

Call for papers

12iFK

12th International Fluid Power Conference

Fluid Power Future Technology!

March 9 - 11, 2020 in Dresden



INVITATION

The 12th International Fluid Power Conference (IFK) will be held in Dresden on March 9-11, 2020. The IFK is one of the world's most significant scientific conferences on fluid power control technology and systems. It offers a common platform for the presentation and discussion of trends and innovations to manufacturers, users and scientists.

On the first day the symposium is dedicated to presentations focused on methodology and fundamental research. The following two conference days offer a wide variety of application and technology orientated papers about the latest state of the art in fluid power. It is this combination that makes the IFK a unique and excellent forum for the exchange of academic research and industrial application experience. A simultaneously ongoing exhibition offers the possibility to get product information and to have individual talks with manufacturers.

The theme of the 12th IFK will be "Fluid Power – Future Technology!". The covered topics will enable the development of 5G-ready, cost-efficient and demand-driven structures, as well as individual

decentralized drives. Further topics are real-time data exchange that allows the application of numerous predictive maintenance strategies, which will significantly increase the availability of fluid power systems and their elements and ensure their improved lifetime performance. The main focus of our research is to solve technical problems in an application oriented fashion and to improve sustainable architectures and designs.

The IFK thrives on interesting scientific contributions of high quality. We welcome and encourage you to submit your newest research and discuss your findings in front of a wide technical audience during the 12th IFK.

I look forward to seeing you in Dresden in March 2020!



Prof. Dr.-Ing. J. Weber, Director

CONFERENCE TOPICS

SYSTEMS & METHODS

Digitalization and Connectivity

- › Data processing
- › Cloud Computing / Edge Cloud
- › Security and privacy by design
- › Artificial intelligence
- › Wireless communication (5G)
- › Predictive Maintenance
- › Condition Monitoring

Novel System Architectures

- › Decentralized systems
- › Compact drives
- › Independent metering architectures
- › Energy management
- › Storage and harvesting concepts
- › Regeneration and recuperation
- › New approaches

System Design and System Integration

- › Simulation based design and numerical optimization
- › Thermoenergetic design
- › Software development and test (HiL, SiL, MiL)
- › Functional safety and reliability
- › Cross-domain networking
- › New approaches and methods

APPLICATIONS

Mobile Applications

- › Efficient architectures and smart operation strategies
- › Electrification, hybridization and alternative power supplies
- › Assistance systems, automation, autonomous systems
- › Environmental compatibility
- › Aeronautical, space, rail, automotive and marine engineering

Industrial Applications

- › Improvements in efficiency, productivity and quality
- › Autonomous Commissioning and systems
- › Control strategies
- › Machine safety

Pneumatic Systems

- › Miniaturization
- › Decentralization
- › Noise reduction
- › Enhancement of efficiency
- › Mobile applications

Special Domains

- › Medical, Food, Hygienics, Subsea
- › Solar, wind and water power systems
- › Water hydraulics
- › ...

COMPONENTS & FUNDAMENTALS

Fundamentals and Fluids

- › Pressure media
- › Cavitation
- › Aging and wear effects
- › Surface modifications
- › Sealing technologies
- › Filtration
- › Alternative materials

Hydraulic and Pneumatic Components

- › Innovative displacement units and principles
- › Developments in valve technology
- › Cylinder technologies
- › Miniaturized / lightweight components
- › Advanced / additive manufacturing processes
- › Novel approaches and technologies

Actuators and Sensors

- › Smart actuators / new materials
- › Self-contained sensor solutions
- › Ambient sensor technology
- › Functional integration, control and manufacturing process
- › Energy harvesting
- › Improvements and new principles

CRITERIA & INFORMATION

The conference topics act as suggestions for your paper. Unusual contributions are explicitly welcome! Authors interested in contributing a paper to the conference are requested to submit an abstract of the article in English language as pdf - file latest by **June 10, 2019**. The abstract shall clearly depict the technical innovation as well as the main results. Please use the template available at www.ifk2020.com.

After the selection of abstracts, authors will have the option to have a review of their paper. Papers will be accepted and published after successfully passing the evaluation or review process. For further information please visit the conference website.

KEY DATES

Submission of Abstract	June 10, 2019
Notification of Acceptance	July 24, 2019
Submission of Full Papers	
› with Review	November 15, 2019
› without Review	January 24, 2020
Conference	March 9 -11, 2020

CONTACT

General

Eric Pohl
+49 351 / 463 - 33618
general@ifk2020.com

Papers

Svenja Horn
+49 351 / 463 - 33701
papers@ifk2020.com

Exhibition

Eric Fischer
+49 351 / 463 - 33553
exhibition@ifk2020.com

Address

Technische Universität Dresden
Institute of Mechatronic Engineering
Chair of Fluid-Mechatronic Systems
12 th IFK office
D - 01062 Dresden



DVF