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Service-learning and Engineering: Design Projects That Promote Inclusion and Independence

Matthew T. Siniawski

Loyola Marymount University, matthew.siniawski@lmu.edu

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Faculty Pub Night – Spring 2016

Date: January 19, 2016

Speaker: Matthew T. Siniawski



About the Presenter

Matthew T. Siniawski is an Associate Professor of Mechanical Engineering at LMU. He has advised over 40 different senior capstone project design teams since 2004, and is particularly interested in the design of assistive devices for children with disabilities. He has been the lead advisor since 2012 on various service-learning projects in partnership with WISH Charter School, a local school dedicated to inclusive education. He is an active proponent of service-learning and is interested in understanding how such experiences impact the technical and professional development of engineering students. He teaches various courses in engineering design and machine design and is the lead faculty coordinator for the capstone design projects. He is also a co-advisor of the LMU student chapter of Engineers Without Borders. He was a recipient of the 2014 American Society for Engineering Education ERM Apprentice Faculty Grant and the 2010 Society of Automotive Engineers Ralph R. Teetor Educational Award. He has been an ASEE Campus Representative since 2014 and was one of the committee members who started the ASEE CED Film Festival Student Film.

About the Presenter's Work

Engineering students at LMU have been designing assistive devices for children with disabilities since 2012. These projects have been done in partnership with WISH Charter School, which is part of the LMU Family of Schools, and is dedicated to providing an inclusive educational environment for all. Design

projects all begin by identifying a particular need of one of the children at WISH. Matt and his students incorporate human-centered design thinking processes and tools throughout the product development cycle. They work very closely with the children at WISH, their parents, teachers, and physical therapists in order to optimize the design to meet their needs.

Throughout the past couple of years, Matt has begun studying how these projects impact the professional and technical development of LMU's engineering students. Matt and his students have recently published a few papers highlighting the results of their findings. In addition, engineering students have entered international design competitions and created videos of their projects.