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HAW HAMBURG

Hamburg Aerospace Lecture Series
Hamburger Luft- und Raumfahrtvorträge

RAeS Hamburg in cooperation with the DGLR, VDI, ZAL & HAW invites you to a lecture

Advancing Active Flow Control Technologies for More Efficient Aircraft

Mark Jabbal PhD MEng MRAeS,

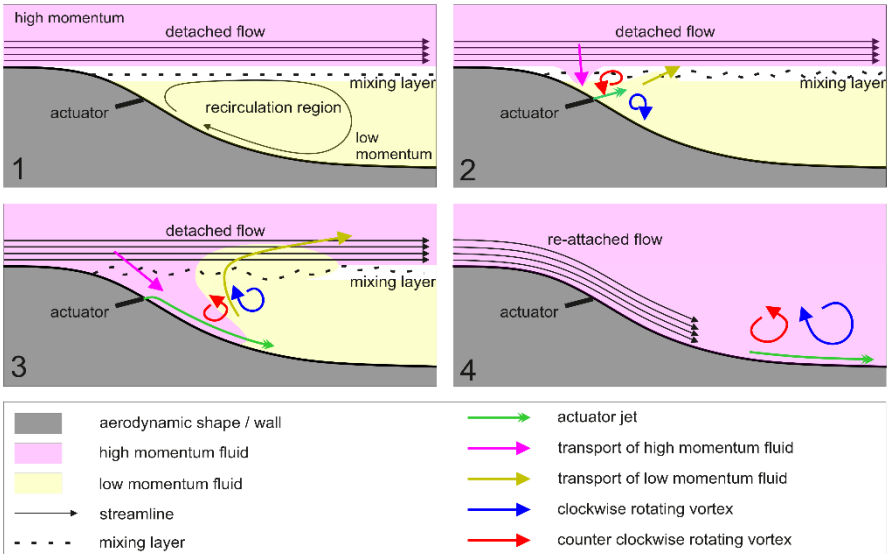
University of Nottingham

Date: Thursday 26 November 2026, 18:00

Location: HAW Hamburg, Berliner Tor 5, Hörsaal 01.10 (in-person only!)

Active control of air flow over aircraft wings can significantly improve aerodynamic performance. Pulsed jet actuation is a particularly promising technology – compared to steady jet injection, it can suppress flow separation much more effectively with reduced mass flow. Outcomes from the Clean Sky 2 WINGPULSE project will be presented, which was aimed at demonstrating pulsed jet actuator concepts for flow separation control that exceed the state-of-the-art – namely, those that reduce the net mass flow by a factor of at least 3. Results from wind tunnel testing and high-fidelity simulations will be described.

Mark Jabbal was Principal Investigator on the WINGPULSE project. His main research interests are in fluid flow control for drag reduction (experimental aerodynamics; optimization and vehicle system integration studies). He is also a co-opted member and Vice-Chair of the Royal Aeronautical Society Aerodynamics Specialist Group. Mark has both MEng and PhD degrees in Aerospace Engineering from the University of Manchester.



Simplified 2D sketch of the PJA working principle. Löffler, S. et al., https://doi.org/10.3390/fluids6040166, Creative Commons Attribution (CC BY).

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