NPS Defense Energy Program Presents:

Defense Energy Seminar

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Building Information Modeling (BIM) Based Solutions for Rapid Energy Modeling (REM) and High Performance Buildings

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Guest Lecturer Dr. Krishnan Gowri

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Dr. Krishnan Gowri

Abstract:

Federal, state and local governments are setting ambitious targets to reduce energy use of existing buildings through retrofits. It has been challenging for owners of large building portfolios (i.e. Cities, campuses and DoD installations) to identify and prioritize buildings and retrofit measures with the highest potential, due to the time, cost and expertise required for detailed energy audits. This presentation introduces new Rapid Energy Modeling (REM) capabilities for energy analysis of entire building portfolios with minimal data input. The energy modeling approach allows prioritization of buildings, evaluation of retrofit measures, and agile exploration of scenarios to achieve energy goals at a city-scale. Results are presented dynamically in the context of a digital 3D City Model and customizable dashboards. Additionally, the individual building information models (BIM) can be used for more detailed analysis of prioritized buildings. This approach can contribute to portfolio benchmarking/audit initiatives and can help guide data-driven planning and decisions for large building portfolios. This presentation will highlight a case study based on a project recently completed at the Tinker Air Force Base (Okla.) and workflow for high performance building design.

Biography:

Dr. Krishnan Gowri is a product owner and subject matter expert with more than twenty five years of experience in building science, energy simulation and software development. He is currently the Principal Engineer, Building Performance Analysis Team, Autodesk, Inc. Prior to joining Autodesk, Dr. Gowri spent 19 years at the Pacific Northwest National Laboratory (PNNL) where he rose to Senior Research Engineer leading the Building Energy Codes software development team and Targeted E4 (Energy Efficiency Expert Evaluation) team. Prior to PNNL, Dr. Gowri was an Assistant Professor at Concordia University, Montreal Quebec, teaching courses in Building Science, Integrated Building Design, Structural Analysis, Engineering Mathematics and Technical Drawing.

Dr. Gowri earned his B.E., Civil and Structural Engineering at Annamalai University, India, and his Masters and Doctoral degrees in Building Engineering from the Centre for Building Studies of Concordia University, Montreal, Que. In his spare time, Krishnan enjoys playing tennis, stringing racquets, umpiring matches, gardening and photography.

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