mike has in academia to take risks and innovate methods and processes could lead to important breakthroughs in population health.

The risk is that some of the novel approaches he and his lab team are developing may not work—but the reward could be breakthroughs that advance cancer therapy, improve drug safety and the success rate of organ transplants. At the University of Washington School of Pharmacy, Mike and his lab team are freed up to think creatively about how to solve these problems and create novel approaches to solving them—and they have already met with success. Many of these problems and illnesses share a common theme—glycosylation—how complex sugar structures are presented in the serum. “Glycosylation is one of the last frontiers of biology,” Mike observed. By understanding the variances in how sugars are presented, researchers have a window into why things that seem like they should work (an organ transplant to a matching blood type) sometimes work and sometimes don’t. The sugars are hard to

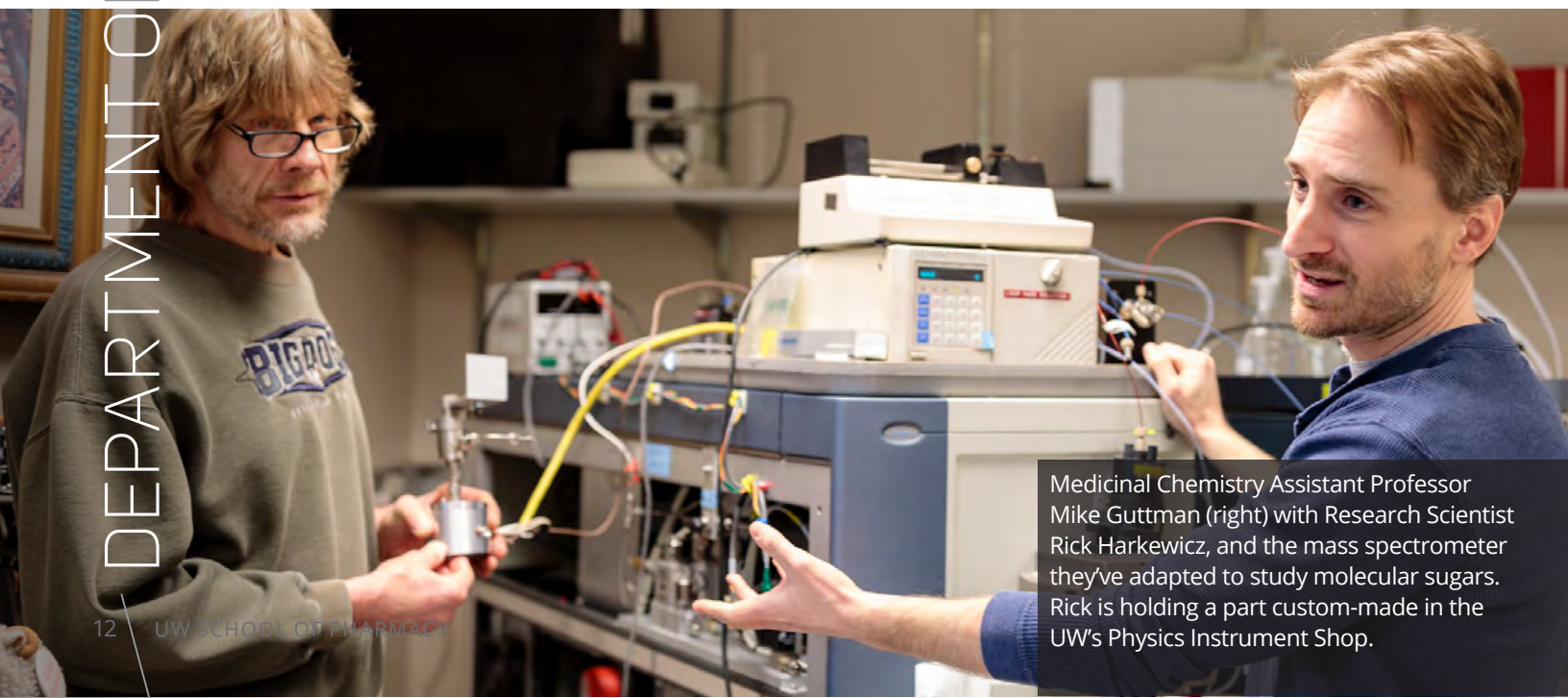
“There are actually more than a dozen blood subtypes—governed by the sugar molecules present on the surface of red blood cells. Understanding how the sugars differ on a molecular level could lead to big breakthroughs in transfusion medicine and organ transplant success.”

