



UNIVERSITY of MARYLAND
SCHOOL OF PHARMACY

From the Chair's Desk

News from Andrew Coop, PhD
Chair, Department of Pharmaceutical Sciences

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Dear friends and colleagues,

Happy New Year! 2014 was a productive and enjoyable year, and I want to recognize the talent of every single faculty, staff, and student who makes the Department of Pharmaceutical Sciences (PSC) a dynamic research and educational environment. The successes we enjoy are due in large part to their efforts. Alumni of the PSC PhD program play an important role, too. At the School's Alumni and Friends Reception held during November's annual meeting of the American Association of Pharmaceutical Scientists in San Diego, we discussed our department's strategic goal of further strengthening the career development of our PhD students to uniquely position them with the skills needed for their role as future leaders. It was rewarding to hear the support from our alumni present at the reception, and I look forward to working with all alumni as we continue to enhance our outstanding PhD program in 2015.



[Andrew Coop](#), PhD
Professor and Chair
Department of Pharmaceutical Sciences

Two Graduate Students Awarded Prestigious Meyerhoff Fellowships

Alecia Thomas and Louise Djapgne, PSC graduate students, have been named Meyerhoff Graduate Fellows. Housed at the University of Maryland, Baltimore County, the Meyerhoff Graduate Fellows Program was established in 1996 to increase diversity among students pursuing doctoral degrees in biomedical and behavioral sciences. As a first-year student in the PSC PhD program, Ms. Thomas received a full one-year fellowship from the Meyerhoff Graduate Fellows Program, which

includes tuition remission, insurance coverage, and a stipend. She also participated in a six-week summer workshop hosted by the program to help cultivate her skills as a researcher and writer, and will attend the program's monthly meetings to share her research and learn about the research being conducted by the program's other participants. Ms. Djapgne's fellowship covers expenses associated with traveling to national conferences. She will also attend the program's summer workshop and monthly meetings with Ms. Thomas to learn from and network with other participants in the program. Ms. Thomas and Ms. Djapgne were nominated for the Meyerhoff Program by Sarah Michel, PhD, associate professor and director of the PSC PhD program. [Read more here...](#)

PSC Faculty Member Named Maryland Chemist of the Year

Congratulations to [Angela Wilks, PhD](#), a professor of pharmaceutical sciences and the department's vice chair of research, on her selection by the Maryland Section of the American Chemical Society as the 2014 Maryland Chemist of the Year. Dr. Wilks will receive this prestigious honor at the section's December meeting where she will also give a presentation on her research, which focuses on mechanisms by which bacterial pathogens acquire and utilize heme as an iron source, and their relationship to pathogenesis and virulence. Please join us in congratulating Dr. Wilks on this honor. [Read more here...](#)



Faculty Member Testing New Biomarkers for Fetal Alcohol Spectrum Disorders

[Maureen Kane, PhD](#), assistant professor and co-director of the School's [Mass Spectrometry Center](#), has received a three-year, \$75,849 National Institutes of Health / National Institute on Alcohol Abuse and Alcoholism R15 grant subaward from the University of New Mexico College of Pharmacy to use mass spectrometry to evaluate and measure the presence of biomarkers for exposure to alcohol during pregnancy in meconium - an infant's first stool. Her findings will determine if the biomarkers can reliably identify infants who were prenatally exposed to alcohol, as well as help other researchers determine how exposure to alcohol interacts with exposure to environmental heavy metals found in mine wastes to affect birth outcomes and development in children during the first year of life. For the study, titled "Interactive Effect of Environmental Exposures and Alcohol in the Navajo Birth Cohort," Kane will use mass spectrometry to measure the presence of three biomarkers -- any biological molecule found in an individual's blood or bodily fluids and tissues that indicates the presence of disease, infection, or environmental exposure -- in the meconium of more than 300 newborns from the Navajo Nation: fatty acid ethyl esters (FAEEs), ethyl glucuronide (EtG), and ethyl sulfate (EtS). [Read more here...](#)



SOP Hosts CADD Symposium

The School of Pharmacy welcomed researchers from academia, government, and industry to its Computer-Aided Drug Design (CADD)

Symposium on June 24. Hosted by [Alexander MacKerell](#), PhD, the Grollman-Glick Professor of Pharmaceutical Sciences and director of the School's [CADD Center](#), the symposium presented recent developments in computer-aided drug design and discovery and offered opportunities for researchers throughout the University System of Maryland and beyond to network and discuss potential collaborations. Sponsored by the School of Pharmacy, SilcsBio LLC, and Early Charm Ventures, the symposium featured presentations from a number of the School's faculty. The CADD Center at the School of Pharmacy is one of only a handful of Organized Research Centers at the University of Maryland, Baltimore. It was created to foster collaborative research among biologists, biophysicists, and computational scientists across the University and beyond to aid in the discovery of novel chemical entities with the potential to be developed into therapeutic agents. It is focused on turning basic science into therapeutics that can be used to improve human health. [Read more here...](#)



