

Abstract Submitted
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Bridging biology, physics and research through high school – university outreach JEREMY RUMMER, SAM SPEAKS, KAITLYN FLANIGAN, NYA FEINSTEIN, Grandview Heights High School, CHRISTOPHER PIERCE, ERIC MUMPER, BRIAN LOWER, STEVEN LOWER, RATNASINGHAM SOORYAKUMAR, The Ohio State University — An outreach program for high school teachers and students and the Ohio State University has been created through support from the National Science Foundation. In this program, participants learn to use magnetic trapping devices to isolate and enrich magnetotactic bacteria (MTB) from environmental samples and study the underlying physics that describes these organisms and their propulsion. With input from associated faculty and graduate students from the Departments of Physics and Earth Sciences at Ohio State, the high school teachers develop interactive STEM curricula that use MTB as a platform for their own students. Teachers also learn to use their own magnetic traps and portable magnetic systems developed for this type of outreach. This portable unit runs on a standard electrical outlet (or a car battery) and uses a handheld Xbox controller for real time bacteria manipulation as well as projecting images of student - collected swimming MTB onto a screen. These activities use a fun, familiar device, like an Xbox controller to create connections between varying “difficult” concepts in biology (e.g. cellular structure, molecular genetics) and physics (e.g. magnetism, thermal motion, Archimedes’ principle). An update on the activities and progress over the past year and a half will be presented.

Jeremy Rummer
Grandview Heights High School

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