

# ISABE2017

23<sup>rd</sup> ISABE Conference

3-8 September 2017, Manchester, UK

Hosted by



Rolls-Royce

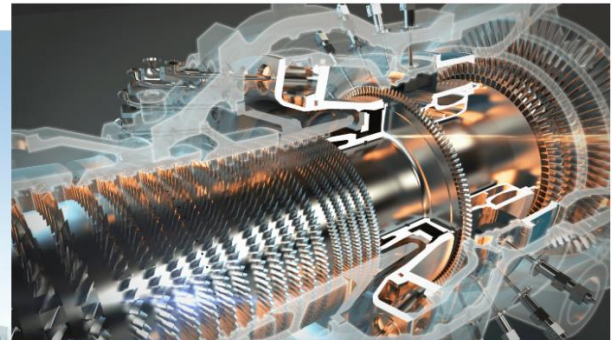
Co-hosted by



Supported by



MANCHESTER  
CITY COUNCIL



## ISABE

The International Society of Airbreathing Engines (ISABE) is an organization that was formed to further the free exchange, on an international level, of knowledge in the field of airbreathing propulsion for flight vehicles.

ISABE has national representatives from more than 25 nations and holds events on six continents.

For more than 40 years, ISABE has produced some of the most memorable and important conferences in the field of airbreathing propulsion. The Society produces a major conference every two years with invited lectures, contributed technical paper sessions, pre-arranged sessions, special forums and social events for informal discussions, networking and relaxation.

## Manchester

### ■ Conference venue

The selected location for the XXIII ISABE Conference is Manchester Central Convention Complex. More information at the official website:

[www.manchestercentral.co.uk](http://www.manchestercentral.co.uk)

### ■ General information

- Manchester is an alive city, rich in art and heritage. Its position in the North West of England makes it a strategic location.
- Manchester city centre is well connected to its airport: about 45 minutes by bus or 25 minutes by taxi.
- For any further information on Manchester City, please visit: [www.visitmanchester.com](http://www.visitmanchester.com)



## Proposals for Participation

- **Contributed Technical Paper Sessions**
- **Pre-Arranged Sessions**
- **Special Forum**
- **Short Courses & Technical Exhibition**

## What is planned in Manchester

### ■ **Invited lectures**

Lectures by distinguished leaders in air-breathing engines.

### ■ **Contributed technical paper sessions**

Papers on various topics associated with air-breathing engines for flight vehicles and aero-derivative engines for power generation.

### ■ **Pre-arranged sessions**

Sessions of contributed technical papers on specific topics of current interest organized by the experts from the various member nations.

### ■ **ISABE & ICAS - joint session**

### ■ **Short courses**

- “Gas Turbine Performance” - taking place before the conference
- “Propulsion Systems Performance and Integration” - taking place after the conference

Please note that the registration to these courses is separate from the conference. Further information will follow.

### ■ **Others**

Social events for informal discussions, networking and relaxation, accompanying persons program, technical exhibitions, technical visits, etc.

### ■ **Excursions and cultural visits**

- Classic art, the campaign for social justice and the history of football. That's just a taste of Manchester museums and galleries. Amongst them, “The Lowry” gallery complex, named after the 20th century painter L. S. Lowry.
- For any further information, please visit [www.visitmanchester.com/what-to-do](http://www.visitmanchester.com/what-to-do)

You are kindly invited to participate in the Conference with a personal contribution in any part of the conference plan, as listed below

## Technical Paper Sessions

### ■ **To offer a paper**

Please proceed as described on page 2.

### ■ **To offer to chair a session**

Please send an email to your national delegate (for the full list of delegates, please visit [www.isabe.org](http://www.isabe.org)) with a copy to [isabe2017@cranfield.ac.uk](mailto:isabe2017@cranfield.ac.uk) mentioning the subject areas of your expertise.

## Pre-Arranged Sessions

### ■ **To offer to organize a pre-arranged session**

Select a co-organizer from a nation other than your own and together select a topic area. For further information on how to proceed, please contact [isabe2017@cranfield.ac.uk](mailto:isabe2017@cranfield.ac.uk)

### ■ **To offer a paper in a pre-arranged session**

Contact one or both organizer(s) to advise them of your intent, and submit an abstract as described on page 2.

## Special Forum

For any information, please contact [isabe2017@cranfield.ac.uk](mailto:isabe2017@cranfield.ac.uk)



## Abstracts and Papers Preparation

- **A New Collaboration with the Royal Aeronautical Society**
- **Submission Options**
- **Important Dates**

### New: collaboration with the RAeS

The UK Organizing Committee for ISABE 2017 has put in place a strong collaboration with the Royal Aeronautical Society (RAeS). So the RAeS will publish a special issue of its "Aeronautical Journal", during the ISABE 2017 conference.

