

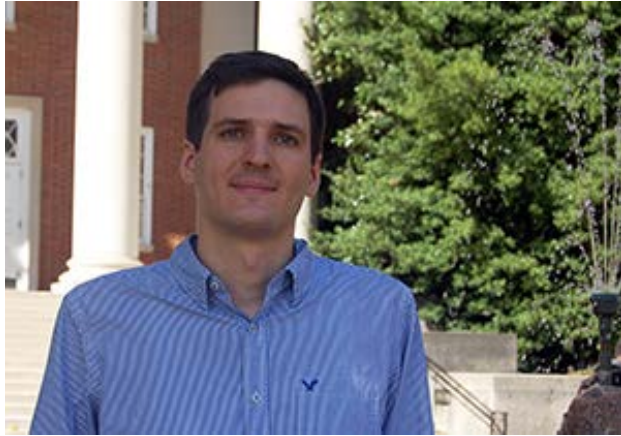
Stephen Bangerth

AY 2017-18 All-S.T.A.R. Fellow

A. James Clark School of Engineering

Department of Mechanical Engineering

5th year Graduate Student, RA



I have been a graduate teaching assistant for ENME 436 and ENME 423, which are related to energy conversion and sustainability. In these courses, I assisted Prof. Ohadi in developing course design projects that address real life challenges and serve as remarkable learning experience for students. A major theme in these projects has been the promotion of environmental sustainability in accordance with UMD's Climate Action Plan. My dedication, however, did not stop when the semester ended and I continued working with UMD Facilities Management (FM) on

implementing energy conservation measures for a building on campus that we had investigated in class. Through my perseverance, energy worth \$38,887 in utility bills has been saved to date and savings continue climbing. Full implementation of the proposed measures will lead to a reduction in energy consumption worth \$230,000 per year. I have presented this work – which is not part of my Ph.D. thesis research - to an interested audience at the Appalachian Energy Summit 2016 and the ASHRAE Winter Conference 2017. Impressed with the achievements, FM has since given opportunities to multiple UMD undergraduate and graduate students to perform energy modeling for buildings on campus which led to the discovery of energy savings potentials worth almost \$1,000,000 per year. This success has been a transformative experience for me as a graduate assistant by proving how design projects can actually become relevant outside of the classroom and make a difference to the environment and the campus community.