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FLUID POWER: Enabling Future Technologies
15TH INTERNATIONAL FLUID POWER CONFERENCE

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Description:

The current economic and societal environments both present the fluid power community with significant challenges and important opportunities. The mechanical engineering sector faces economic uncertainty, volatile markets, geopolitical complexity, and a persistent shortage of skilled workers. At the same time, climate change and sustainability demands require focused and forward-looking action. Strengthening innovation, competitiveness, and technological progress is therefore essential.

Against this backdrop, the 15th International Fluid Power Conference operates under the motto “Fluid Power: Enabling Future Technologies.” As a proven and robust technology, fluid power must be continuously advanced through creative and interdisciplinary approaches to remain a key enabler of future technologies. By bringing together science and industry, the IFK fosters exchange, collaboration, and innovation. In particular, artificial intelligence, machine learning, and digitalization are recognized as decisive drivers for the long-term competitiveness of fluid power in both research and industrial applications.

The IFK is one of the world’s largest scientific conferences in fluid power. Since its first edition in 1974 in Aachen by Prof. Wolfgang Backé, it is now a leading forum for high-level scientific exchange and networking across the entire fluid power community. In 2026, the IFK is taking place again in Aachen and will be for the first time jointly organized with the GFPS Ph.D. Symposium, further strengthening international exchange and the integration of young researchers.

This year’s program features 4 plenary lectures, 18 overview lectures, and 102 scientific presentations. Speakers from 21 countries underline the strong international character of the conference. Of the contributions, 52% originate from Germany, and 48% from international institutions and companies. In addition, 18 exhibitors will present their latest innovations in the accompanying exhibition.

The conference begins on Monday with the Symposium, focusing on scientific contributions from academia and industrial research. The day concludes with a networking get-together at the accompanying exhibition.

On Tuesday morning, the official opening ceremony will take place, with welcoming addresses and an international overview of current developments in academic fluid power research worldwide. To sharpen the technological look ahead, the following two plenary lectures focus on the role of artificial intelligence and digital twins in fluid power technology and applications. Tuesday’s program places particular emphasis on industrial contributions and application-oriented topics, and concludes with a gala dinner in the Coronation Hall of Aachen City Hall, offering a distinguished setting for further exchange.
On Wednesday, the conference continues with additional technical sessions and concludes with a farewell event and the presentation of the Best Paper Awards for both the IFK and the GFPS Ph.D. Symposium.

Finally, we express our sincere gratitude to all committee members, speakers, authors, reviewers, session chairs, and exhibitors for their commitment and support. We wish all participants an inspiring and rewarding 15th IFK in Aachen and hope that this conference will provide valuable impulses for future research, innovation, and collaboration in fluid power technology.

Keywords: Fluid Power, AI, Mobile Systems, Controls, Tribology, Pumps, Valves, Fluids, Digital Transformation, Pneumatics, Fluid 4.0, Seals, Data & Sensors