

TU Delft and LaVision invite you to the first Omnidirectional PIV workshop



Date

26th and 27th November 2026

Location

**TU Delft - Faculty of Aerospace Engineering
Aerospace Propulsion and Power Laboratory**

Host(s)

**Prof. Dr. Fulvio Scarano, Prof. Dr. Andrea Sciacchitano,
supported by LaVision**

Agenda

Day 1	Day 2
Lectures by invited speakers on the main aspects of the Omni-PIV approach	Lectures by invited speakers on complementary techniques like Ring-of-Fire
Operational demonstration of the Omni-PIV system in the Open-Jet Facility (OJF)	Panel discussion: Challenges and perspectives on optical flow metrology in wind tunnel testing

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Join our workshop and discover the potential of modern flow measurement systems

In automotive wind tunnel testing, traditional physical probes (such as pressure rakes and hot-wires) present well-known bottlenecks: they are inherently intrusive and offer limited, point-wise data that falls short of validating high-fidelity CFD models. While conventional optical methods like Laser Doppler Anemometry (LDA) and Stereoscopic PIV (Stereo-PIV) resolve the intrusion issue, they struggle to capture the highly three-dimensional flows typical of automotive aerodynamics. Furthermore, complex vehicle geometries (such as wheel arches and underbodies) create severe optical obstructions, preventing these techniques from reconstructing a complete volumetric picture of the evolving flow field.

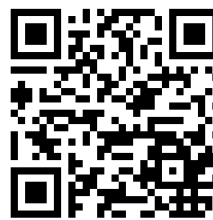
Recent progress in the development of volumetric flow measurement techniques has led to the emergence of Omnidirectional PIV (Omni-PIV), which successfully overcomes these limitations. By employing a multi-camera system that covers the measurement volume with sufficient optical redundancy, and by utilizing advanced object-aware „Shake-the-Box“ 3D flow field reconstructions, Omni-PIV captures high-fidelity, three-dimensional flow fields for industrially relevant applications.

Useful info

The workshop will take place at the Aerospace Propulsion and Power Laboratory of the TU Delft Faculty of Aerospace Engineering - Kluyverweg 2, 2629 HT Delft, Netherlands.

It is designed to provide participants with a comprehensive view of state-of-the-art flow measurement capabilities using this novel Omni-PIV approach. Main hardware (fast & small streaming cameras, volumetric LED illumination, Helium-filled soap bubble seeding) and software developments (Lagrangian Particle Tracking, Volume self-calibration, Distributed processing,...) will be addressed, which enable measurements for practical relevant wind tunnel testing scales. Lectures covering the theory behind Omni-PIV will be held by experts in the field and a live demonstration of the systems capabilities in the Open-Jet Facility (OJF) of the Aerospace Propulsion and Power Laboratory will complement the workshop.

The workshop fee is EUR 500. Please fill in the registration form and return by email to seminar@lavidion.com.



We look forward to seeing you in Delft in November 2026!

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