MIKE GUTTMAN, ASSISTANT PROFESSOR, MEDICINAL CHEMISTRY

study as they are very complex. Imagine a thousand-acre orchard rolling over hills, filled with apple trees of all different ages. If you wanted to study one of the trees to understand how it grew

and why it grew more apples, you could cut it down—but then you would be missing a lot of data. How is the health of the other trees around it? Was it in dry soil? How much sun did it get? The same is true of molecular sugars. To date, most glycosylation studies have involved

cleaving the sugars and looking at them independent of where they began. “With that process, you might know the size and shape of the sugar,” says Mike, “but if you don’t know the origin, so you don’t really have the full picture of why it behaves as it does.” Mike’s lab has been hard at work creating a set of tools to combine three processes to get that full picture of the sugars so they can measure the details of its size, shape, and importantly, also know whence it came. Their tools combine: ion mobility, which helps measure the shape of the sugars; gas-phase H/D exchange which helps measure subtle differences in their structures; combined with high resolution mass spectrometry, which allows them to track the location for each of the sugars. Knowing all of this gives the team more insight into how sugars affect the metabolism of drugs, interfere with organ transplants, and more.



Medicinal Chemistry Assistant Professor Mike Guttman (right) with Research Scientist Rick Harkewicz, and the mass spectrometer they’ve adapted to study molecular sugars. Rick is holding a part custom-made in the UW’s Physics Instrument Shop.

The new Secretary-elect of ASPET for the Division for Drug Metabolism and Disposition, Pharmaceutics Assistant Professor Bhagwat Prasad and his team are building a library of data that can be used by other researchers to generalize this novel approach to drug safety.



Novel modeling approach in Prasad lab results in breakthroughs to improve drug dosing for children

What parent hasn't wondered if the medications they are giving their sick child are the right dose or if the drug is safe for their child? Off-label use of drugs in children is an important public health issue, because majority of pediatric drugs still have no instructions in the labeling for use in this vulnerable population. Researchers in **Bhagwat Prasad's** lab are

working on this critical drug safety problem—and they are making progress. Bhagwat and his team have found a novel approach using mass spectrometry-

proteomics based modeling to do a better job how to predict drug dosing in children. With better prediction methods, they can see how drugs will affect children without having to hold clinical trials, which are extremely challenging to do with such a young and vulnerable population. The core of Bhagwat's work lies in understanding how the child's developmental physiology and genetics may affect drug metabolism and transport, and how this affects drug efficacy and toxicity in children at different ages, particularly in newborns and infants. Currently, most drug dosing is predicted based on the weight or size of a child. For example, if the dose for a 180 lb adult male is 15 ml of a drug, then the practice is to dose a 60 lb child with one-third the amount of an adult (5 ml) of the same drug. There is an enzyme, UGT2B17, that is key to elimination of some drugs and their metabolites, including drugs used by children (such as vorinostat and Plavix). Children do not begin producing that enzyme until puberty (ages 9-12 years). That means

that children who take a drug that requires that enzyme to break down the drug—even a small dose—will build up a toxic amount of the drug in their system. Bhagwat's findings demonstrate that by understanding age-dependent drug metabolism using this modeling, dosing children can be improved, making the drugs more safe.

“Drug dosing in children isn't linear. It's not a simple equation, but more of a matrix of factors and variables.”

