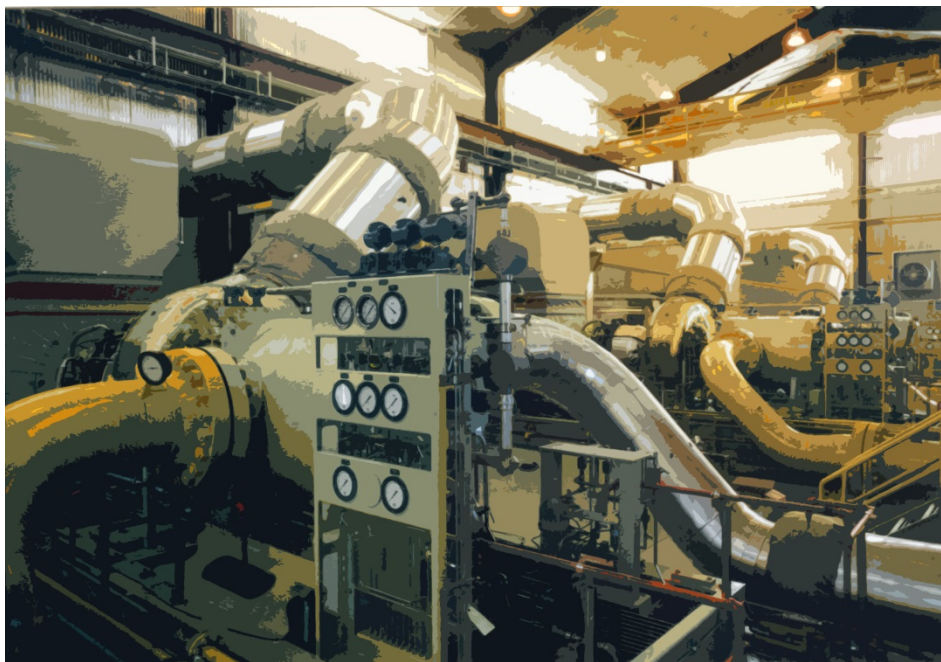

Introduction to Industrial Gas Turbines

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Middle East Turbomachinery Symposium
February 2015

Overview

- Introduction
- Thermodynamics/Brayton Cycle etc.
- Gas Turbine Components and Performance
- Gas Turbine Package Systems
- Applications for Industrial Gas Turbines:
 - Upstream/Midsteam
 - Power Gen, LNG, etc
- Maintaining Performance
 - Inlet Air /Fouling
 - Water Washing
 - Fuel (Gas, Liquid)
- Testing
- Questions

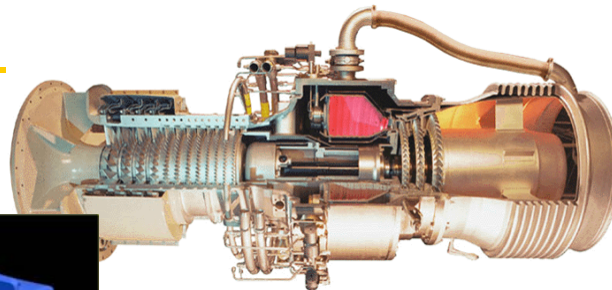
Presenters

Dr. Rainer Kurz is the Manager, Systems Analysis at Solar Turbines Incorporated, in San Diego, California. His organization is responsible for predicting compressor and gas turbine performance, for conducting application studies, and for field performance testing. Dr. Kurz attended the Universitaet der Bundeswehr in Hamburg Germany, where he received the degree of a Dr.-Ing. in 1991, and was elected ASME Fellow in 2003. He has authored numerous publications about turbomachinery related topics, with an emphasis on compressor applications, dynamic behavior, and gas turbine operation and degradation. Dr. Kurz is the chair of the IGTI Oil and Gas Applications Committee, a member of the Gas Machinery Research Council Project Supervisory Committee, the Texas A&M Turbomachinery Symposium Advisory Committee, the Middle East Turbomachinery Symposium Advisory Committee, and the SDSU Aerospace Engineering Advisory Committee.

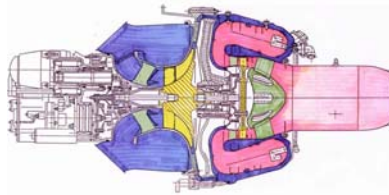
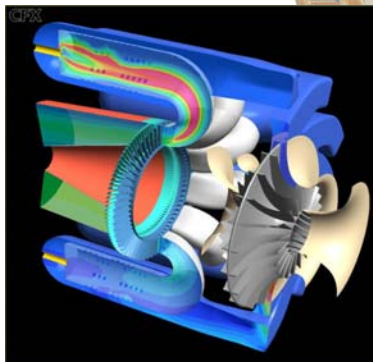
Dr. Klaus Brun manages the Machinery Section at Southwest Research Institute. His experience includes positions in engineering, project management, and management at Solar Turbines, General Electric, and Alstom. He holds two patents (4 patents pending), authored over 80 papers, and published a textbook on gas turbines. Dr. Brun won an R&D 100 award in 2007 for his Semi-Active Valve invention and ASME Oil & Gas Committee Best Paper awards in 1998, 2000, 2005, 2009, and 2010. He was chosen to the "40 under 40" by the San Antonio Business Journal. He is a past member of the ASME-IGTI Board of Directors and a past Chairman of the ASME Oil & Gas Applications Committee, as well as a member of the the Middle East Turbomachinery Symposium Advisory Committee. He is also a member of the API 616, 617, and 691 Task Forces, the Gas Turbine Users Symposium Advisory Committee, the Fan Conference Advisory Committee, and the Latin American Turbomachinery Conference Advisory Committee. Dr. Brun is the Editor of Global Gas Turbine News, Executive Correspondent of Turbomachinery International Magazine, and an Associate Editor of the ASME Journal of Gas Turbines for Power.

Bernhard Winkelmann is the Director of the Gas Compressor Business Unit at Solar Turbines Incorporated in San Diego, California. His organization is responsible for the Design, Manufacturing and Testing of Solar's Up- and Midstream Gas Compressor products. Prior to this position Mr Winkelmann was engaged in Business Development and Management activities in Europe, the Middle East and Africa. Mr Winkelmann attended the Polytechnic University of Bochum where he graduated with a Dipl. Ing degree in mechanical Engineering, specialized in Turbo Machinery Design.

This is a Gas Turbine



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