

Taking place ONLINE

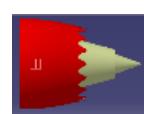
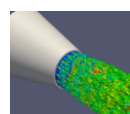
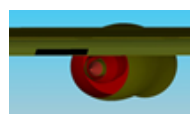


CONFERENCE

Industrially Oriented Jet Noise Reduction Technologies

1-2-3 December 2021 at the VKI, Brussels, Belgium

From noon to noon



The DJINN (Decrease Jet Installation Noise) initiative is an EU H2020 project coordinated by CFD-Berlin

Conference objectives

With the aim of reducing the environmental impact of noise caused by aircraft during take-off, the prediction and mitigation of jet-airframe interaction noise sources remains a significant challenge for integrated propulsion-airframe architectures. The ambition of the DJINN (Decrease Jet Installation Noise) project is therefore to develop a new generation of reliable computational fluid dynamics (CFD) methods, most of them belonging to the field of hybrid methods, for assessing promising noise-reduction technologies, with support and validation from reduced-scale experiments.

This key ambition of the DJINN CONFERENCE is tied to the provision of advanced tools for coupled aerodynamics-aeroacoustics to enable design optimisation in future industrial environments and to reach a new level of noise reduction through a highly collaborative effort – with the main innovative objectives targeting at industrial needs:

- Increase the frequency range of simulations, whilst maintaining affordability and ability to capture the complex geometries representing the two aircraft configurations selected.
- Predict under-wing jet-airframe interaction noise to within 1 dB accuracy.
- Demonstrate a reduction of jet-airframe interaction noise peak level at low frequencies.
- Reduce the turn-around time of high-order (CFD) approaches – like h-p refinement techniques for approaches such as Spectral Difference Methods (SDM) (mesh + simulation + post-processing).
- Evaluate innovative high-fidelity simulation-method components (accelerators, alternatives to FWH, improved numerical schemes) including optimisation aspects.

Call for (numerical and experimental) contributions

Contributions by participants are expected according to the listed topics:

- Innovative noise reduction technologies including **optimisation of designs**.
- **'Design-to-noise' capabilities** for jet-airframe interaction noise of under-wing and rear-fuselage mounted engines at various flight regimes.
- Near-field acoustic loads due to **jet-airframe interactions**
- Jet-airframe interaction noise technologies including **flow-control techniques** for commercial aircraft.
- **Improved solvers, highly adapted meshes** for complex geometries, improved **processing of data** ('co-processing'), high-performance computing (**HPC**) to reduce wall-clock times.
- **Advanced low-fidelity modelling** approaches to compare with high-fidelity CFD tools for 'rapid-design'.

Invited Speakers

H. Xia (Loughborough University):

“Developing modelling and simulation techniques for high St jet noise.”

M. Azarpeyvand (University of Bristol):

‘An overview of jet noise research at the University of Bristol’

Test cases for conference participants

It is of importance for the DJINN project to interact with colleagues from outside the DJINN consortium. Therefore, at the DJINN CONFERENCE two test cases (both isolated and installed nozzle geometries) will be made available including comprehensive data sets for computation.

All obtained results will be gathered well before the second DJINN CONFERENCE - close to the end of the DJINN project, i.e. about 1.5 to 2 years after this first conference.

Please note that **running a test case is NOT mandatory for registration.**

Date of DJINN CONFERENCE

1st to 3rd December 2021 – starting around noon on 1st December 2021 and terminating around noon on the 3rd of December 2021.

Location/Venue

The workshop will be hosted by the von Karman Institute for Fluid Dynamics, VKI, Waterlooosteenweg 72, B-1640 Sint-Genesius-Rode, Belgium. **All information regarding location and hotel accommodation can be taken from the djinn website.**

Conference fees

The workshop fee is 350 € - and will cover the book-of-abstracts, all coffee breaks and lunches, and a workshop dinner. Moreover, all presentation files will be made available to all conference participants as on the DJINN web site (‘DJINN CONFERENCE’ tab) as PDF versions.

Please note the following:

*Payment can be delayed until beginning of November at the latest - just to make provisions for any change in the COVID-19 pandemic. Nevertheless, the organisers would encourage everybody to **register now** (and pay later). Note also, that in case the pandemic will not allow for a face-to-face meeting, no fees apply. We will then go online.*

Deadline for registration / abstracts

The deadline for registration is **21 November 2021** with no further extension possible.

Please note the following: **When considering a presentation** at the conference, an **abstract** (1-2 page(s) max.) is requested by **15 November 2021** at the (very) latest.

Further information

do not hesitate to contact: W. Haase, werner.haase@cfd-berlin.com and/or visit <https://djinn.online> ... or use the QR-Code directly → and click on the ‘DJINN CONFERENCE’ tab



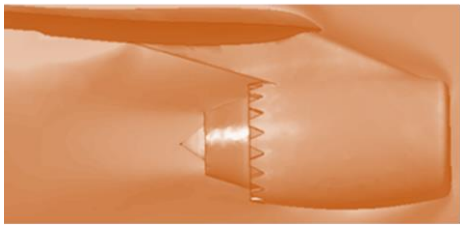
Organising and Scientific Committee

G. Bodard, SAFRANGROUP, France; P. Boehning, Rolls-Royce, Germany; J.-F. Boussuge, CERFACS, France; J. Christophe, von Karman Institute, Belgium; R. Ewert, DLR, Germany; F. Gand, ONERA, France; J. Huber, AIRBUS, France; P. Jordan, CNRS/Univ. Poitiers, France; S. Karabasov, Queen Mary College London, UK; J. Lawrence, Southampton University, UK; U. Michel, CFD-Software GmbH, Germany; C. Schram, von Karman Institute, Belgium; S. Sherwin, Imperial College London, UK; H. Siller, DLR, Germany; F. Thiele, CFD-Software GmbH, Germany; B. Caruelle, AIRBUS, France; F. Clero, ONERA, France; J. Delfs, DLR, Germany; E. Kors, SAFRANGROUP, France; S. Lemaire, Dassault Aviation, France; A. Moore, Rolls-Royce, UK; L. Siozos-Rousoulis, CINEA, Belgium; W. Haase, CFD-Software GmbH, Germany; D. Landuyt, VKI, Belgium.

Conference Supporters



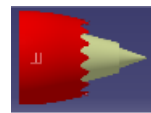
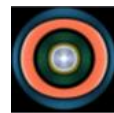
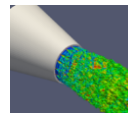
The DJINN CONFERENCE, VKI, Brussels, 1-3 December 2021
coordinated by CFD-Berlin



CONFERENCE

1-2-3 December 2021 at the VKI, Brussels, Belgium

Please register now



DJINN is an EU H2020 project¹

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The DJINN (Decrease Jet Installation Noise) project receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 861438.

The DJINN project is a collaboration between CFDB (Coordinator), AIRBUS, DASSAULT, SAFRAN, RRD, ONERA, DLR, SOTON, CERFACS, ICL, VKI, CNRS, and QMUL