BHAGWAT PRASAD, ASSISTANT PROFESSOR, DEPARTMENT OF PHARMACEUTICS

They are finding effects by gender also. “For the first time, we have comprehensively characterized the genetic and non-genetic factors affecting the UGT2B17 enzyme in the

population,” he said about the finding published recently in *Drug Metabolism and Disposition*. “We now know that age and gender are important. If a drug is given to men it will be metabolized faster than in women, which means that women see greater toxicity, especially with anti-cancer drugs.” To do this work, Bhagwat and his team took the human tissue samples and quantified cellular proteins using mass spectrometers in the UWSOP Mass Spec Lab. The resources and expertise in Bhagwat's lab along with the new mass spec instruments allow them to analyze 1,000-10,000 proteins in a sample at one time—giving them richer data on more proteins. This new instrument can generate an inventory of age-dependent data, which will allow researchers to do untargeted data research, rather than just having to pick one protein at a time. They also now have a library of open access mass spec protocols for targeted quantification of proteins relevant to drug metabolism and transport.

The CHOICE Institute expands opportunities for health economics & outcomes research at UWSOP

We are witnessing a period of renaissance, as current advances in medical technology and breakthroughs are unprecedented in human history. There is a cure for Hepatitis C that works in weeks. Polio used to afflict thousands around the world; today, there are only twelve cases in just two countries. We are within years—not decades—of personalized therapies for cancer.

Despite these scientific leaps, every society around the world faces stark challenges in providing equitable access to these innovations, sustaining the pace

of innovation, while being responsible custodians of our limited resources. As we usher in this era of clinical cures, precision medicine and (really) big data, a continued commitment to the fundamentals of science and academia is important. Such commitment includes the passion for developing and applying state-of-art methods in the disciplines of economics, statistics, and decision sciences for answering the indispensable questions, and for training the next generation of researchers to take on these local, national and global challenges head-on. It is in this context that Director **Anirban Basu** announced the launch of The Comparative Health Outcomes, Policy, and Economics (CHOICE) Institute at UWSOP (uwchoice.org). A hub of excellence in

generating knowledge to improve individual and population health, The CHOICE Institute expands the Pharmaceutical Outcomes Research & Policy Program (PORPP) to enhance our competitiveness and expand our leadership in the field. Research areas include health economics, policy analysis/ big data sciences, economics of precision medicine,

drug and vaccine safety, and global medicines. The CHOICE Institute mission is three-fold: Research: Develop innovative methods and generate actionable evidence about the effectiveness,

“The Institute designation reflects the breadth of the work conducted by the faculty, students and post docs and provides a unique and highly collaborative environment for the mentoring of junior faculty and graduate training of the next generation of scientists.”

H. STEVE WHITE, PROFESSOR & CHAIR, DEPARTMENT OF PHARMACY

safety, and value of medical products and services that improve decision making in health care and policy; Training: Provide transformative training in health economics, outcomes research, and policy analysis to meet contemporary health care challenges regionally, nationally, and globally; and Service: Be a leading resource on the effectiveness, safety, and value of medical products and services by providing expertise and facilitating collaborations at the regional, national, and global level. CHOICE will be an integral part of the School and Department of Pharmacy, which will facilitate interactions with clinical faculty and reinforce the crucial role of medications in shaping patient health and patient-centered healthcare delivery.



Enjoying the collaborative space in the Pharmacy Graduate Student room (from L to R): Professor Dave Veenstra, graduate student Shalak Gunjal, Director Anirban Basu, NHLBI Fellow Jevay Grooms, and graduate student Karen Guo.

A LEGEND, UNDAUNTED



The Second Annual Phil and Sandra Nudelman lecture featured PATH President and CEO, Steve Davis. (Pictured L to R: Sandra Nudelman, Phil Nudelman, Steve Davis, Dean Sean D. Sullivan)

Implementing a 50-year vision to transform pharmacy and health care in Seattle & the U.S.: A profile of alumnus Phil Nudelman, '66

