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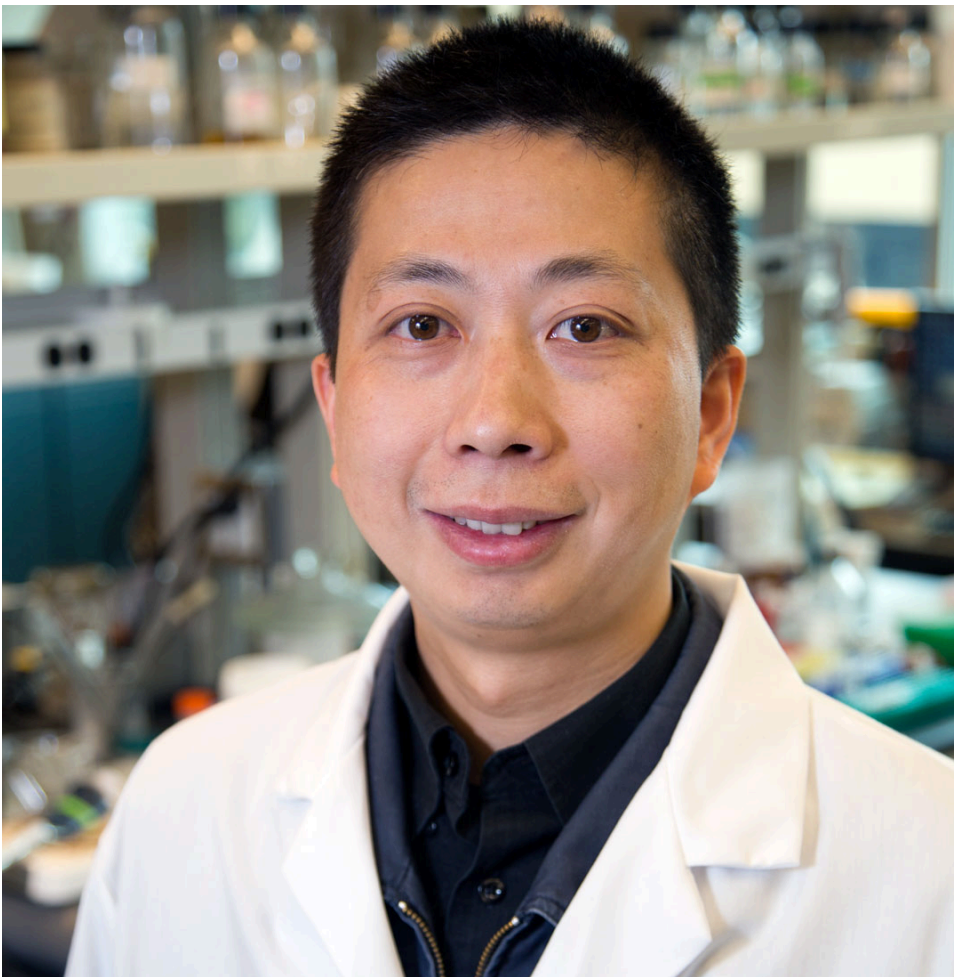


USU Engineering Study Wins Support from American Heart Association | College of Engineering

12/10/2015

Dec. 10, 2015 – The American Heart Association is supporting a new study at Utah State University where researchers are developing a technology that may help the human body better protect itself against cardiovascular disease.

Associate Professor of Biological Engineering Jixun Zhan is the chief scientist behind the new study. He and his team are using bacteria to synthesize some of the naturally-occurring compounds found in plants that our bodies already use to combat heart disease.



One such compound is resveratrol – a type of natural phenol found in the skin of grapes, blueberries, raspberries and peanuts – which has been shown to have cardioprotective, anti-inflammatory, anticancer and other health-promoting properties.

Zhan has demonstrated that resveratrol and other plant natural compounds can be synthesized using bacteria, without the time-consuming methods of conventional plant cultivation.

“Our plan is to engineer probiotic lactic acid bacteria to produce cardioprotective plant-natural products,” said Zhan. “These probiotics could be ingested in dairy products, for example, and would become normal components of intestinal microflora – the ‘good’ bacteria that live in our guts – continuously supplying cardioprotective molecules such as resveratrol in the human body.”

Zhan is a pioneer in the emerging fields of metabolic engineering and combinatorial biosynthesis. His research has gained national attention in recent years. Beginning Jan. 1, he will receive an official sponsorship from the American Heart Association with a grant of \$140,000.

He said the funding will allow him to investigate probiotics as new hosts for natural product biosynthesis and establish a novel approach to enabling self-supply of cardioprotective agents in the human body.

“Cardiovascular disease is a leading cause of death in the United States and worldwide,” said Zhan. “I am glad to have this opportunity to work with the American Heart Association to find an economical and efficient way to fight cardiovascular disease, which will contribute to the organization’s mission of building healthier lives, free of cardiovascular diseases and stroke.”

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Media Contact:

Matt Jensen

College of Engineering - Utah State University

435-797-8170

matthew.jensen@usu.edu

@EngineeringUSU