fan2018

CALL FOR PAPERS

INTERNATIONAL CONFERENCE ON FAN NOISE, AERODYNAMICS, APPLICATIONS AND SYSTEMS

18 to 20 April 2018 in Darmstadt, Germany

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The design of fans has evolved to meet the ever-increasing demands for higher efficiency machines, combined with the requirements for lower noise and high availability. In addition many fans are now being used in safety related applications, such as smoke control in buildings and underground spaces in the event of a fire. Variable speed is now more common, leading to some additional design problems and many existing users are revisiting their plant looking at ways to upgrade the fans. The use of numerical simulation techniques is also becoming an established part of aerodynamic design processes.

This event will be a forum for fan and system designers, manufacturers and operators, with the aim of improving our understanding of fans and their system interaction. The conference Fan 2018 will follow a format with three separate, but complimentary tracks. **www.fan2018.org**

SUPPORTED BY:

CONFERENCE SCOPE

This three-day conference will include keynote lectures and technical presentations. The technical presentations will be organised as three technical tracks, focusing on fan applications and systems, fan noise and fan aerodynamics. All types of fans, such as those used in industrial process, HVAC, electronic equipment, household appliances, automotive and traction fall within the scope of the conference. Conversely, high speed fans in aeronautical propulsion applications will not be included.

For a more detailed breakdown of the topics each track will cover please visit the event website **www.fan2018.org**

The following Key Note Speakers will speak during the conference:

- Andreas Kuhn, TLT-Turbo GmbH, Zweibrücken – “Gotthard Tunnel Ventilation System Design“
- Dr.-Ing. Georg Scheuerer, ISimQ GmbH, Warngau – "Turbomachinery – Past and Future of CFD Simulations"
- Tony Breen, Nuaire Limited, UK – "Standards & Regulation"

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TRACK SCHEDULE

Track One: Fan application and systems

- Compliance with Legislation & Regulations
- Harmonization of Fan Standards Worldwide
- Operation and Maintenance Considerations
- Motors & Drives
- Specialized Fans for different applications
- Retrofit and Upgrading existing fan installations
- Fan System Effect
- Energy related topics (e.g. air curtain effectiveness)
- Case studies (e.g. tunnel ventilation)
- Improving Fan Sizing/Selection
- Fan Retrofits and Replacements for Efficiency
- Structural mechanical aspects (vibration, fatigue and flutter, preventive maintenance, condition monitoring)
- Transient phenomena
- Lessons learnt
- Scaling methods
- Market surveillance

Track Two: Fan noise

- Aerodynamic fan noise Generation Mechanisms
- Structure-borne noise
- Dynamic forces transmission
- Experimental Methods for characterizing noise sources
- Noise source localization
- Design for Low-Noise Fans
- Noise Prediction by analytical/numerical models
- Optimization of Fan Installation to Reduce Noise
- Psychoacoustics

Track Three: Fan aerodynamics

- Development of analytical and computational methods
- Validation and verification
- Application of analytical and computational methods for fan analysis, design and optimization
- Physics of aerodynamic losses
- Inverse Design
- Unsteady CFD simulations including LES and hybrid RANS/LES
- Fan Design for improved efficiency
- Impact of Emerging Technology on Fan Design
- Experimental methods in fan analysis and design

OFFERS OF PAPERS

If you work in this field and think others may be interested in your way of working or the technology being developed, why not share your knowledge and expertise by producing and presenting a paper? The first step is to produce an abstract for your proposed paper.

If your subject of interest is not listed above don't hesitate to submit your abstract.

Abstracts of between 300 to 400 words in English need to be submitted by **11 September 2017.** Please submit abstracts through the conference web site: **www.fan2018.org**

Selected authors will then be invited to submit draft papers of between 6 and 12 pages in length, with draft papers due no later than **20 November 2017.**

The Conference papers will be written and presented in English. Although all submitted papers will be considered by the Organising Committee, final acceptance will depend upon the Committee's decision based on the contents of the final manuscript and receipt by **19 February 2018.** The presenting author of each paper will be entitled to a reduction in their registration fee. Speakers will not be reimbursed any travel or accommodation expenses. All papers will be published in electronic format and in a soft-bound volume of abstracts available to all Conference delegates. Authors are expected to attend the Conference to present their work.