Setting out with a vision to transform U.S. health care and pharmacy might be daunting to most people...but, based on results, not to **Phil Nudelman**. Over the course of his career, Phil has been part of multiple innovations that led to significant improvements in pharmacy practice and health care here in Washington state and nationally. After graduating in 1966, he worked with **Dick Nelson**, '62, who developed an IBM card/paper tape system to print prescription bottle labels for his nursing home pharmacy business. Seeing the possibilities for automation in pharmacy inspired Phil. In 1973, he was offered the role as head of Pharmacy and all professional services at Group Health Cooperative (GHC) with two stipulations—that he would be allowed to develop and implement at GHC, the first complete computerized pharmacy information system in the U.S., and that he be empowered to bring pharmacy into a productive role within the health care team. “It became apparent to me that the potential for pharmacy for leadership, quality and contribution to overall health care were obfuscated with the menial tasks of “count’m and pour’m and lick’m and stick’m, which left little time for contributing to improving the health and health care of the nation. By implementing the pharmacy system,

GHC pharmacists now had more capacity. In addition to the computer revolution, Phil successfully made the case for the pharmacists to lead the formulary and pharmacy and therapeutics committee processes and bring their medication expertise to the

“UW Pharmacy is part of my roots, our home, and our pride. Our Diversity Scholarship is part of celebrating our differences and learning from them. Sandra and I want to help assure that opportunities exist for every person who has even the slightest desire to succeed.”

PHIL NUDELMAN, '66, ALUMNUS AND DONOR

health care team, improving patient safety and care. While there was some resistance to such a big cultural change at first, demonstrating the value of having pharmacists research the data and prepare their formulary recommendations led to rapid acceptance. Phil's legacy of leadership extends beyond being the CEO of GHC. He was invited by three U.S. Presidents to serve as a healthcare advisor, was appointed by President Clinton to serve on two health care commissions, and he served on over 50 community, state and national not-for-profit and corporate boards. As chair of the State Board of Pharmacy, he initiated the use of patient profiles in pharmacy practice and the

requirement that pharmacists counsel patients on the nuances and appropriate use of their prescribed medications. Phil's vision didn't stop there. He implemented the use of the GHC pharmacy database as a research tool, which has led to powerful

breakthroughs in understanding the long-term effect medications have on people. In 2015, **Shelly Gray**, director of the UWSOP Plein Center, used GHC data to show that long-term use of anti-cholinergics may cause dementia in older adults. Assistant Professor **Ryan Hansen**, '03, '12, used GHC data to show a link between taking prescription sleep aids and increased motor vehicle accidents. Married 58 years, Phil and Sandra's leadership extends to their philanthropy as UW Laureate donors and to local and national organizations and causes. They organized local leaders to form a non-profit center named Y.E.S. (Youth Eastside Services) 50 years ago, to provide a safe place for young people and to foster two-way discussion about coping with growing up in a quickly changing society. In addition to the annual UWSOP lecture, the Nudelmans have established the first of its kind Nudelman Diversity Scholarship. When asked why they chose to create this scholarship, Phil's reasoning was simple: “At-risk populations have the right to succeed, equally with all populations.”

Jack Emerson Babcock, '37

Born in Anacortes, Washington, in 1915, Jack Babcock passed away December 11, 2017, at the age of 102. He graduated from UWSOP with a BS in Pharmacy in 1937 and later went on to earn an MS and a PhD in international affairs at Georgetown University in 1954. His long life included 31 years in the Army, where he reached the rank of Brigadier General. He was proud of his service preparing for possible Nazi invasion of Latin America during World War II, and helping to train the Brazilian Expeditionary Force that fought in Italy, although he wrote later, "War is no damn good for either side. Nobody wins." In fact, his later Army career in Europe and the United States was largely focused on preventing war, or making sure that U.S. and Allied forces would be prepared for it if it came. His decorations included the Brazilian War Medal, the Joint Commendation Medal, the Legion of Merit with two oak leaf clusters, and the Army Distinguished Service Medal. After retiring in 1968, Jack worked at NASA, General Dynamics (in Belgium), and Georgetown University, where he taught at the business school and founded the school's summer program at Oxford University. He was awarded the John Carroll Alumni Medal by Georgetown University and was named the UW Pharmacy Alumni Association's Distinguished Alumnus for Pharmacy Practice in 1997. He is survived by his daughters, Jill Kern, Carol Bales, and Alice Monet, six grandchildren, and seven great-grandchildren. His wife Judith and two of their children preceded him in death— his daughter Maria and son Jack, Jr., who competed in the Special Olympics.



