

# Sponsored Research



**PI: Amy Paller, MD, Walter J. Hamlin Professor and chair of Dermatology**

**Sponsor: National Institute of Arthritis and Musculoskeletal and Skin Diseases**

**Title: “Glycosphingolipids Mediate Diabetic Wound Healing Impairment”**

Poor wound healing is a major health issue in insulin-resistant diabetes. Improved understanding of wound pathology and new interventions for impaired wound healing are needed. Paller’s laboratory recently discovered evidence that a glycolipid found on skin cell membranes is increased in diabetic skin; depleting it in diabetic mice leads to normal wound healing. Using novel gene suppressive and biochemical interventions to deplete the glycolipid, Paller’s team will test the reversal of the wound healing defect in diabetic mice and explore how this glycolipid leads to the poor wound healing of diabetes. Through a series of experiments, the scientists will also explore the membrane-based dynamics that impact insulin and insulin-like growth factor-1 receptor signaling in skin. Accelerating wound healing, whether by nano-delivery of gene suppression or small molecule inhibition of GM3 synthesis, could be fast-tracked towards translational application as a new treatment approach for diabetic wounds.

[Read more about this project.](#)



**PI: Stephen Persell, MD, MPH, associate professor of Medicine in the Division of General Internal Medicine and Geriatrics**

**Sponsor: Health Resources and Services Administration**

**Title: “Academic Units for Primary Care Training and Enhancement”**

Working with Deborah Clements, MD, the Nancy and Warren Furey Professor and chair of Family and Community Medicine, Persell will establish an academic program within the Center for Primary Care Innovation. The program will support system-level research to advance primary care training to produce a workforce that can effectively address the behavioral, social, cultural and economic factors that impact health. Professional medical educators and experienced researchers will formally evaluate the existing state of the field, including how to best teach medical students, physician assistant students and primary care residents to care for diverse populations, promote equity in healthcare and learn the skills necessary to become outstanding primary care clinicians in the 21<sup>st</sup> century health system.

The academic program will span all primary care specialties – family medicine, general internal medicine and general pediatrics.

[Read more about this project.](#)



## Welcome New Faculty

[Ryan Drenan, PhD](#), joins as associate professor of Pharmacology. His area of expertise includes examination of the processes regulated by native acetylcholine receptors and how they apply to cognitive processing and neurological disease. Previously, he was assistant professor at Purdue University in the Department of Medicinal Chemistry and Molecular Pharmacology. Drenan earned his PhD in Molecular Cell Biology from Washington University. He then completed postdoctoral training at the California Institute of Technology in the Division of Biology. He is the principal investigator on two National Institutes of Health R01 grants and has published more than 26 peer-reviewed journal articles.