School of Engineering and Mathematical Sciences

Concentrating Solar Power: Capturing the Sun & Creating a Clean Energy Future

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Invited Seminar, Thursday 8th of March, 2012, ROOM C350, 13-14PM.

Abstract

With the energy demands in the world rapidly rising, there is a strong need to tap into all available Renewable Energy sources. One such renewable power source is Concentrated Solar Power (CSP) - which uses mirrors or lenses to concentrate a large area of sunlight, or solar thermal energy, onto a small area. Electrical power is produced when the concentrated light is converted to heat, which drives a heat engine (usually a steam turbine) connected to an electrical power generator. CSP offers a utility-scale, firm, dispatchable renewable energy option that can help meet the nation’s goal of making solar energy cost competitive with other energy sources by the end of the decade. Worldwide, CSP activity is rapidly scaling, with approximately 20,000 megawatts (MW) in various stages of development in 20 countries. The seminar will start with an introduction to CSP systems - its components & thermodynamic properties, after which the technical challenges associated with advancing the state of the art in CSP will be presented. An overview of research activities at Southwest Research Institute will also be presented.

About the Speaker

Dr. Vishwas Iyengar is a Research Engineer in the Machinery program at Southwest Research Institute. Dr Iyengar received his Ph.D. in Aerospace Engineering from Georgia Institute of Technology in 2007. Prior to that, he received his Bachelors and Masters degrees in Aeronautical Engineering from University of Durham in 2001 and 2002 respectively. Dr Iyengar primarily works on all topics related to Gas Turbines & other rotating machinery. Dr Iyengar's research interests include Root Cause Failure Analysis, Computational Fluid Dynamics and Renewable Energy (Wind and Solar). Dr Iyengar has successfully managed and executed several projects related to gas turbines and steam turbines. Dr Iyengar has authored 4 Journal Publications, 20 Peer Reviewed Conference Papers and presented numerous tutorials/lectures.