



15TH EUROPEAN CONFERENCE ON TURBOMACHINERY

FLUID DYNAMICS AND THERMODYNAMICS



24-28 APRIL 2023 BUDAPEST HUNGARY

CALL FOR PAPERS

EVENT ORGANIZED WITH EVI-GTI



The conference will be of primary interest to researchers, design engineers and users operating in the field of turbomachinery. It is intended to be a key event for technology transfer across Europe through the presentation of the latest developments and best practices.

Following the successful first fourteen conferences on turbomachinery held in

ETC 01	Erlangen (DE)	1995
ETC 02	Antwerpen (BE)	1997
ETC 03	London (GB)	1999
ETC 04	Florence (IT)	2001
ETC 05	Prague (CZ)	2003
ETC 06	Lille (FR)	2005
ETC 07	Athens (GR)	2007
ETC 08	Graz (AT)	2009
ETC 09	Istanbul (TR)	2011
ETC 10	Lappeenranta (FI)	2013
ETC 11	Madrid (ES)	2015
ETC 12	Stockholm (SE)	2017
ETC 13	Lausanne (CH)	2019
ETC 14	Gdansk (PL)	2021

The fifteenth will take place in Budapest (HU) April 2023

SCOPE STATEMENT

The scope of the conference covers from a scientific and engineering perspective, the fluid dynamics and thermodynamics of all kind of turbomachinery in the attempt to improve their performance, stability and sustainability characteristics. Of primary interest are the design, the analysis and the operation of axial, mixed flow, radial and unconventional turbomachines:

Aero-engines and jet engines

Industrial gas turbines, steam turbines

Compressors, fans and blowers

Turbochargers

Hydraulic turbines and pumps

Wind and marine turbines

Aero and marine propellers

Particular attention will be given to the following areas:

Fundamental fluid mechanics

- Turbulent and transitional flows
- Two phase and wet steam flows
- Multiphase 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
- Effects of rotation, unsteadiness and temperature non uniformities
- Leakage and sealing flows
- Combustor turbine interactions

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

- Optimisation techniques and uncertainties quantification
- 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



EUROTURBO
european turbomachinery society



Euroturbo and **EVI-GTI** have decided to hold The European Turbomachinery Conference (ETC), which is successfully taking place since 1995, as a joint bi-annual event. The 2023 ETC conference will be organised by Euroturbo with the **collaboration of EVI-GTI**, who will manage and run an additional **three days parallel session** focused on testing, measurement techniques and experimental validation. Besides the presentation of the papers selected for the conference, this new session will host other presentations and activities, similarly to previous EVI-GTI conferences.



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

IMPORTANT DATES

Abstract Submission Deadline
June 22, 2022

Full Paper Submission Deadline
October 26, 2022

Notification of Recommendation for Acceptance of Revised Full-Length Paper
February 19, 2023

Submission of Final Revised Paper Deadline
March 22, 2023

ABSTRACTS - PAPERS SUBMISSION GUIDELINES

Abstracts (1 page) should be uploaded on the society website no later than **June 22nd 2022**. At submission time, authors are requested to indicate the subject category best fitting their paper focus. Formatting guidelines and requirements can be found on the online submission system available at:

<https://www.conftool.com/etc15/register.php>

Authors of selected papers will be invited to submit a full manuscript of up to **12 pages**, including references and diagrams, by **October 26, 2022**. All papers will undergo a thorough review process. The originality of the submitted manuscript will be ascertained with a plagiarism detection device prior to peer review. Final acceptance will depend on Committee decision based on the revised printable file and subject to its receipt by **March 22, 2023**. Contributors are required to present their paper at the conference.

PUBLICATIONS, INDEXING AND AWARDS

Papers accepted for presentation at the Conference will appear in the proceedings published in electronic format by Euroturbo and BME. The proceedings, issued to the participants at the conference, will be indexed by **Scopus** and will also appear in the **Web of Science** ISI CPCI. Selected papers of top quality will be offered for publication free of charge in the **International Journal of Turbomachinery Propulsion and Power** (<http://www.mdpi.com/journal/ijtp>). All other papers accepted and presented at the conference will appear on the **Euroturbo website** within 6 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

A small number of exhibition stands will be available at the Conference site. There will also be a variety of corporate sponsorship opportunities offering substantial promotion and publicity to your organization. If you are interested in receiving details of the exhibition or sponsorship opportunities, please contact the local organizer.

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International Journal of
*Turbomachinery
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Associazione Termotecnica Italiana (ATI) (IT)
Association Française de Mécanique (AFM) (FR)
Power Engineering Committee, Polish Acad. of Sciences (PL)
Koninklijke Vlaamse Ingenieursvereniging (BE)
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