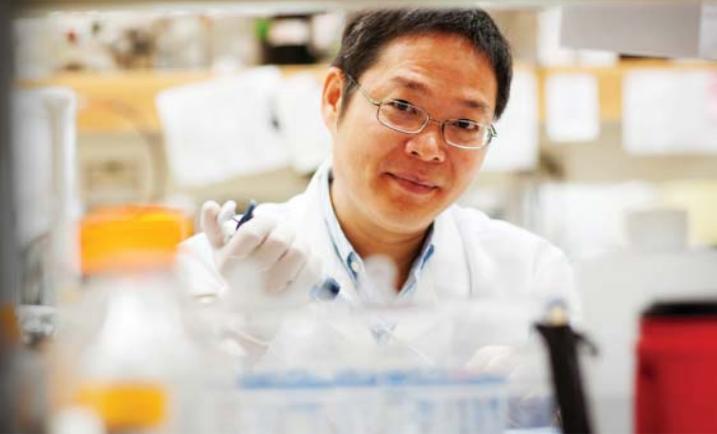


# AG RESEARCH SPOTLIGHT



## Shihuan Kuang

"For people doing science, there's no boundary. Being in the Department of Animal Sciences allows me to explore the utilities of adult stem cells in both human health and animal agriculture."

-Shihuan Kuang, Associate Professor of Animal Sciences

**THE RESEARCHER:** When Shihuan Kuang left his village in mid-southern China for university study, an uncle, who was also a professor, mentioned biology as a possibility. That suggestion eventually led Kuang to a master's degree program in marine biology, where he focused on scallop production; the huge mollusk industry in China is important to the food supply, he notes. He then worked as a research scientist for five years before earning a Ph.D. in physiology and cell biology at the University of Alberta. His interest in neurobiology took him next to a postdoctoral appointment at the Washington University School of Medicine in St. Louis, where he studied motor neurons using animal models, and to a fellowship in the stem cell center at the Ottawa Health Research Institute in Canada. He chose Purdue in 2007: "The academic setting is very collegial," he says.

**THE RESEARCH:** The National Institutes of Health, United States Department of Agriculture, and Muscular Dystrophy Association funded the research that Kuang and his 10-member team conduct in his lab in Animal Sciences. His three-pronged focus is on muscle growth and development, adult stem cell biology and neuromuscular diseases. While this might sound more "medical school" than "animal sciences" to some observers, Purdue is the perfect setting for such research, he says: "I have access to variety of animal species, which is an advantage. I want to use my knowledge to serve both the animal agricultural in-

dustry and do research that relates to human health."

**FROM ANIMALS TO HUMANS:** Kuang's research relies both on technology and animal models, but its human implications are always in sight. "The work itself is important for human health issues, and for disease associated with muscle," he explains. For example, his study of the interaction between muscle and adipose (fat) tissue that creates the marbling in meat has applicability for humans; too much fat in human muscle can lead to obesity and, in turn, to chronic diseases.

**PUBLIC INTEREST:** When Kuang's team published results that demonstrated improved efficiency of stem cells on muscle repair, he received emails from patients all over the world, expressing hope that the research would lead to better clinical treatment of certain muscle diseases. "This makes me very encouraged," he says. "You feel like your research is doing something useful for other people."

**TAKING WORK HOME:** Kuang admits—and says his wife would confirm—that he has a hard time leaving work: "I think about all the science in my brain when I go home," says the father of two sons. Overseeing a vibrant, large lab and maintaining support for it in a struggling economy is a challenge that leaves little time for hobbies, he says, but he does miss fishing.