Selected papers will be considered for publication in either the Noise Control Engineering Journal or the Journal of Power and Energy. For further details visit the websites at:

https://www.inceusa.org/publications/noise-control-engineering-journal/

https://us.sagepub.com/en-us/nam/journal/proceedings-institution-mechanical-engineers-part-journal-power-and-energy#description

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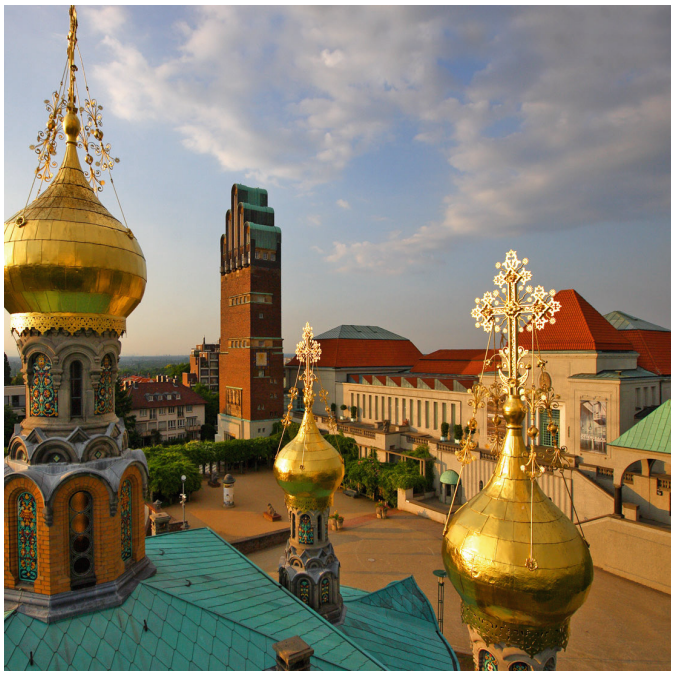
CONFERENCE LOCATION



Darmstadt is a city in the state of Hesse in Germany, located in the southern part of the Rhine-Main-Area. Darmstadt holds the official title "City of Science" as it is a major centre of scientific institutions, universities, and high-technology companies. Darmstadt was formerly the capital of a sovereign country, the Grand Duchy of Hesse and its successor, the People's State of Hesse, a federal state of Germany. As the capital of an increasingly prosperous duchy, the city gained international prominence and remains one of the wealthiest cities in Europe. In the 20th century, industry, as well as large science and electronics sectors became increasingly important, and are still a major part of the city's economy.

CONFERENCE VENUE

The Fan 2018 conference and exhibition will take place at The darmstadtium – science and congress centre. The location is convenient for Frankfurt airport. This venue is modern, well equipped and conveniently located for those travelling to the event both within Germany and internationally.

Wissenschafts- und Kongresszentrum
Darmstadt Schlossgraben 1
64283 Darmstadt (Germany)
Phone: +49 6151 7806-0
www.darmstadtium.de/en/

ORGANISING COMMITTEE

Geoff Sheard (AGS Consulting LLC, USA) – Conference Chairman

Jürgen Schöne (ebm-papst, Germany) – Conference Vice-Chairman

Alain Guedel (CETIAT, France) – Fan Noise track co-chair

Xavier Carniel (Cetim, France) – Fan Noise track co-chair

Alessandro Corsini (Sapienza University of Rome, Italy) – Fan Aerodynamics track co-chair

Thomas Carolus (University of Siegen, Germany) – Fan Aerodynamics track co-chair

Peter Pelz (Technische Universität Darmstadt, Germany) – Fan Application and Systems track co-chair

Mark Stevens (AMCA, USA) – Fan Application and Systems track co-chair

François Bessac (CETIAT, France)

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EXHIBITION AND SPONSORSHIP OPPORTUNITIES

Your involvement with this event is an effective way to get into the minds of key decision-makers, helping you to capture your chosen audience when they are in the frame of mind to do business. Our flexible opportunities allow you to:

- Showcase new products
- Raise awareness of your operation
- Improve perception of your brand
- Influence other organisations' spending plans

The call for exhibitors is available on the event website **www.fan2018.org**. For sponsorship and exhibition enquiries, please email Mrs Celine Cammarata at **celine.cammarata@cetim.fr**

KEY DATES TO REMEMBER

Abstracts due	Monday, 11 September 2017 (Authors will be notified of acceptance within two weeks of submission)
Draft papers due	Monday, 20 November 2017
Review completed	Friday, 22 December 2017
Final papers due	Monday, 19 February 2018
Conference	Wednesday, 18 to Friday, 20 April 2018

CONFERENCE ENQUIRIES

Technische Universität Darmstadt
Chair of Fluid Systems
Prof. Dr.-Ing. Peter Pelz
Otto-Berndt-Straße 2
64287 Darmstadt (Germany)
Email: contact@fan2018.org

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