## MAE Seminar SERIES

Thursday, October 28 4:00 pm

KNOX 04



Dr. Tamy Guimarães (she/her) Mechanical Engineering Pennsylvania State University

## IMPROVING FLUID FLOW EXPERIMENTS THROUGH INSTRUMENTATION DEVELOPMENT

## ABSTRACT

In order to tackle the challenges in increasing efficiency and safety of machines, improvements on the experimental setups and measurement techniques used for flow analysis during research and development phases are extremely important, as well as enhancing simulation and computation capabilities that precede the testing phases. Highly customized instrumentation, such as pressure probes, rakes, and test articles with integrated sensors are amongst some of the technologies that have improved measurement techniques in the past few years. With the development of new materials and additive manufacturing techniques, these will play an even bigger role in the future of experimental research. The main focus of the Guimarães Instrumentation, Measurement, and Advanced Sensing Laboratory (GIMAS Lab) will be to investigate these challenges in experimental research.

## **BIO SKETCH**

Dr. Tamy Guimarães has recently joined the Department of Mechanical Engineering at Penn State as an Assistant Professor. She received her Ph.D. in Mechanical Engineering from Virginia Tech in 2018 and then worked in Germany as a postdoctoral researcher (Institute for Fluid Mechanics and Aerodynamics at the Bundeswehr University Munich) and as a Business Development Manager at Vectoflow, a start-up which develops flow instrumentation using additive manufacturing. Her research interests are focused on improving experimental techniques and measurements for fluid mechanics, mainly on gas turbine flows.

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University at Buffalo Department of Mechanical and Aerospace Engineering School of Engineering and Applied Sciences