



# SMART AND ADVANCED MANUFACTURING INNOVATION IN DOE



Friday, October 13, 2017 | 11:00am  
2164 Martin Hall, DeWALT Seminar Room

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### ABSTRACT

Smart manufacturing is an emerging field that combines physical systems with big data and intelligence. It is also referred to as Advanced Manufacturing, Digital Manufacturing, Cyber Physical Systems (CPS), the Internet of Things (IoT) and in Germany "Industrie 4.0." It can mean different things to different people, but essentially it is about smartly extracting information from the system to improve overall efficiency of manufacturing. Smart Manufacturing provides effective and secure human-system platform for better decision making and improving the overall productivity and efficiency of manufacturing across the networked enterprise. The talk will describe the objective of the "smart" manufacturing and the Clean Energy Smart Manufacturing Innovation Institute (CESMII). The talk will cover, among other things, the critical aspects of smart manufacturing that includes, reference architecture, data analytics, verification, validation and uncertainty quantification, standards and protocols, and workforce training and education.

### BIO

Dr. Sudarsan Rachuri is a Technology Manager in the Advanced Manufacturing Office, EERE, and DOE. He is the Federal Program Manager for the CESMII. Prior to joining DOE, he was the program manager at NIST and also a research professor at George Washington University and worked in the CAD/CAE software industry. Dr. Rachuri is serving as Editor-in-Chief of ASTM International's new journal, Smart and Sustainable Manufacturing Systems ([www.astm.org/ssms](http://www.astm.org/ssms)). Rachuri is also a founding member and served as the vice chair of the ASTM subcommittee that develops standards in sustainable manufacturing (E60.13). He also serves on ASTM International's Smart Manufacturing Advisory Committee. Rachuri is the founding member and the Chair of the standards committee on ASME V&V 50 Verification and Validation of Computational Modeling for Advanced Manufacturing. Sudarsan was a member of ANSI Virtual Technical Advisory Group (VTAG) Industry 4.0/ Smart Manufacturing in relation to ISO Technical management Board Strategic Advisory Group (ISO/TMB SAG) and is currently a member of US VTAG for Systems Evaluation Group 7 - Smart Manufacturing. Dr. Rachuri is an ASME Fellow and received the 2016 ASTM International President's Leadership Award.

