Undergraduate research is a vibrant enterprise at Purdue, introducing students to the challenges and opportunities of real-world discovery. Here, we highlight five undergraduates seeking to push the limits of knowledge by working alongside world-class researchers.

**Devon Ptak** was first exposed to eye diseases while on a mission trip to Honduras in 2010. “Some of the patients permanently lost their vision because many eye diseases have no known cure,” says Ptak, a behavioral neuroscience major. Now, she has received a $1,500 award from Sigma Xi to study retinal dystrophy. “A better understanding of these disease mechanisms can lead to better treatments,” she says. That would improve quality of life for countless people while alleviating financial burdens to societies around the world.

**Sean Kearney** lightheartedly named his biological discovery “MrGordo” after a stuffed pig in the Buffy the Vampire Slayer television show, but his accomplishment is no laughing matter. As part of a course funded by the Howard Hughes Medical Institute, the agricultural and biological engineering major unearthed a novel bacteriophage from a Purdue flowerbed. Annotated with the National Institutes of Health’s GenBank, the phage can be studied by scientists around the world. “The experience taught me to work methodically through problems,” he says.

How did psychology major **Milad Alucozai** become the youngest-ever Purdue chapter member in Sigma Xi, the international science and engineering society? He started in high school, winning research awards and working in Purdue labs. As a freshman, he took a first in the Purdue Research Symposium. Today, he’s researching neurodegenerative diseases in the Purdue Center for Paralysis Research. “What got me in relates to my ability to juggle a rigorous course load, extracurricular activities and still have time to perform serious, meaningful research,” he says.
Ever since she stepped into a laboratory to study how soil bacteria genetically engineer plants, biology major Rebecca Tweedell has been seeing research in a new light. After interning at a Cargill corn mill, she headed to Allergan, where she researched dry-eye disease, an autoimmune disorder. "Each experience taught me new skills that have contributed to my career preparation," says Tweedell, who now works in Prof. Andrew Mesecar's lab. Her next step is a doctorate in microbiology or pathology.

Afghanistan native and lifelong Tippecanoe County resident Silai Mirzoy knows firsthand how socioeconomic status and politics influence access to both food and healthcare, and, ultimately, disease risk. As an intern with Profs. Sophie Lelièvre and Ellen Gruenbaum of the International Breast Cancer and Nutrition project, she's examining the factors that influence what women eat. "I want to help women and children stay healthy regardless of socioeconomic status or culture," says Mirzoy, who will begin medical school this fall.