

1135-D5-3097 **Aaron Wangberg*** (awangberg@winona.edu). *Inquiry in Multivariable Calculus using tangible surfaces.*

Raising Calculus to the Surface (NSF DUE 1246094) utilizes dry erasable tangible surfaces, measurement tools, and small group activities to let students explore and discover multivariable calculus concepts prior to formal lecture. By providing access to various representations of multivariable functions, students are able to seek answers to important questions, propose and discuss possible conjectures, and contribute their knowledge to the course even before knowing formal definitions. In this talk, we'll share the experiences of several instructors who used the materials and highlight how the project has helped them incorporate inquiry and student contributions into their classrooms. (Received September 26, 2017)