



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

AUGUST 2014

In This Issue...

- Brain Research
- Pediatric Vaccinations
- Preceptor of the Year
- Other news

Dear Friends and Colleagues:

On July 22 we hosted a reception on the campus of Pacific Northwest University of Health Sciences in Yakima, Washington. The event was attended by more than 100 people, many of whom are alumni who live and work in Yakima and the surrounding area. It was terrific seeing some old friends and making new acquaintances, and we were grateful to share the event with our partners at PNWU.

Despite continual progress in the development of health care technologies, including identification and development of new therapeutic agents and refinement of strategies, disparities in the meaningful access to health care still exist. Disparities based upon gender, socioeconomic status, and geography remain an important obstacle to improving public health. "Health care for some," which is a reality in many regions of the United States, is no longer a tenable proposition. We have the capability to do better; it's simply a matter of will.

Good evidence exists that future health care providers tend to practice in the geographic location in which they were educated. It is this possibility that makes the planned extension of our Doctor of Pharmacy program to Yakima in August 2015 so exciting. We aim to recruit students who specifically want to provide care in areas – including, but certainly not limited to, central Washington – that currently are underserved. Coupled with the continually-evolving role of pharmacists in providing a variety of health care services, the strategic placement of pharmacy practitioners in underserved regions can have tremendous impact on the health and well-being of individuals and communities.

Extending a pharmacy education program to a distant site can be a complicated business. We are extremely fortunate to have outstanding partners at PNWU. We are looking forward to working with them not only to extend our program to their campus, but to engage in a variety of interprofessional endeavors with their

faculty and students. We also are fortunate to have in Yakima an enthusiastic community with excellent and forward-thinking health care providers (and of course a significant number of Cougars). We could not ask for a location that would offer more possibilities for success.

Best wishes,

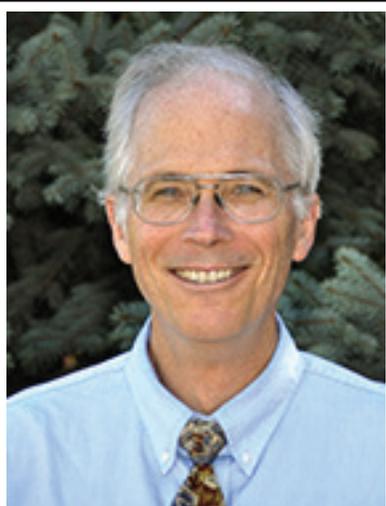


Gary M. Pollack

Dean, Washington State University College of Pharmacy

Faculty scientist receives new funding for brain research

WSU Pharmacy research on a rare genetic disorder may help others seeking to achieve equilibrium



Dr. K. Michael Gibson

Mike Gibson has been conducting research on a rare neurologic disease for over 30 years. He has recently teamed up with researchers at the University of California San Diego (UCSD) for a two-year project to continue his research on a selected neurological brain disease called succinic semialdehyde dehydrogenase (SSADH) deficiency, a defect of the GABA metabolic pathway.

K. Michael (Mike) Gibson is a professor and researcher at the Washington State University College of Pharmacy. Even though Gibson's research focuses on specific and rare disorders, his findings related to gamma-aminobutyric acid (GABA) could have a far-reaching impact for other researchers across the scientific world. GABA is a major inhibitory neurotransmitter in the brain and is involved in many functions beyond Gibson's research.

"The role of GABA is to help maintain chemical equilibrium in the brain," said Gibson. GABA counteracts the effects of certain stimulants, for example, some people avoid food additives such as monosodium glutamate (MSG) because of the "excitatory" effect of the glutamic acid, the amino acid component that makes MSG. The function of GABA is to balance these excitation processes in the brain.

"This project will break new scientific ground on the role of GABA in the human body," wrote Gibson in his research proposal to the National Institutes of Health. His collaborative project with the UCSD researchers was awarded \$432,400 over the next two years through the National Institutes of Health Exploratory and Development Research Grant Program.

Using yeast, researchers at UCSD recently discovered that high levels of GABA prevent cells from breaking down cellular components that help maintain cellular energy in starvation conditions, a process called autophagy. Disruption of selective autophagy pathways results in significant oxidative stress and cell damage. Studies spearheaded by Kara Vogel, a post-doctoral associate working with Gibson, has reproduced the yeast findings in a mouse model of SSADH deficiency. Numerous drugs are available that can reverse disruptions in autophagy pathways that are commonly used, and will be examined in the mouse model with the hope of using them in patients.

