MAE Seminar Series

Village Drill: A Case Study in Engineering for Global Development

Thursday,
March 1
3:30 pm
Knox 110

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ABSTRACT

This presentation is about providing access to clean water. It introduces the Village Drill, which is an engineered product that has – more than five years after its introduction to the market – enabled hundreds of thousands of people across more than 15 countries and three continents to have access to clean water. The Village Drill creates a 15 cm (6 inch) borehole as deep as 76 m (250 feet) to reach groundwater suitable for drinking. The presentation provides facts for the actual development and sustaining of the Village Drill, thus providing a realistic view of the development time, testing conditions, fundraising, and the work needed to sustain the drill through multiple years of sales and distribution. The purpose of the case study is to provide sufficient and frank data about a real project so as to promote discussion, critique, and other evaluations that will lead to new developments that inspire and inform successful engineering for global development.

BIO SKETCH

Christopher Mattson was born and raised in the San Francisco Bay Area where he was surrounded by innovation at an early age. After his training in mechanical engineering he became a practicing engineer and designed multiple products used by over 35 million people. His love for cultures has taken him to more than 40 countries to study or practice engineering design. He spent two years serving the people in the Amazon, 18 months setting up a design center in China, and a year as a Fulbright Scholar at the Loughborough Design School in the United Kingdom, where he studied the sustainability of engineering solutions to developing world problems. He's a professor of mechanical engineering at Brigham Young University. He's a graduate of Rensselaer Polytechnic Institute (PhD 03), an inventor on multiple patents, and he's authored dozens of journal publications on the topics of design and optimization. He is a National Science Foundation CAREER awardee (09), and the recipient of the ASME Ben Sparks Medal (2015) for his work in engineering design education. He was honored by the White House (President Obama) in 2011 when he received the Presidential Early Career Award for Engineers and Scientists (PECASE) for his work in Engineering for Global Development.

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