



Scope

Non-equilibrium gas flows are a key field of research and application across numerous industrial fields, particularly under conditions where traditional Navier-Stokes equations fail to accurately describe transport phenomena, as is the case in rarefied gases. These flows arise when molecular interactions, either within the gas or with solid surfaces, become less frequent. The conference aims to advance research and technological opportunities by fostering cooperation and promoting knowledge exchange between researchers and engineers. By bridging these communities together, the event seeks to drive innovation and enhance both fundamental research and practical applications.

Topics

The conference topics are:

- Heat transfer in rarefied gas flows
- Momentum and mass transfer in rarefied gas flows
- Gas separation and mixing
- Non-equilibrium plasma flows
- Gas flows in fluidic microsystems
- Aerothermodynamics
- Shock waves
- Gas-surface and plasma-wall interactions
- Multiphase microflows and interfacial phenomena
- AI and machine learning for non-equilibrium gas flows and interfaces
- Sensors, actuators, pumps, heat exchangers, and other devices
- Processes, equipment, and systems operating under non-equilibrium gas conditions

In each of these fields, new developments will be presented, focusing on:

- Modelling and simulation tools
- Materials and manufacturing techniques
- Experimental techniques and measurements

Submission Dates

- 20 November 2025: Abstract submission
- 15 December 2025: Notification of acceptance
- 1 February 2026: Final abstract submission

Venue

The conference center is located at the Maison de la Formation Jacqueline Auriol (University of Toulouse) approximately 20 minutes from the city center by public transport. Toulouse has its own airport offering flights to around 70 destinations and regular shuttle services to Paris.

Chairmen

- Stéphane Colin (University of Toulouse)
- Arjan Frijns (Eindhoven University of Technology)
- Stylianos Varoutis (Max-Planck Institute for Plasma Physics)

More Information

<https://negf26.sciencesconf>