William "Bill" James Fisher, '76

Heaven will have a new member, probably wearing a Husky sweatshirt and a Seahawks hat! Bill displayed great courage as he battled glioblastoma for the past almost six years. Bill was born on October 2, 1951 to Don and Audrey Fisher in Des Moines, Washington. He attended Mt. Rainier High School and the University of Washington School of Pharmacy, graduating in 1976 as a pharmacist. Bill worked for Bartell Drugs for over 35 years. In 1999, he



married Elizabeth Anne McKee and in 2001 they had a daughter, Michaela Anne (Kaeli). Many of Bill's happiest memories were with family. In addition to his family, Bill loved his job, bike rides, and Husky sports, especially football. He did not miss a single home Husky football game in 40 years. Bill was predeceased by his wife in 2012, and his parents. Bill is survived by his daughter Kaeli, his brother Darin Fisher and a very large extended family. The family would like to thank the staff of Providence Mt. St. Vincent for their care and support.

Linda Ann Harmon, '78

Linda Ann (Morrow) Harmon, 62, passed away on January 19, 2018, at Stanford Medical Center in Palo Alto, California. Linda was born in Seattle, Washington, the daughter of James and Patricia Morrow. Her first home was near her grandparents' house on Lake Washington where her love of water and an active sports life began. Linda spent her first years first in Vancouver, British Columbia, then in Spokane, Washington, until she was 10 years old, and then her remaining school years on Mercer Island near Seattle where she graduated from Mercer Island High School in 1973. After high school, she enrolled and graduated from the UW School of Pharmacy with a degree in pharmacy. She then worked as a pharmacist in Bellingham, Washington, which suited her well as a person who enjoyed caring for others. In 1984, she moved to Sun Valley, Idaho where she managed to ski almost as many days of the week as she worked. She worked as a pharmacist at Chateau Drug in Ketchum, Idaho, until 1995. She and her husband, Grant, met when their mothers arranged a skiing blind date for them in 1994 in Sun Valley. They fell in love and were married in 1996 and their son Justin was born in 1997. Linda and Grant spent the over twenty years of their marriage enjoying golf, skiing, biking, being with their beloved Pembroke Welsh Corgi, Hogan, and traveling the world together with many friends and family. Linda also enjoyed being one of the Team Moms for her son Justin's many sports teams. Linda was predeceased by her father James Robert Morrow in 1987. She is survived by her mother Patricia Ann Morrow Moulton of Issaquah, Washington, and her brother Mikel Morrow (his wife Heather) and his family of Sammamish, Washington. Linda will be forever in the hearts of her husband Grant, her son Justin, her stepdaughter Elizabeth, and all of her family and



many friends. Linda will be forever remembered by her family, colleagues, and people she touched through her love, enthusiasm, and kindness. Linda was thoughtful and generous to all. She reminded us all that love of family and friends is the most important thing on which to build a joyful life.

