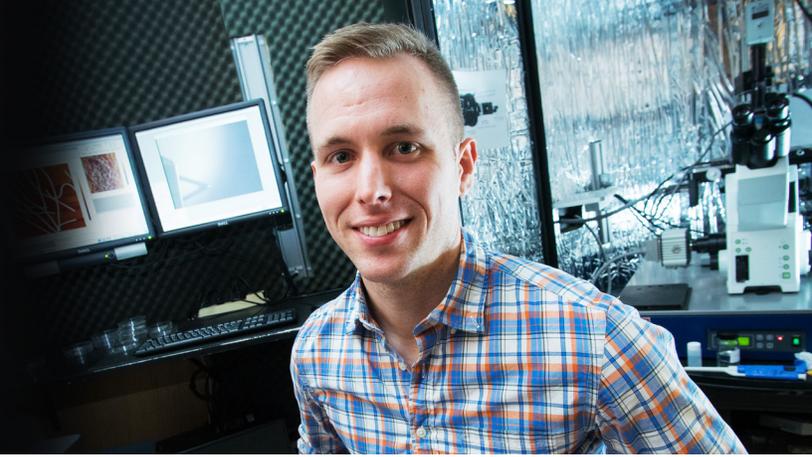


GRADUATE AG RESEARCH SPOTLIGHT



Jay Gilbert

"I like thinking about things in a different way. The more I'm able to push the boundaries, the more excited I get about doing this type of work."

Jay Gilbert, Ph.D. Candidate, Department of Food Science

THE STUDENT: In his small hometown in northern New Hampshire, Jay Gilbert aspired to be a chef. "I grew up cooking and always had a passion for food," he says. But later in high school Gilbert also developed an affinity for science, and by Googling "food careers," discovered he could combine the two. His path to a bachelor's degree in Food Science and Technology at the University of Massachusetts Amherst included internships at PepsiCo and ConAgra Foods. He came to Purdue in August 2013 to work with Owen Jones, assistant professor of food science. Part of Purdue's appeal was the department's welcoming environment, Gilbert says: "You can get to know people. Students are willing to talk about their research. An open and collaborative space is exciting to be a part of."

THE RESEARCH: Gilbert's research focuses on alternative applications for whey proteins in such areas as packaging and biomedicine. For example, biodegradable films aren't fully utilized because their physical properties are poor compared to their plastic counterparts, Gilbert explains. He has explored how adding protein into biodegradable packaging might improve its properties and promote wider usage.

STEM CELLS IN FOOD SCIENCE?: Gilbert's research took a surprising turn when he became intrigued by research that suggested human stem cells grow better on protein surfaces than on tissue culture plastic that is normally used for this purpose. Such research allows

him to collaborate with people outside of his discipline: "Even though I'm in food science, I'm doing things that aren't typically performed by food scientists," he says. Here, his advisor's relatively young career at Purdue proved an advantage, Gilbert adds: "We have an excellent working relationship and he gave me a lot of leeway to take my research into different areas. When I took the idea of stem cell research to him, he thought it could be a really cool project." Gilbert reached out to one of the labs doing this work in Australia, which led to an Australia Endeavour Research Fellowship at Swinburne University of Technology from January to July 2016. "Melbourne was the biggest city I'd ever been in," he says. "I absolutely loved it." Gilbert was also awarded both a National Science Foundation Graduate Fellowship and a Department of Food Science Industry Associates Fellowship to support his research.

IFTSA CONNECTION: Gilbert has been active in the Institute of Food Technologists Student Association, including as its president from 2014 to 2015. "I found it to be a great complement to my academic career," he says. "It also has helped me connect with a much broader food science community around the world." Now in the final, writing stage of his Ph.D., Gilbert expects to look for a product development role in the food industry next year. Although he doesn't rule out a faculty position and opportunities to mentor students in the future, he says, "for now, it's good for me to understand the food industry a bit more."