



UNIVERSITY of MARYLAND  
SCHOOL OF PHARMACY

# From the Chair's Desk

News from Paul Shapiro, PhD  
Chair, Department of Pharmaceutical Sciences

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## PSC Grad Gathering

Mark your calendars for Sept. 22 for PSC's second Grad Gathering in Pharmacy Hall. A formal invitation will follow.

Dear colleagues,

I hope you are enjoying your summer so far. The Department of Pharmaceutical Sciences (PSC) continues to be productive and forward thinking while also enjoying the warm weather and longer days. This issue of our newsletter includes highlights from the spring semester, including the Drug Discovery Symposium that PSC hosted with Johns Hopkins University in February, which provided an open forum for scientific exchange and interactive communication among students, postdocs, and faculty at both of our institutions.



This summer we are excited to host the regional meeting of the AAPS Drug Discovery and Development Interface (DDDI) Section on Aug. 4. The meeting is a forum for drug discovery and preclinical scientists in the pharmaceutical field to discuss the most relevant topics in drug design and discovery. Eminent speakers from industry, academia, and regulatory agencies will share their views on formulation support in drug discovery, early phase drug development, industry trends, and academic collaborations benefiting discovery/development interface. I hope you will consider joining us for the meeting. [Click here for more information.](#)

And on Sept. 22, we will host our second PSC Grad Gathering at the School of Pharmacy for alumni and former postdocs. Alumni, mark your calendars and watch your in-box for more information in the coming weeks.

Sincerely,

[Paul Shapiro, PhD](#)

Professor and Chair

Department of Pharmaceutical Sciences

## Study Links Common Gene Mutation to Increased Risk for Large Artery Stroke

[Patrick Wintrode, PhD](#), associate professor in PSC, recently collaborated on a large, multinational study that linked a single amino acid variant in the protein coding gene SERPINA1 to an increased risk for large artery stroke. Published in *Proceedings of the National Academy of Sciences (PNAS)*, the study leveraged Dr. Wintrode's expertise in hydrogen-deuterium exchange mass spectrometry to characterize the amino acid substitution, which occurs in the protein alpha-1 antitrypsin (AAT) and was previously believed to be a "silent" mutation with no association to any disease in the body. [Read more here...](#)



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## CERSI Conference Shows Quality is Key in Patient-Centric Drug Development



The School of Pharmacy welcomed more than 150 researchers from across academia, government, and industry to Pharmacy Hall in May for "Dissolution and Translational Modeling Strategies Enabling Patient-Centric Product Development," a multi-day conference organized by the University of Maryland Center of Excellence in Regulatory Science and Innovation in collaboration with the Food and Drug Administration. To help address regulatory agencies' need for a patient-centric assessment of drug product quality in today's global pharmaceutical environment, the conference featured numerous presentations and breakout sessions that aimed to help attendees better understand the use of dissolution and modeling/simulation approaches in drug product approvals and highlight novel approaches for developing new dissolution testing methods. [Read more here...](#)

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## Annual Research Day Showcases Students' and Trainees' Work



Dozens of faculty, staff, and students at the School of Pharmacy convened in Pharmacy Hall on April 12 to attend the School's annual Research Day. Designed to highlight the latest research from the School's students and trainees, this year's event featured the presentation of the School's annual Andrew G. DuMez Memorial Lecture and offered opportunities for participants to both exhibit their current work and network with potential collaborators. Nearly 80 student pharmacists, pharmacy residents, graduate students, and postdoctoral fellows participated in a poster session during which faculty, staff, and students had an opportunity to network and learn more about the cutting-edge research being conducted by up-and-coming researchers across the School. [Read more here...](#)

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## School of Pharmacy, Hopkins Partner to Host Drug Development Symposium

The School of Pharmacy welcomed more than 200 researchers from across the University of Maryland, Baltimore (UMB) and Johns Hopkins University to the first-ever UMB-JHU Joint Symposium on Drug Discovery on Feb. 24. Organized by [Paul Shapiro, PhD](#), professor and chair of PSC, and Takashi Tsukamoto, PhD, associate professor of neurology and director of medicinal chemistry for the Johns Hopkins Drug Discovery Program, the symposium provided an open forum for scientific exchange and interactive communication among students, postdoctoral fellows, and faculty from two of Baltimore's premier academic institutions. [Read more here...](#)





## Study Sheds Light on Critical Transporter Activation Mechanism

A team of five researchers led by [Jana Shen, PhD](#), associate professor in PSC and co-director of the [Computer Aided Drug Design Center](#), helped settle a long-standing debate surrounding the mechanism of the sodium-proton antiporter NhaA in *Escherichia coli* (E. coli). Published in [Nature Communications](#), their findings demonstrate the power of molecular simulations and provide researchers with an atomic-level view of how ions are transported across the cell membrane via the transport of protons in an opposite direction - a process that was previously impossible to illustrate with other simulation techniques. [Read more here...](#)



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### Kudos!

Our department's faculty and students are regularly recognized at the local and national level for their expertise. Here is a short list of recent accomplishments.

- The article "Allometry Is a Reasonable Choice in Pediatric Drug Development" by **Tao Liu**, a graduate student in the Department of Pharmaceutical Sciences, and **Parima Ghafoori**, a fourth-year PharmD student, was an Editor's Choice Article in the April issue of the *Journal of Clinical Pharmacology*.
- [James Polli, PhD](#), the Shangraw/Noxell Endowed Chair in Industrial Pharmacy and Pharmaceuticals, has received a U.S. Patent for "Compositions and Methods to Evaluate Hepatobiliary/Gastrointestinal Health, Enterohepatic Circulation, and Drug Interactions."
- [Fengtian Xue, PhD](#), assistant professor of pharmaceutical sciences, has been named the School of Pharmacy's American Association of Colleges of Pharmacy's Teacher of the Year.

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### Grants and Fellowships

- [David Goodlett, PhD](#), professor, received a one-year \$18,750 contract from the University of Washington for "Functional Characterization of the Bax-interacting Factor-1 Interactome in Neurons."
- **William Hedrich**, a graduate student in PSC, received a one-year \$20,000 fellowship from the PhRMA Foundation for "The Role of the Constitutive Androstane Receptor in the Treatment of Hematologic Malignancies."
- [Stephen Hoag, PhD](#), professor, received a six-month \$99,999 contract from the National Institute of Pharmaceutical Technology and Education for "Effect of Excipient Variability on the Critical Quality Attributes and Clinical Performance of Opioid Drugs Based on Polyethylene Oxide Matrix Tablets." He also received a two and a half year \$89,746 contract from Battelle Memorial Institute for "Effect of pH of Smokeless Tobacco Products on the Pharmacokinetics of Nicotine in Current Users," and an eight-month \$112,143 contract from the National Institute of Pharmaceutical Technology and Education for "Excipient Risk Assessment Database."
- **Jing Huang, PhD**, a postdoctoral fellow in PSC, received a

seven-month \$30,000 contract from the National Heart, Lung and Blood Institute for "Development and Testing of Novel Empirical Force Field for Molecular Dynamics Simulations that includes Multipoles and Polarizability."

- [Paul Shapiro, PhD](#), professor and chair, received a one-year \$388,174 grant from the National Institute of Allergy and Infectious Diseases for "Evaluation of Novel Substrate Specific Inhibitors of ERK1/2 in the Treatment of Asthma."