Kathlyn McDonough, '80, '93

Kathlyn McDonough, passed away at El Camino Hospital on January 15, 2018, from complications due to metastatic ovarian cancer. She is survived by her father Les McDonough, her sister Jennifer Clark, her niece Angela Clark, and her beloved husband, Dennis Yamamoto. Kathy was born at Saint Joseph's Hospital in Tacoma, WA on February 19, 1955 to Les and Olive McDonough. She graduated from Eisenhower High School, Yakima, WA. Kathy was educated as a pharmacist, first obtaining her undergraduate BS Pharm degree in 1980 and later completing her PharmD degree in 1983 at the UW School of Pharmacy. After obtaining her undergraduate degree, Kathy practiced as a clinical pharmacist at Group Health Cooperative in Bellevue, WA. She then went back to the UW to get her PharmD and then worked for 11 years as a clinical pharmacist at the VA Palo Alto, CA where she became board certified in psychiatry. Kathy was passionate about her research and career in pharmacy. She was energized and rewarded by her work with patients and new students. A clinical hospital pharmacist most of her career, and recently got her dream job researching drug/drug interactions at First Databank. Kathy's colleague, Joanie Kapusnik-Uner, group director at First Databank, wrote, "Working with Kathy was one of my great professional pleasures—initially working on Drug-Lab test interactions, watching her sort through literature on chemical lab test reagents; then on to Drug Indications and evidence for off-label drug use; and in the last few years working with her on cutting edge drug-drug interactions ideas that we are implementing now that will keep patients safer into the next generation." Kathy was kind, compassionate, generous, curious about many things, and was the greatest friend. She loved dance especially the San Francisco Ballet and Pacific Northwest Ballet; to dance including ballet, Zumba, and Bollywood; to read; to read cookbooks and to cook; good food; really good food; and great food! She loved chocolate, apricots, avocado, Chanterelle mushrooms,



cheese and a nice wine. She loved the Saguaro cactus, the views, and quiet stillness of the Sonoran Desert near Tucson, AZ. Kathy loved life. As she said in last year's Christmas card, "Cherish every Moment."

Michael B. Fisher, '98

Michael B. Fisher, 48, of Broad Brook and formerly of Enfield, Connecticut, passed away on Tuesday, December 5, 2017. Michael was born March 17, 1969, in Springfield, Massachusetts, the son of Mary R. (Faust) Fisher of Enfield and the late Barry D. Fisher. Michael joined the graduate program in the Department of Medicinal Chemistry in 1993 and graduated with a PhD in 1998. His advisor, Dr. Allan Rettie said, "Mike was a gifted and productive scientist who enjoyed working on drug metabolism enzymes and their catalytic mechanisms. He was my first graduate student and I will always remember him for his humor, work ethic, and intellect." Michael was a passionate scientist in the pharmaceutical industry throughout his professional career. He was a drug metabolism and pharmacokinetic scientist with expertise in drug metabolizing enzyme kinetics, pharmacokinetics (PK), and drug/drug interaction analysis and predictions, and drug discovery strategy to optimize chemical matter to enhance PK properties including blood-brain barrier penetration. Accomplished in his field, he authored numerous publications and emphasized scientific excellence. He had a passion to find new medicines for untreated or poorly treated diseases and conditions, and to improve the efficiency and time lines of pharmaceutical research and development processes. Baseball was another source of Mike's passionate nature and his commitment to his favorite team, the Boston Red Sox, was unmatched. In addition to his mother, Mary, he is also survived by his three beloved children, Dylan, Amanda, and Danielle, all of Simsbury, Connecticut; two brothers, Alan Fisher and his wife, Jeanne of Vernon and Glen Fisher and his wife, Janey of Windsor; his former wife, Jeannine Fisher of Simsbury and several nieces and nephews.



Robert J. Mathers, '61

As we went to press, we learned Robert J. Mathers had passed away on January 17, 2018. Robert was born July 13, 1931 and resided in Stanwood, Washington.



Pharmaceuticals alumna, **Deanna Kroetz**, PhD, '90, was named a Fellow of the American Association for the Advancement of Science, and was among the 396 new fellows. Elected by peers, AAAS Fellows are recognized for meritorious efforts to advance science

or its applications. Deanna is a Professor at the University of California San Francisco faculty in the Department of Bioengineering and Therapeutic Sciences. Her research seeks to understand the contribution of genetic variation to drug toxicity, to identify genetic biomarkers that can be used to guide effective use of drugs in the treatment of cancer and HIV, and to use genetics to unravel the molecular basis of drug-induced toxicity. Deanna has also been named the **UWSOP Pharmacy Alumni Association Distinguished Alumni Award for Pharmaceutical Sciences and Research.**

Tim Lynch, PharmD, '97, '98, was selected to receive this year's **UWSOP Pharmacy Alumni Association Distinguished Alumni Award for Pharmacy Practice.** Deanna and Tim will be honored at the May 3, 2018, Dean's Recognition Reception. The reception follows the annual PAA Katterman lecture featuring Dr. Peter Neumann, Director, Center for the Evaluation of Value and Risk in Health at the Institute for Clinical Research.