Conference Highlights New Applications for Top-Down Mass Spectrometry

On June 20, the School of Pharmacy welcomed researchers from academia, government, and industry to "Top-Down Analysis of Antibodies," a conference sponsored by the University of Maryland [Center of Excellence in Regulatory Science and Innovation \(M-CERSI\)](#) and the Food and Drug Administration (FDA), in collaboration with the Waters Corporation. Organized by [Young Ah Goo, PhD](#), research assistant professor in PSC and associate director of the School's Mass Spectrometry Center, and [David Goodlett, PhD](#), the Issac E. Emerson Chair in PSC and director of the Mass Spectrometry Center, this conference spotlighted the use of top-down mass spectrometry to analyze antibodies for the development of new, targeted therapeutics. Top-down proteomics allows researchers to analyze intact proteins in close to native form using a mass spectrometer. Researchers can access the complete amino acid sequence from which the protein is formed, as well as locate and characterize post-translational modifications within the protein. Identifying and understanding these proteoforms and post-translational modifications is crucial to helping researchers develop new drugs to treat a wide range of illnesses. [Read more here...](#)

Kudos!

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

- [Natalie D. Eddington, PhD, FAAPS, FCP](#), dean and professor and executive director of University Regional Partnerships, has been named chair of the American Association of Colleges of Pharmacy's 2014-2015 Research and Graduate Affairs Standing Committee and has been named to the Board of Directors of Monarch Academy, a public charter school in Baltimore City, and has been named chair-elect of the American Association of Colleges of Pharmacy's Council of Deans for 2015.

- [Stephen Hoag, PhD](#), professor, has been named to the Food and Drug Administration's Pharmacy Compounding Advisory Committee.
- [Stephen Hoag, PhD](#), professor, and [James Polli, PhD](#), the Shangraw/Noxell Endowed Chair of Pharmaceutical Sciences, were awarded a United States patent for a method to evade and detect counterfeit drug products.
- **Ahmed Ibrahim, PhD**, postdoctoral fellow, received second place in the Software Shootout competition at the 17th International Diffuse Reflectance Conference.
- [Alex MacKerell, PhD](#), the Grollman/Glick Professor of Pharmaceutical Sciences, received a United States Patent for "Defensin-like Molecules as Novel Antimicrobial Agents."
- [Sarah Michel, PhD](#), associate professor, has been named vice president of the University of Maryland, Baltimore's Faculty Senate.
- [Jia Bei Wang, PhD](#), professor, has been named a standing member of the National Institutes of Health's Surgery, Anesthesia and Trauma Study Section for 2014-2020.
- [Andrew Coop, PhD](#), professor and chair, has been named a fellow of the College on Problems on Drug Dependence.

Grants and Fellowships

- **Heather Boyce** and **Jacky Lin**, graduate students, received Travel Awards from the 17th International Diffuse Reflectance Conference held in Chambersburg, Pa. in August.
- **Lijia Chen**, graduate student, received 2014-2015 Dr. Frank J. Slama Fellowship.
- [Andrew Coop, PhD](#), professor and chair, received a nine-month \$100,000 grant from the Maryland Technology Development Corporation for "UMB425: A Unique Opioid Analgesic with Reduced Tolerance."
- [Stephen Fletcher, PhD](#), assistant professor, received a one-year \$100,000 grant from Maryland Industrial Partnerships for "Lead Optimization of a Bromodomain Inhibitor."
- **Brandy Garzel**, graduate student, received a 2014-2015 National Institutes of Health Chemistry-Biology Interface Graduate Student Training Grant from the University of Maryland, Baltimore and the University of Maryland, Baltimore County.
- [Young Ah Goo, PhD](#), assistant professor, received a three-month \$20,000 contract from MedImmune for "Evaluation of Top-Down Mass Spectrometry Approaches for Intact Protein Analysis."
- [David Goodlett, PhD](#), Isaac E. Emerson Chair in PSC and director of the Mass Spectrometry Center, received a four-year \$1,152,369 grant from the National Institutes of General Medical Services for "MS Diagnostic Bacterial Identification Library." He also received a one-year \$50,000 subcontract from the University of Washington for "Type VI Secretion Effectors and their Role in Fitness during Polymicrobial Infection" and \$50,000 from the National Institutes of Health for "Type IV Secretin Effectors and Interbacterial Competition in Vivo."
- [Hazem Hassan, PhD](#), assistant professor, received \$113,771 from the National Institutes of Health (NIH) for "Method Validation and Sample Bioanalysis for Doxycycline" and \$9,409 from the NIH for "Mechanism of Action of an Alternative Therapy for Cocaine Addiction."

