

# The 4<sup>th</sup> ECATS Conference 2023



Making aviation  
environmentally  
sustainable

The Scientific  
Programme will be  
developed around 7 key  
areas:

- Airport Air Quality
- Alternative Fuels
- Climate Impact and mitigation options
- Green Flights
- Sustainable Aircraft and Propulsion Technology
- Recycling and Whole Lifecycle
- High Speed Aviation

## Scientific Programme Committee

Simon Blakey, Birmingham, UK  
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Will be held  
in Delft,  
Netherlands

**24-26 October  
2023**

Contributions relating to the key themes are welcome. During the conference, oral and poster presentations will be possible. A preference (oral/poster) can be given with submission of abstract. After the event, a special issue including extended abstracts for invited contributions in a peer-reviewed journal will be prepared. Detailed information on abstract submission and abstract guidelines are available on the ECATS conference website (<http://www.ecats2023.dryfta.com/index.php/>).

### Airport Air Quality

The increasing demand to fly and the subsequent expansion of airports are helping to drive research into the impact of aircraft emissions on air quality, health and airport sustainability. Contributions are particularly invited which focus on latest advances in characterising aircraft emissions (including ultrafine particulate matter), dispersion modelling, regulations, real case scenarios, future trends as well as mitigation actions that will assist airports and stakeholders better understand the air quality challenge.

### Alternative Fuel

Alternative fuels are essential to mitigate the climate impact of flight. This session will explore technical, operational and performance challenges and opportunities in achieving this sustainable position. There will be specific focus on the environmental consequences of using new fuels, Sustainable Aviation Fuel, Hydrogen Fuel and electric flight. Additionally, it will seek to identify knowledge gaps to be filled to overcome shortcomings of, or exploit benefits of, alternative fuels.

### Climate Impact and mitigation options

Aviation contributes to climate change and a joint effort is necessary to ensure both sustainable mobility and growth of aviation. However, large uncertainties remain when quantifying overall climate change from aviation. Contributions which emphasise the need to establish solid knowledge and well-evaluated measures and means, to provide quantitative estimates of aviation climate impact and mitigation concepts are particularly welcome. This includes assessment studies and contributions exploring approaches to help aviation identify a durable path into the future.

### Green Flight

Finding the optimal flight trajectory remains one of the main challenges for air traffic management (ATM). Any trajectory has to comply with a growing list of requirements, amongst others safety and climate impact. Recent advancements in this field are invited which aim to expand current capabilities related to one or more of above mentioned key performance areas. These include the provision of met-data that enable the avoidance of climate sensitive regions, natural hazards, trade-off and risk analysis studies for climate optimized trajectories.

## Sustainable Aircraft and Propulsion Technology

This session targets propulsion and aircraft system performance and its relation to environmental effects. It focuses on the technology underlying the transition to a sustainable aviation system, such as hydrogen aircraft and other low emission liquid fuels, novel engines and aircraft, emissions predictions, electric- and hybrid electric aircraft, propulsion integration, thermal management, combustion technology, dual fuel usage, low noise technology, interdependency modelling, aircraft technology for flexible aircraft operation and green flight.


### Recycling and whole lifecycle

Aviation sustainability applies to the full life cycle of aircraft and hence besides operational besides operational emissions also circularity and end-of-life issues. This session covers the application of life cycle assessment and/or circular economy concepts in general, and more specific topics such as circular design principles, the reduction of waste during the disassembly of aircraft, the subsequent redistribution and reuse of aircraft parts and recycling of materials.

### High Speed Aviation

Supersonic and hypersonic aircraft are enabling a fast mode of transport. Still the environmental impact is widely discussed. Projects, such as MORE&LESS, aim to support Europe to shape global environmental regulations for future supersonic. Here we invite recent advancements in the field of high speed transport, e.g. outcomes of extensive high-fidelity modelling activities and test campaigns as well as multi-disciplinary optimization frameworks that enabling the assessment of the holistic impact of supersonic aviation onto environment.

## Important dates

-  30-06-2023 : Abstract submission deadline
-  07-08-2023 : Preliminary conference program
-  08-09-2023 : Close early bird registration
-  29-09-2023 : Close formal registration
-  24-10-2023 : Conference Open

## Registration fees

Delegates : 600€ (500€ before 08-09-2023)  
Students : 400€ (300€ before 08-09-2023)  
ECATS members : 550€ (450€ before 08-09-2023)

*Please note that there is limited capacity. For further information on hotels and direction please refer to the conference web site:*  
<https://ecats2023.dryfta.com/index.php>

Questions to Programme Committee: [conference@ecats-network.eu](mailto:conference@ecats-network.eu)

Questions on registration process: [blueboxevents@tudelft.nl](mailto:blueboxevents@tudelft.nl)