

INTRODUCTION

Following the successful first nine conferences on turbomachinery held in Erlangen (DE) 1995, in Antwerpen (BE) 1997, in London (GB) 1999, in Florence (IT) 2001, in Prague (CZ) 2003, in Lille (FR) 2005, in Athens (GR) 2007, in Graz (AT) 2009, and in Istanbul (TR) 2011, the tenth will take place in April 2013 in Lappeenranta (FI). The conference will be of primary interest to researchers, design engineers and users of turbomachinery. It is intended to be a primary event for technology transfer across Europe in this field through the presentation of the latest developments and best practice.

SCOPE STATEMENT

The scope of the conference covers from a scientific and engineering perspective, the fluid dynamics and thermodynamics involved in improving the performance, stability and sustainability characteristics in the design, development and operation of axial, mixed flow and radial turbomachines:

Aero-jet engines
Industrial gas turbines, Steam turbines
Compressors and Fans
Hydraulic Turbines and Pumps
Non conventional turbines (wind, Wells, Arrhenius,)

Particular emphasis will be given to the following areas:

Aerodynamic and Hydrodynamic Flows
Turbulent and transitional flows
Two phase and wet steam flows
Particle paths, deposition and erosion effects
Real working fluid flows

Thermodynamics, Heat Transfer, Cooling and Leakage
Heat transfer and turbine cooling
Turbine internal and external (film) cooling flows and losses
The effects of rotation, unsteadiness and temperature non uniformities
Leakage and sealing flows

Unsteady Flows and Interactions
Surge, stall and transients
Rotor-stator interactions and multi-row effects
Components interactions (combustor/turbine, fan/HPC, HPT/LPT)
Vibration, forced response, flutter and aero-elasticity
Separation and cavitation
Aero-acoustics, noise generation and reduction

Turbomachinery Design, Performance and Operation
Design, analysis and optimisation
Performance predictions
Active and passive flow control, including MEMS
Testing, measurement techniques and experimental validation
Operational experience and performance monitoring
Diagnostics, deterioration and residual performance/life prediction

The papers should describe new experimental and/or theoretical research emphasising contributions to theory, design methods and optimisation, reliability and operability aspects, where thermodynamics and/or fluid flow are visible contributors to the analysed problem. For example, the latest experimental and computational developments in analysis of three-dimensional flows, unsteady flows and interaction effects would be of prime interest. Consistent with the objective of European technology exchange, the European Commission strongly encourages researchers involved in EC R&D programmes to take this excellent opportunity to present papers demonstrating the technical progress of their projects.

OFFERS OF ABSTRACTS - PAPERS

Abstracts (1 page) of papers should be received no later than 2 April 2012. Authors are asked to register the category in which their paper should be included in the abstract submission system available on the web:

<http://www.euroturbo.eu>

Selected authors will be invited to submit full papers of up to ten pages, including references and diagrams, by 9 September 2012.

The conference papers will be written and presented in English. All papers will undergo a thorough review process. All offers of papers will be considered by the Organising Committee, but final acceptance will depend on the Committee's decision based on revised printable file and subject to their receipt by 27 January 2013.

Contributors are expected to present their paper at the conference.

PUBLICATION - AWARD

Papers selected for inclusion in the conference programme will be published by Lappeenranta University of Technology (Local Conference Organiser's Institution) in the conference proceedings, which will be issued to the participants at the conference. The volumes will be available for general sale during and after the event. Selected papers of the highest quality will be published in a special volume of the IMechE Journal of Power and Energy. All other papers accepted and presented at the conference will appear on the ETC website within 12 months after the conference. The ETC Best Paper Award will be attributed, during the conference, in recognition of excellence among the best contributions.

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EXHIBITION & SPONSORSHIP

In addition to the conference, there will be a small number of exhibition stands available. There will also be a variety of corporate sponsorship opportunities possible, which will offer substantial promotion and publicity for your organisation. If you are interested in receiving details of the exhibition or sponsorship opportunities, please tick the appropriate box on the reply form. Alternatively, please contact the local organiser, Prof. Dr. Jari Backman, for further details: Phone +358 40 844 8414; Email: etc10@lut.fi

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10th EUROPEAN CONFERENCE ON



15-19 April

2013

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TURBOMACHINERY

Fluid Dynamics and Thermodynamics

Call for papers