“Our combined studies between WSU and UCSD have given us new insight into the biological roles of GABA, and opened up new strategies for treating SSADH deficiency,” Gibson said. “In the long-run, we are likely to learn how to treat other neurological disorders in which GABA levels are abnormal.”

Student pharmacists line up to volunteer for community service

Pilot project will allow pharmacists to give flu shots to children



Dr. Colleen Terriff, Cassandra Song and three vaccination training manikins.

Almost five years has passed since Colleen Terriff, 10 faculty colleagues and a group of 60 student pharmacists worked to help Spokane vaccinate its population against the nasty H1N1 “swine flu” virus.

A public flu immunization clinic was mobilized at the Spokane Arena on a Saturday morning, and the student pharmacists worked alongside student nurses in helping move more than 3,400 people through the clinic that morning. For Terriff, it was one of many times in the past 15 years she was participating in a community emergency response and preparedness activity, although many of the activities were trainings and not live events.

Weighing on Terriff’s mind that morning were the “age limit signs” that had to be waived at the crowd because the student pharmacists

could not vaccinate children.

“Families would stop when they saw the age limit signs and realize that they had to go to another table as opposed to any table that was open,” Terriff said. “So, we could help, but we couldn’t help 100 percent, and I thought, ‘Let’s change that.’”

She is closer to that goal today, with assistance from Doctor of Pharmacy student Cassandra Song, class of 2015, who obtained a \$1,000 grant from the American Pharmacists Association (APhA) Foundation for a pilot project to train pharmacy students to give flu shots to children. Song’s project is an outgrowth of the thesis project Terriff did last year for a master’s degree in public health.

“The training is intended to expand scope, increase confidence and facilitate empowerment in student pharmacists,” Song stated in her grant proposal. Terriff and Song trained the students in March during two-hour sessions that included an interactive lecture followed by role-playing teams made up of a “parent” holding infant manikins, a “pharmacist” administering the vaccine, and an “evaluator” giving feedback to the pharmacist. The APhA Foundation grant paid for three manikins at a cost of \$90 each. Injection pads are placed on the infant’s thigh and that’s where the injections are given.

“The training was awesome,” Song said. “I am passionate about our profession and have watched it evolve since I was a technician in 2002, and even just in the past three years as an intern.”



Student pharmacists practice pediatric vaccinations on manikins during training in March.

Stopping at the pharmacy for a flu shot for their children is often more convenient for working parents than taking the time to visit the pediatrician, Song said.

“Providing pediatric immunizations is a necessity in the community, so I believe it will happen. It’s inevitable.”

Students were so enthusiastic about volunteering for the training the 50 openings were filled within 10 minutes, Song said. She accepted 25 second-year students and 25 third-year students, then started a waiting list.

Song will finish her project report for the APhA Foundation at the end of this year after the trained student pharmacists have the chance to vaccinate the

pediatric population this fall at outreach events. She and Terriff plan to create a model for the training that could be proposed for integration into the pharmacy school curriculum.

Song and Terriff also hope to partner with the Washington State Pharmacy Association to take this training to the state level and someday, the national level.

“Washington state has always been innovative in pharmacy practices and developed the immunization training back in the late 1970s that was then adopted by APhA,” Terriff said. “We are hoping if we are able to offer a new training model from Washington they will consider it.”

College of Pharmacy names 2013 Preceptor of the Year

Toppenish pharmacist honored for work with students



Patrick O'Connor, with award nominator and WSU alumna Jalena Young. Photo by Darren Stankey, Pacific Northwest University of Health Sciences.

Patrick O'Connor, director of pharmacy at Toppenish Community Hospital, has been named the 2014 Preceptor of the Year by the College of Pharmacy at Washington State University.

The award was presented at an open house on the Pacific Northwest University of Health Sciences campus in Yakima. The event brought the two universities together with the local health care community to celebrate the WSU-PNWU partnership to expand health sciences education in the area.

“By sharing your knowledge and experiences, and providing objective feedback, you are helping to shape and discover new capabilities in our student

pharmacists,” said Jennifer Robinson, the WSU college’s student services director, while presenting the award. “We are grateful for the spirit of service you have shown in preparing our student pharmacists for their professional goals.”

O'Connor was nominated by WSU College of Pharmacy 2014 graduate Jalena Young.

“Patrick helped me develop my confidence as a pharmacist that I took with me to all my other rotations,” said Young.

