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Ohio University College of Arts & Sciences

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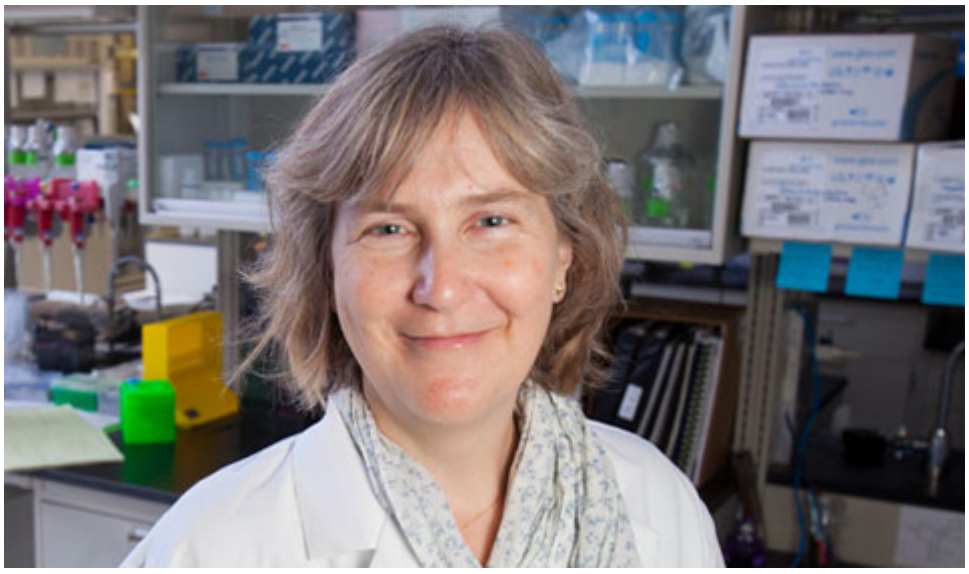

Dr. Jennifer Hines

Ohio University Chemistry & Biochemistry professors **Dr. Jennifer Hines** and **Dr. Stephen Bergmeier** recently received a $430,000 award from the National Institutes of Health for medicinal chemistry studies targeting a molecular switch to treat bacterial infections.

Dr. Stephen Bergmeier

“Globally, bacterial infections pose a significant threat to human health, especially when the bacteria are resistant to current medicines.” says Hines, principal investigator on the project. “With this research, we hope to develop an entirely new class of treatments that help address this drug resistance problem.”

Hines and Bergmeier, who also are faculty in the Molecular and Cellular Biology program, will lead a team of undergraduate and graduate research students to design, synthesize and test small molecules aimed at disrupting the T box riboswitch in bacteria. This unique on/off regulator, made entirely of RNA, is essential for survival of certain disease-causing bacteria which makes it an excellent target for drug discovery studies.

“RNA is chemically very similar to DNA, but targeting RNA alone is extremely challenging due to its molecular flexibility and structure characteristics,” says Hines, “However, that challenge is what makes this project exciting and interesting!”

The grant award is titled *R15 AREA: Optimizing allosteric modulation of noncoding regulatory RNA function*. The outcomes from this NIH-funded project will help in the design and development of new antibacterial medicines.

“Another important aspect of the project,” says Hines, “is that the research experience will hopefully inspire students to pursue biomedical careers and discover solutions for tomorrow’s public health.”