



College of Engineering
Department of
Mechanical & Industrial Engineering

The Sidney E. Fuchs Seminar Series

3:00-3:50pm, Friday, September 25th, 2015
Frank H. Walk Design Presentation Room



Subsea Engineering: Challenging the Next Generation of Engineers

by **Diana K. Grauer***

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As the oil and gas industry expands, it faces new challenges with each new design and deployment. New developments focus on maximizing recovery from new and existing assets. Subsea engineers continue to push the envelope in the three challenge areas: depth, size and distance. Today subsea fields are approaching 10,000 feet of depth in the lower tertiary trend of the Gulf of Mexico, but we already know that this trend extends to depths approaching 14,500 ft. Tomorrow's subsea fields will tackle harsher environments and stranded reservoirs. The next generation of subsea engineers will need to use and further develop new tools and technology for the next generation of subsea field development and find ways to integrate those new technologies into the aging infrastructure of existing fields.

* Dr. Grauer holds a B.S. degree and a Ph.D. degree, both in Mechanical Engineering from Kansas State University. As Corporate Technology Manager of OneSubsea, Dr. Grauer is responsible for driving and facilitating the OneSubsea NPD process, as well as ownership of the technology competitive landscape and product portfolio map. She leads all long term development efforts, including fundamental research supporting the next generation of subsea technology, by managing collaboration and outreach activities with universities and development partners. Prior to her role in OneSubsea, Dr. Grauer joined the Cameron family, where she served as Engineering Manager of Technology & Engine Development for the Process & Reciprocating Compression Division. In her management role at Cameron, she and her team were responsible for NDP in support of new and aftermarket reciprocating compression products, specifically stationary natural gas transmission engines, turbochargers, and related technology. Prior to Cameron, Dr. Grauer was a Research Engineer jointly engaged by the Advanced Process & Decision Systems and Energy Efficiency & Industrial Technology departments at the Idaho National Laboratory. She worked on the dynamic analysis of Hybrid Energy System integration, as well as large scale system optimization of dynamic combined heat and power generation cycle performance. Dr. Grauer led an effort to develop a scenario analysis capability for evaluation of integrated energy systems for Department of Defense installation energy islanding. Dr. Grauer has also taught courses at Idaho State University, University of Idaho, Boise State University, and Kansas State University.