O'Connor graduated from the WSU College of Pharmacy in 1995, and has been a pharmacy preceptor since 2001. Preceptors supervise student pharmacists while they move through a series of six-week rotations that make up their final year of the Doctor of Pharmacy program.

Other College News

FACULTY SCHOLARSHIP

Publications

- Pharmacotherapy Clinical Associate Professor **Lisa Woodard** and two co-authors published, “An evaluation of the current type 2 diabetes guidelines: where they converge and diverge,” in the journal *Clinical Diabetes* (2014;32:133-139).

- Pharmacotherapy Associate Professor **Joshua J. Neumiller** and one co-author published, “Alogliptin in combination with metformin and pioglitazone for the treatment of type 2 diabetes mellitus,” in the journal *Diabetes Metab Syndr Obes* (2014;7:277-288).
- Pharmacotherapy Professor and Associate Dean for External Professional and Continuing Education **Danial E. Baker** published, “Legalization of recreational & medical marijuana: What we don’t know?” in the journal *Hospital Pharmacy* (2014;49(4):319-320).
- Pharmacotherapy Clinical Professor **Terri L. Levien** and **Danial Baker** published, “Simeprevir casules,” in the journal *Hospital Pharmacy* (2014;49(4):376-391).
- **Danial Baker** published, “Approvals, Submission, and Important Labeling Changes for U.S. Marketed Pharmaceuticals,” in the journal *Hospital Pharmacy* (2014;49(4):392-397).
- **Terri Levien** and **Danial Baker** published, “Sofosbuvir,” in the journal *Hospital Pharmacy* (2014;49(5):466-481).
- Pharmacotherapy Research Associate and Specialty Resident in Drug Information Practice **Kyle Ingram**, **Danial Baker** and one co-author published, “Umecilidinium bromide and vilanterol trifenate inhalation powder,” in the journal *Hospital Pharmacy* (2014;49(6):554-562).
- **Danial Baker** re-published, “Approvals, Submission, and Important Labeling Changes for U.S. Marketed Pharmaceuticals,” in the journal *Hospital Pharmacy* (2014;49(6):566-578).
- **Danial Baker** and one co-author published, “Drug Evaluation – Ramucirumab (Cyramza): Updated Evaluation,” in Wolters Kluwer Health’s *The Formulary Monograph Service (FMS)* in July. Wolters Kluwer Health is a drug and health information provider, the FMS is a resource database for hospitals and managed care pharmacists that provides information on recently released and investigational drugs.
- **Danial Baker** and one co-author published, “Drug Evaluation – Timothy Grass Pollen Allergen Extract (Grastek),” in the FMS in July.
- **Danial Baker** and one co-author published, “Drug Evaluation – Short Ragweed Pollen Allergen Extract (Ragwitek),” in the FMS in July.
- **Danial Baker** and **Terri Levien** published, “Drug Evaluation – Abiglitide (Tenzeum): Updated Evaluation,” in the FMS in July.
- **Danial Baker** published, “Drug Utilization Evaluation – Abiglitide,” in the FMS in July.
- Pharmacotherapy Research Associate and Specialty Resident in Drug Information Practice **Jasen Cong** and **Danial Baker** published, “Drug Evaluation – Isavuconazole: Preliminary Evaluation,” in the FMS in July.
- Pharmaceutical Sciences Associate Professor **Salah-uddin Ahmed** with four co-authors published an editorial on the special issue, “Cytokines and Chemokines: Disease Models, Mechanisms, and Therapies,” in the July 2014 issue of the journal *Mediators of Inflammation*.

Presentations

- Pharmacotherapy Clinical Professor and Associate Dean for Professional Education **Brian Gates** and **Joshua Neumiller** with eight co-presenters participated in the presentation, “Multi-method qualitative analysis: How post-positivist qualitative data enriched our hermeneutic findings,” at the conference *Contemporary Interpretive Scholarship: The Institute for Hermeneutic Phenomenology*, June 13-19, 2014, at Indiana University in Indianapolis, Ind.
- Allen I. White Distinguished Professor and Experimental and Systems Pharmacology Chair **K. Michael Gibson** presented a paper at the 2014 NPKUA Conference in Salt Lake City, Utah, on July 11 titled, “Non-Physiological Amino Acid (NPAA) Therapy in Phenylketonuria.”

