

International Conference

FT 2017

Fluid Power 2017



Conference Programme

CONGRESS CENTRE HABAKUK

SLOVENIA - MARIBOR, 14. - 15. SEPTEMBER 2017

Conference programme:

Thursday, 14th September 2017 - Hall Mlinařik

- 08:00** *Arrival and Registration*
- 09:00** *Opening ceremony*
- 09:30** **OPENING SESSION - Invited lectures**
- 11:30** *Coffee break*
- 12:00** **Session I**
- 13:00 – 14:30** *Main break - Lunch*
- 14:30** **Session II**
- 15:30** *Coffee break*
- 16:00** **Session III**
- 17:00** **Round table – discussion**
- 08:00 – 18:00** **Poster session, Exhibition**
- 18:00** **Social evening**

Friday, 15th September 2017 - Hall Mlinařik

- 08:00** *Registration, information*
- 09:00** **Session IV**
- 10:15** *Coffee break*
- 10:45** **Session V**
- 11:45** *Coffee break*
- 12:15** **Session VI**
- 08:00 – 14:00** **Poster session, Exhibition**

all papers will be presented and printed in English language



Opening Session – Invited Lectures

Thursday, 14.9.2017 | 9:30 – 11:30 | Hall Mlinařik

Fluid systems and cyberphysical systems - some thoughts on a symbiotic relationship

Rudolf Scheidl

Johannes Kepler University, Linz, Austria

Digital pneumatics

App-driven pneumatics for Industry 4.0

Markus Miklas

Festo Ges.m.b.H. Vienna, Austria

Fluid power drives in robotic systems

Željko Šitum

Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia



Session I:
IoT Technologies and Signals
Thursday, 14.9.2017 | 12:00 – 13:00 | Hall Mlinařik

Voice of the Machine -

Parker's complete Internet of Things (IoT) platform

Igor Magel, Miha Šteger

Parker Hannifin Ges.m.b.H., Wiener Neustadt, Austria

With HYDAC on the way to Industrie 4.0

Industrie 4.0 based predictive maintenance

Dejan Glavač

Hydac d.o.o., Slovenia

Global Analysis of an RC-Filter for a Switched Hydraulic Drive

Evgeny Lukachev, Rudolf Scheidl

Johannes Kepler University, Linz, Austria



**Session II:
Control Technologies**

Thursday, 14.9.2017 | 14:30 – 15:30 | Hall Mlinařik

Precise force control for hydraulic and pneumatic press system

Juraj Benić, Nikola Rajčić, Željko Šitum

Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia

Nonlinear position control of electrohydraulic servo systems

Edvard Detiček, Mitja Kastrevc

University of Maribor, Slovenia

Modern control system for servo hydraulic linear drive

Matevž Štefane¹⁾, Darko Lovrec²⁾

¹⁾La&Co d.o.o., Maribor, Slovenia, ²⁾University of Maribor, Slovenia

Impact of hydraulic network on operation of linear servo drive

Tadej Jurgec, Vito Tič

University of Maribor, Slovenia



**Session III:
Hydraulic Fluids**

Thursday, 14.9.2017 | 16:00 – 17:00 | Hall Mlinařik

A selection of the latest specifications and performance requirements for environmentally considerate hydraulic fluids

Martin Ruch, Patrick Laemmle

Panolin International Inc, Madetswil, Switzerland

Application of hydraulic and gear oils in the food processing industry

Mitar Jocanović¹, Velibor Karanović¹, Vito Tič², Marko Orošnjak¹, Dragan Selinić³

¹University of Novi Sad, Serbia, ²University of Maribor, Slovenia, ³OLMA, Serbia

Inspection of technical cleanliness with extraction units

Detlef Meurer¹, Amela Mrak²

¹Hydac Filter Systems GmbH, Sulzbach/Saar, Germany, ²Hydac d.o.o, Slovenia

MPC-Test: An introduction and examples of test results

Manja Moder, Urška Cafuta

Petrol d.d., Ljubljana, Slovenia

Hydraulic pump pulsation using ionic liquid (poster)

Bernhard Manhartgruber¹, Vito Tič²

¹Johannes Kepler University, Linz, Austria, ²University of Maribor, Slovenia

**Round Table – Discussion
Industrial Internet of Things and Fluid Power**

Thursday, 14.9.2017 | 17:00 | Hall Mlinařik

Impact of IoT on Fluid Power Systems:

How are hydraulic and pneumatic devices being modernized with IoT?