Congratulations to CHOICE Institute alumnus, **Scott Strassels**, '78, PhD, PharmD, on his new position as assistant professor in the Division of Trauma, Critical Care and Burn and scientific director of the Center for Surgical Health Assessment, Research and Policy (SHARP). Scott received his PharmD from the University of Arizona and his PhD in pharmaceutical sciences from UWSOP, where he was a post-doc pharmacoeconomics research fellow.



Congratulations to **Glen Schumock**, '89, who was selected as Dean of the University of Illinois at Chicago College of Pharmacy. Glen earned his

baccalaureate in pharmacy from Washington State University and received his PharmD here at UWSOP. He went on to earn an MBA and a PhD from University of Illinois at Chicago, and completed residency and fellowship training both at the UW and at UIC.



In December, the UW Plein Center for Geriatric Pharmacy featured a profile of UW Clinical Associate Professor **Annie Lam**, '95, a Plein Center Geriatric Certificate alumna. Annie shared, "I was attracted to geriatric pharmacy due to the complicated

health issues and unique medication needs of this population. It has been most rewarding to apply what I learn in classroom and clinical clerkships into daily practice." Read more in News on the UWSOP website (www.sop.washington.edu/news).

Congratulations to alumna **Kari VanderHouwen**, '92, owner of Duvall Family Drugs, who was voted President-elect to the Washington State Pharmacy Association (WSPA).



Did you or a family member just welcome a little one? Email Erin Bailey-Sun at ebailey3@uw.edu for your purple UWSOP onesie gift!

Has your class hit a graduation milestone this year? If you would like to create an alumni gathering to celebrate, please contact Erin Bailey-Sun ebailey3@uw.edu.

Don't be shy — tell us what you've accomplished! Your successes inspire and add value to all of us. Send updates and photos to Sarah Guthrie at gu3@uw.edu!

ALUMNI AND FRIENDS



UWSOP Alumni & Friends Reception at ISSX, September 26, 2017

An ode to former Mass Spec director, Bill Howald, UWSOP faculty & alumni wore their buckles to the side for this photo. (Bill always wore his belt to the side so it wouldn't get caught in the instruments!)



Alaska Airlines Dawg Dash, UW Campus, October 22, 2018

Our #HUSKYPHARMACIST team was the largest of the day with over 50 runners at the annual UW Alumni Association 10K/5K event!



Dean's Club Fall Harvest Wine Tasting, Northwest Wine Academy, November 30, 2017

UWSOP Campaign co-chairs welcomed loyal Dean's Club members at this first, very fun Dean's Club event featuring a wine blending lesson and tasting.



PAA Husky Tailgate and Basketball Game February 17, 2018

From L to R: PAA President Gary Harris, '72, Carrol Harris, and Jenny Arnold, '06, teach a new generation of Husky Pharmacists how to throw their Dubs up.



Dean's Scholarship Reception, UW HUB, Seattle February 27, 2018

The family of Bryan, '39, and Bette Wallace made an historic \$2M scholarship gift to UWSOP. L to R: Campaign co-chair Dana Hurley, '97, '00, '04, Catrena Sullivan, the Wallace's niece, Cheri Ryan, Dean Sean D. Sullivan, and Kevin Stadler, their nephew.



Plein Symposium, UW Urban Horticultural Center, Seattle, March 8, 2018

The recent Plein Geriatric Pharmacy Symposium looked at precision medicine for older adults, and more. L to R: Leigh Ann Mike, Shelly Gray, Joy Plein, '51, '56, Keynote speaker and UW alumnus, John Newman, and Zach Marcum.