### Important Dates

Depending on the selected option during the submission process, different deadlines apply as described in the following section.

### Submission Options

#### ■ Normal review process

This is the standard process adopted in previous ISABE conferences: an extended abstract is submitted to the ISABE Executive Committee, that review it for publication.

#### ■ RAeS review process

ISABE 2017 offers a new reviewed option: initially, an extended abstract has to be submitted to the ISABE Executive Committee. If the work is chosen for the RAeS review process, the full paper will be reviewed by RAeS before publication. Papers that succeed in the review process will be published in the RAeS "Aeronautical Journal" within the following 24 months.

#### ■ RAeS special issue

Thanks to the aforementioned collaboration with the RAeS, a special issue of the "Aeronautical Journal" will be released, including the most outstanding and relevant publications, and will be made available during the ISABE 2017 conference.

**Please follow the indications provided in the "Instructions for Authors" on the [isabe.org](http://isabe.org) website to prepare both abstracts and papers.**

**Please note that colour costs!!**

#### ■ Normal review process

Extended abstract due: **August 31<sup>st</sup>, 2016**

Full paper due: **June 30<sup>th</sup>, 2017**

Pre-registration due: **June 30<sup>th</sup>, 2017**

#### ■ RAeS review process

Extended abstract due: **August 31<sup>st</sup>, 2016**

Full paper due: **April 30<sup>th</sup>, 2017**

Pre-registration due: **June 30<sup>th</sup>, 2017**

#### ■ RAeS special issue

Full paper due: **August 31<sup>st</sup>, 2016**

Pre-registration due: **June 30<sup>th</sup>, 2017**

*In the RAeS special issue submission, the full paper is examined both by the ISABE Executive Committee and by the RAeS. Failing either of the reviews may convert the submission to the "RAeS review process" or "normal review process", or cause for the paper to be rejected.*



## Subject Areas Included in the Conference

### Subject Areas

The following is a list of major subject areas of interest. All aspects of air breathing engines for flight propulsion in all regimes of speed and aero-derivative engines for power production are included, as well as components that are ancillary to engines. The greatest emphasis is on creation and utilization of the best technology for sustainable progress.

- **Systems:** New developments in gas turbine engines, ramjet, scramjet engines, combined cycle engines, pulsed and other detonation engines, various assisted engines, micro-engines, multipurpose engines, integrated systems and integration technologies.
- **Cost and Business:** Economics of engine development, testing, production, certification, usage and maintenance, civil and military engine business, acquisition, ownership and marketing, lifecycle and other costs
- **Environment:** Chemical and noise pollution.
- **Safety:** Engine safety and engine-caused safety problems, material and structural failure.
- **Aeromechanics, Flutter, Vibration, and High-Cycle Fatigue**
- **Engineering Sciences:** Problems of fluid and gas dynamics, sprays, combustion, heat transfer, conventional and advanced materials
- **Diagnostics, Instrumentation and Sensors**
- **Thermal Management:** Cooling technology, coolers, heat exchangers and energy bypass schemes, compressor and turbine cooling
- **Aero-Derivative**
- **Intelligent Engine Control and Health Monitoring**
- **Materials and Structures:** Smart materials and structures, titanium technology, composites, ceramics, thermoelasticity, structures, coatings
- **Compressors, Turbines:** Axial and centrifugal compressors, axial and other turbines, aerodynamics, mechanics
- **Fuels, Injection, and Ignition:** Fuels for gas turbines, alternate fuels, combined cycles, micro-engines, endothermic fuels for cooling, injection technologies, ignition technologies
- **Integrated Testing, Prediction, and Evaluation**
- **Manufacturing Processes**
- **Engine Operability**
- **Maintenance, Repair and Overhaul and Organization**
- **Synthesis Methods:** From concept to usable product; rational methods of synthesis, virtual development and testing.
- **Hypersonic Vehicle Propulsion:** Space launch vehicles, cruise vehicles, military systems.
- **STOVL Vehicle Propulsion:** Thrust vector design options, controls, ground effects.
- **Unmanned Air Vehicle Propulsion:** Various propulsion systems for UAVs
- **Helicopter Propulsion:** Small engines, propellers, special air intakes, noise control.
- **Micro and Small Engines:** Components and systems.
- **Education and training:** Re-engineering of the Gas turbine curriculum, education partner-ships, best practices, etc.
- **Skills challenges:** Demographics, apprentice-ships, global skills, systems engineers, etc.