- **Geoffrey Heinzl**, graduate student, received a one-year \$26,000 grant from the American Chemical Society for "Designing Selective Small Module Inhibitors of Bacterial Heme Oxygenase as Novel Antiviralants."
- [Stephen Hoag, PhD](#), professor, received a \$19,000 University of Maryland, Baltimore-University of Maryland, Baltimore County seed grant for "Development and in Vivo Evaluation of a Novel Antimicrobial Agent."
- **Jacky Lin**, graduate student, received a 2014 International Pharmaceutical Excipient Council Foundation Graduate Student Scholarship Award, and received PSC's 2014-2015 Robert G. Pinco Endowment in Industrial Pharmaceuticals Merit Award.
- [Maureen Kane, PhD](#), assistant professor of pharmaceutical sciences and co-director of the Mass Spectrometry Center, received a five-year \$863,438 contract from the University of Kansas Center for Research for "Molecular Determinants of Retinoid Metabolism in Embryonic Tissues and received a six-month \$85,493 subcontract from Aeolus Pharmaceuticals for "Advanced Development of AEOL10150 as a Modical Countermeasure for Pulmonary Injury Associated with ARS and DEARE."
- **Mukul Kelkar**, graduate student, received PSC's 2014-2015 H.A.B. Dunning Research Merit Award.
- [Alex MacKerell, PhD](#), Grollman/Glick Professor and director of the Computer-aided Drug Design Center, and [Fengtian Xue, PhD](#), assistant professor, received \$118,000 from Janssen Biotech for "Structural Biology of BCL-6 Small Molecule Inhibitors."
- [Sarah Michel, PhD](#), associate professor, received a three-year \$1.5 million grant from the Food and Drug Administration for the "Evaluation of Iron Species in Healthy Subjects Treated with Generic and Reference Sodium Ferric Gluconate."
- **Keely Pierzchalski**, graduate student, received PSC's 2014-2015 H.A.B. Dunning Research Merit Award.
- [Jim Polli, PhD](#), the Shangraw/Noxell Endowed Chair in Pharmaceutical Sciences; [Maureen Kane, PhD](#), assistant professor, and [Yan Shu, PhD](#), associate professor, received \$567,053 from the Food and Drug Administration for "Characterization of Epilepsy Patients At-risk for Adverse Outcomes Related to Switching Antiepileptic Drug Products."
- **CS Raman, PhD**, associate professor, received a \$50,000 Institute of Marine and Environmental Technology-Partner Institutions seed grant for "Novel Approaches for Exploring Nanaerobiosis in a Methanogenic Archaeon."
- **Meagan Small**, graduate student, received PSC's 2014-2015 H.A.B. Dunning Research Merit Award.
- [Jana Shen, PhD](#), associate professor, received \$320,000 from the National Science Foundation for "DMREF: Thin Film Biofabrication for Integrated Bio-electronics."
- [Audra Stinchcomb, PhD](#), professor, and [Hazem Hassan, PhD](#), assistant professor, received a \$700,000 U01 grant supplement from the Food and Drug Administration for "Bioavailability Evaluation of Contraceptive Transdermal Drug Delivery System in Humans."
- **Sarah Sushchyk**, graduate student, received PSC's 2014-2015 Dr. Jerome and Mitzie Holen Schwartz Graduate Fellowship in Pharmaceutical Sciences.
- [Peter Swaan, PhD](#), professor and associate dean for research and graduate education, received a ten-month \$25,039 subcontract from the University of Arizona for "Molecular Organization of the Organic Cation-Proton Exchanger, MATE1."

- **Alecia Thomas**, graduate students, received a Meyerhoff Graduate Fellowship from the University of Maryland, Baltimore County.
- [Patrick Wintrode, PhD](#), associate professor, received a two-year \$200,000 grant from the Alpha-1 Foundation for "Modeling Misfolded Z Alpha 1-antitrypsin for in silico Drug Design."
- [Fengtian Xue, PhD](#), assistant professor, received a one-year \$100,000 grant from the Leukemia Research Foundation for "Small Molecule BCL6 Inhibitors for Diffuse Large B-cell Lymphoma."

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