Pharmacy Alumni Association
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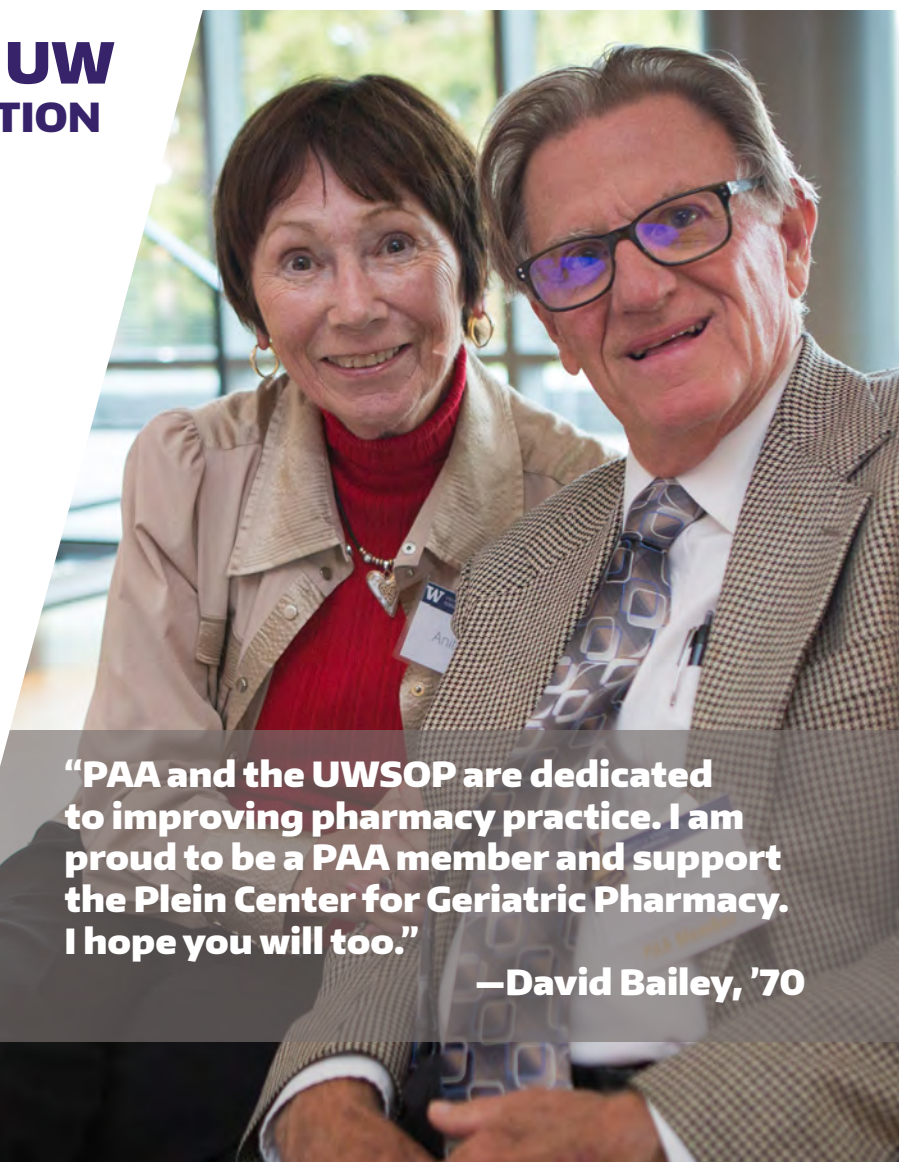
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- Early registration to annual events,
- Support the next generation of School of Pharmacy students, and
- Help UWSOP stay **#1 at the UW for alumni giving back** to their School!

Join PAA or renew your membership at:
sop.uw.edu/PAA

Pictured: UWSOP donors David and Anita Bailey not only make possible the David and Anita Bailey Faculty Fellowship that supports Zach Marcum's geriatric pharmacy research...they are also long-time PAA members.

WE > ME



“PAA and the UWSOP are dedicated to improving pharmacy practice. I am proud to be a PAA member and support the Plein Center for Geriatric Pharmacy. I hope you will too.”

—David Bailey, '70