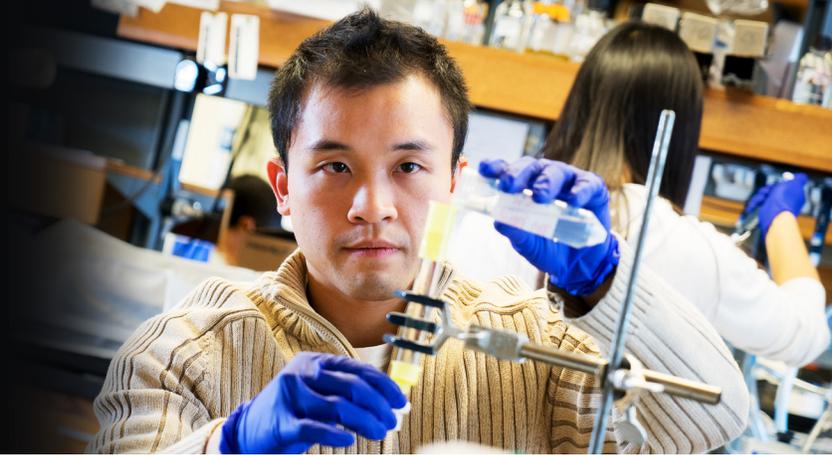


GRADUATE AG RESEARCH SPOTLIGHT



Wai Kit Ma

"The biggest adjustment was the language. We actually learn English in Hong Kong in school, but we don't have enough practice."

Wai Kit Ma, Ph.D., Biochemistry

THE STUDENT: When Kit Ma arrived in Pinetop, Arizona as a foreign exchange student for his senior year of high school, "it was nothing like what I imagined," he says. Instead of the desert, he found green forests and a welcoming small town. In his native Hong Kong, students take a high-pressure public exam to determine their college eligibility and choose their major in advance of their admission. Ma had taken the exam in science. He characterized himself as a curious child who "was always wondering, where does the hair grow from—the tip or the root? That's why I picked science." Ma planned to return to Hong Kong for university study, but he would have lost an academic year. Instead, he stayed in the U.S. and studied both chemistry and biology at Northern Arizona University (NAU). He began doing undergraduate research in a biochemistry lab as a second-semester freshman, and his lifelong curiosity prompted him to raise many questions about the research process. The answers came from NAU faculty member Matthew Gage, who holds a Ph.D. from Purdue. Attracted by the comparatively small size of the department—"I enjoy the fact that I can get to know and interact with everyone," Ma says—he came to Purdue in fall 2010. He rotated through four labs his first year before joining the lab of Associate Professor of Biochemistry Beth Tran.

THE RESEARCH: Ma studies the biochemical mechanism of a class of RNA helicases called DEAD-

box proteins, which are thought to function in a diverse array of biological processes. His specific goal was to study the biochemical function of *S. cerevisiae* Dbp2, a largely uncharacterized member of the DEAD-box enzyme family, and to apply a combination of biochemical and molecular biology methods to define its role in the cell. "We know that this class of enzymes are very important to RNA biology, but they're not well understood," he explains.

PUBLICATION AND RECOGNITION: His advisor has helped shape him as a scientist, especially in his research design, presentation, and writing, Ma says. "When I came here, [Dr. Tran] spent a lot of time with me. She was really patient." Ma has since published five papers, two of which are first author publications, and calls Dr. Tran's advising crucial to that process. Based on his scientific achievements and personal qualities, he earned the 2015 AK Balls Award as the department's outstanding graduate student. "Wow, I was honored," he says. If you look back at who has received it, it's very impressive."

FUTURE PLANS: Ma successfully defended his thesis Nov. 16 and has secured a postdoctoral appointment at Cold Spring Harbor Laboratory in New York beginning in January where he will study RNA splicing with Dr. Adrian Krainer. In the interim, he is returning to Hong Kong for a short visit. Outside of the lab, Ma is an enthusiastic soccer player.