What are the current technology trends? Benefits? Disadvantages?

Security and risks?



**Session IV:
Modeling and Simulation**

Friday, 15.9.2017 | 09:00 – 10:15 | Hall Mlinařik

Mathematical modeling and experimental research of characteristic parameters of aviation hydraulic piston pump

Radovan Petrović¹⁾, Huayong Yang²⁾, Maja Andjelković¹⁾, Radoje Cvejić¹⁾

¹⁾University "Union - Nikola Tesla" of Belgrade, Serbia,

²⁾Zhejiang University, Hangzhou, China

Mathematical modeling and experimental research of characteristic parameters barrel-valve plate of aviation hydraulic piston pumps

Radovan Petrović¹⁾, Shaoping Wang²⁾, Maja Andjelković¹⁾, Radoje Cvejić¹⁾

¹⁾University "Union - Nikola Tesla" of Belgrade, Serbia,

²⁾Beihang University, Beijing, China

The nonlinear mathematical model of electrohydraulic position servo system

Mitja Kastrevc, Edvard Detiček

University of Maribor, Slovenia

Verification of a simulation-model to predict the transmission-behavior of hydrostatic bearings on machine tools

Jörg Edler, Matthias Steffan, Georg Mörwald

Graz University of Technology, Austria



Session V:
Fluid Power Components & Design
Friday, 15.9.2017 | 10:45 – 11:45 | Hall Mlinařik

Design challenges of modern hydraulic power packs

Tadej Tašner, Peter Hace, Kristian Les
HAWE Hidravlika d.o.o., Petrovče, Slovenia

Hydrostatic transmission design – closed-loop trailer assist drive

Luka Jelovčan, Aleš Novak
Poclain Hydraulics d.o.o., Žiri, Slovenia

Piezo actuators for the use in hydraulic and pneumatic valves

Marko Simic, Niko Herakovic
Faculty of Mechanical Engineering, Ljubljana, Slovenia

Development of the heavy-duty flow divider (FD-H2) for mobile applications

Anže Čelik, Luka Peternel
Poclain Hydraulics d.o.o., Žiri, Slovenia

Influence of the hydrodynamic bearing on the flow characteristics of a dynamically operated displacement meter (poster)

Othmar Bernhard
AVL List, Graz, Austria



Session VI:
Testing of components
Friday, 15.9.2017 | 12:15 – 13:30 | Hall Mlinařik

The analysis of the gerotor orbital hydraulic motor

Ervin Štrmčnik, Franc Majdič
University of Ljubljana, Slovenia

**Tribological research of different material pairs for
water hydraulic seat type of valve**

Andreja Poljšak, Franc Majdič, Mitjan Kalin
University of Ljubljana, Slovenia

**Test stand for determining the performance characteristics of
hydraulic directional control valves**

Rok Pahič¹, Vito Tič², Darko Lovrec²
¹IJS, Slovenia, ²University of Maribor, Slovenia

Problems while testing new hydraulic fluids

Milan Kambič¹, Darko Lovrec²
¹OLMA d.o.o., Ljubljana, Slovenia, ²University of Maribor, Slovenia



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Social evening with banquet and live music:

Social evening, organized at the end of the first day of the conference, is a great opportunity to relax at the end of the day, and to chat with others in a relaxed atmosphere, make new contacts and acquaintances, or exchanged some point of views.

This year's social evening will be held in the Hotel Habakuk. Throughout the evening we will be entertained by trio Platin, which mostly performs outside our borders. They will make sure that we will remember most of the 80's and 90's hits, which will be performed live.



In the "SHOW ACTS" program, we will be visited by Marilyn Monroe, Tina Turner, Elvis Presley, Amy Winehouse, Lady Gaga, Cher, Johnny Cash, Vanessa Mae, Shirley Bassey, Sister Act, Acapella, Marlene Dietrich, etc...

The sponsor of social evening is **HAWE Hidravlika d.o.o., Slovenia.**

Location:

Congress centre Habakuk *****

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