- Pharmacotherapy Clinical Associate Professor **Colleen Terriff**, Pharmacotherapy Clinical Associate Professor **Angie Stewart**, **Lisa Woodard**, **Terri Levien**, and **Brian Gates** presented at the 2014 Affiliated Residency Workshop conference hosted by the WSU College of Pharmacy for pharmacy residents in Spokane, Wash., on July 14, 2014. Residents participating came from Washington and Idaho, and will be helping to teach student pharmacists in the WSU Doctor of Pharmacy program.
- Pharmaceutical Sciences Research Associate **Maia Avtandilashvili** presented her research, “Uranium Distribution and Concentrations in the Tissues of Whole-Body Donations to the USTUR,” at the annual meeting of the Annual Health Physics Society in Baltimore, Md., July 13-17, 2014.

Service

- Experimental and Systems Pharmacology Professor **Mary Paine** has been named associate editor of *Clinical Pharmacology & Therapeutics* published by Nature. [read more](#)
- **Salah-uddin Ahmed** served as a lead guest editor on the special issue, “Cytokines and Chemokines: Disease Models, Mechanisms, and Therapies,” in the journal *Mediators of Inflammation* in July. [read article](#)
- **Salah-uddin Ahmed** served as a reviewer on two special emphasis panel study sections at the National Institutes of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), an organization of the National Institutes of Health.
- **Salah-uddin Ahmed** served as an expert reviewer for The Austrian Science Fund (FWF) grants. [FWF website](#)
- Pharmacotherapy Clinical Professor and Associate Dean for Advancement **Linda Garrelts MacLean** has been appointed to the board of trustees for the American Pharmacists Association.

Grants

- Pharmaceutical Sciences Assistant Professor **Gregory Poon** has been awarded \$510,364 over three years from the National Science Foundation for the project, “Molecular basis of DNA specific and non-specific site recognition by ETS transcription factors.”
- Experimental and Systems Pharmacology Clinical Research Professor **Vanessa González-Pérez** has been awarded a travel grant to attend the SACNAS National Conference in Los Angeles, CA on October 17, 2014.
- Experimental and Systems Pharmacology Postdoctoral Research Associate **John Barr** has been awarded a travel grant for \$600 plus complimentary meeting registration to attend the 19th North American / 29th JSSX Meeting to be held in San Francisco from October 19-23, 2014.

Awards

- Doctor of Pharmacy Preceptor **Patrick O’Connor** has been named the 2014 Preceptor of the Year by the WSU College of Pharmacy.

STUDENT ACHIEVEMENT

Doctor of Philosophy (Ph.D.) students

- **Liz Duenwald** and **Kari Gaither** were featured in a an article by Katie Ross in the July 3, 2014 edition of the Spokane Journal of Business. Duenwald and Gaither were interviewed about their graduate research fellowship awards from the National Science Foundation. [read article](#)
- **Brandon Gufford** has been awarded a travel grant totaling \$600 plus complimentary meeting registration to attend the 19th North American / 29th JSSX Meeting to be held in San Francisco from October 19-23, 2014.

Doctor of Pharmacy (Pharm.D.) students

- **Evelyn Tan** with faculty co-author **Lisa Woodard** and one other published, “An evaluation of the current type 2 diabetes guidelines: where they converge and diverge,” in the journal Clinical Diabetes (2014;32:133-139).
- **James Leonard** with faculty co-authors **Kyle Ingram** and **Danial Baker** published, “Umecilidinium bromide and vilanterol trifenate inhalation powder,” in the journal Hospital Pharmacy (2014;49(6):554-562).
- **James Leonard** with faculty co-author **Danial Baker** published, “Drug Evaluation – Ramucirumab (Cyramza): updated evaluation,” in the FMS in July.
- **James Leonard** with faculty co-author **Danial Baker** published, “Drug Evaluation – Timothy Grass pollen allergen extract (Grastek),” in the FMS in July.
- **James Leonard** with faculty co-author **Danial Baker** published, “Drug Evaluation – Short Ragweed pollen allergen extract (Ragwitek),” in the FMS in July.

Coming Events

- September 21, 2014
U.S. Transuranium and Uranium Registries Associate Research Professor **Sergei Tolmachev** has been invited to present research findings at the 2014 Radiation Research Society Meeting in Las Vegas, Nev.
- October 17, 2014
Vanessa González-Pérez has been invited to present, “The building blocks to become a successful leader: Identifying motivation and strengths, approaches to time management, increasing productivity, and application of transferable skills,” at the Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) National Conference in Los Angeles, Calif.



College of Pharmacy

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