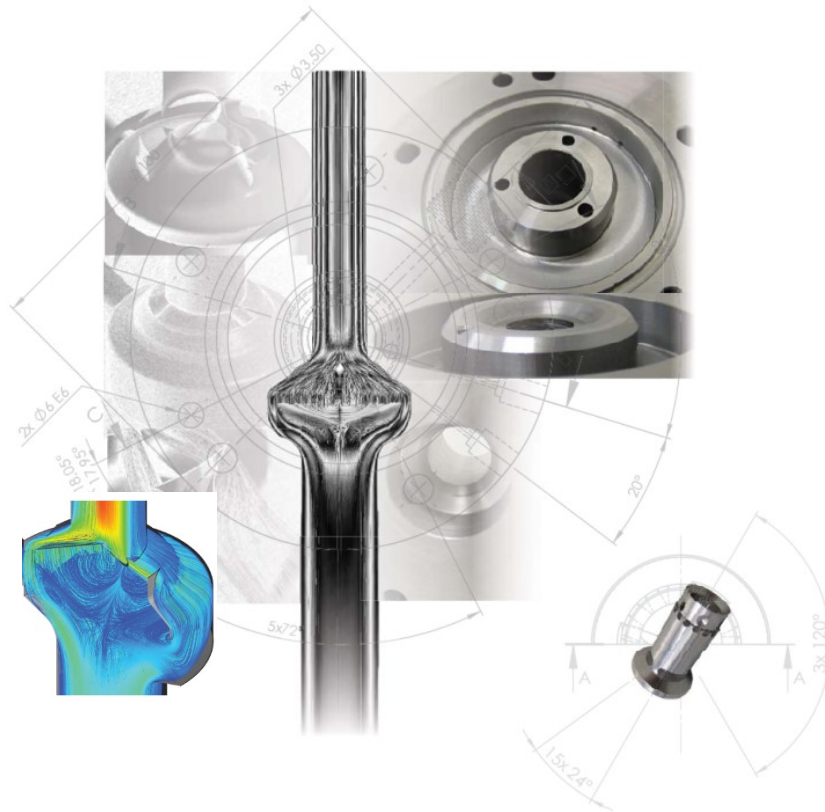


DFP17

FINAL PROGRAM



9th Workshop on DIGITAL FLUID POWER (DFP17)

September 7-8, 2017

Pontoppidanstræde 105, room 4.127
9220 Aalborg East, Denmark

 **FPMS** Fluid Power & Mechatronic Systems
Department of Energy Technology | Aalborg University

 **JKU**
JOHANNES KEPLER
UNIVERSITÄT LINZ

 TAMPERE UNIVERSITY OF TECHNOLOGY

 **LEM** LINZ
CENTER OF
MECHATRONICS
GMBH

 **Rexroth**
Bosch Group

 **MHI VESTAS OFFSHORE WIND**

Thursday 7.9.2017

8.30	Registration open
9.00	Welcome
9.20	Session 1: Digital Fluid Power Systems <i>Chairman: Michael R. Hansen</i>
	<i>Performance analysis of Digital Fluid Control System for hydraulic pitch systems utilized in wind turbines</i> Bo Rohde Jensen, Kristian Kongerslev & Søren Stubkier
	<i>Recent Advances in Digital Hydraulic Components and Applications</i> Bernd Winkler
10.00	Coffee break
10.20	Session 2: Digital Fluid Power Control <i>Chairman: Perry Li</i>
	<i>Robust control of digital hydraulic servo actuator</i> Matti Linjama
	<i>Energy Optimal Tracking Control with Discrete Fluid Power Systems using Model Predictive Control</i> Anders H. Hansen, Torben O. Andersen & Henrik C. Pedersen
	<i>Research of a new energy recycling electro-hydraulic control system based on high speed on/off valves</i> Yu Haitao & Shi Guanglin
11.20	Coffee break
11.30	Keynote speak: 7MW Wind Turbine with Digital Displacement Transmission Deputy CTO Ryuji Iwamoto, MHI Vestas Offshore Wind
12.15	Lunch
13.15	Keynote speak: Servo Hydraulic Actuators as Part of a Connected Hydraulics Initiative Director Helmut Fischer, Sales Energy, Transport & Test, Bosch Rexroth AG
14.00	Coffee break
14.10	Session 3: Digital Fluid Power Applications <i>Chairman: Rudolf Scheidl</i>
	<i>Digital Distributor Valves in Low Speed Motors - Practical Approach</i> Henrik B. Larsen & Per Lindholdt
	<i>Digital Hydraulic Technology applied to a Knuckle Boom Crane</i> Viktor Donkov, Torben O. Andersen, Morten K. Ebbesen & Henrik C. Pedersen
	<i>The potential of a digital hydraulic winch drive system</i> Sondre Nordås, Torben O. Andersen & Morten K. Ebbesen
15.10	Coffee Break
15.20	Session 4: Operation Characteristics for Digital Fluid Power Components <i>Chairman: Matti Linjama</i>
	<i>Study of the Sucking and Discharging Process of Axial Piston Pump with Digital Distribution Mechanism under Random Low Speed Input</i> Yu Licheng, Shi Guanglin & Lu Hongqing
	<i>Reliability analysis of a hydraulic on/off fast switching valve</i> Niels C. Bender, Henrik C. Pedersen, Andreas Plöckinger and Bernd Winkler
16.00	Optional lab. tour
17.30	Bus departs for the conference dinner (see page 4)*
Evening	Conference dinner (see page 4)

Friday 8.9.2017

9.00	Session 5: Control of Digital Fluid Power Systems <i>Chairman: Bernd Winkler</i>
	<i>Non-linear Hybrid Control Oriented Modelling of a Digital Displacement Machine</i> Niels H. Pedersen, Per Johansen & Torben O. Andersen
	<i>Using an Angle Domain Repetitive Control to Achieve Variable Valve Timing for a Digital Displacement Hydraulic Motor</i> Hao Tian, Perry Y. Li & James D. Van de Ven
	<i>Improving the Dynamic Response of a Linear Hydraulic Drive Using a Digital Valve Control</i> Helmut Kogler, Rainer Haas & Georg Keintzel
10.00	Coffee break
10.20	Session 6: Digital Hydraulic Valves <i>Chairman: Shi Guanglin</i>
	<i>High flowrate digital hydraulic valve system</i> Miikka Ketonen & Matti Linjama
	<i>Advancement and Demonstration of the New Generation of LCM's FSVI4.1</i> Thomas Zehetbauer, Paul Foschum, Andreas Plöckinger & Bernd Winkler
	<i>Fast Switching Valve for Low-Pressure Water Hydraulics</i> Mikko Heikkilä, Miika Paloniitty, Matti Linjama & Kalevi Huhtala
11.20	Coffee break
11.30	Keynote speak: <i>From idea to product – Evolution of the digital hydraulic microvalve</i> Prof. Matti Linjama, Automation and Hydraulic Engineering, Tampere University of Technology
12.15	Lunch
13.15	Keynote speak: <i>Digital Fluid Power for Exoskeleton Actuation – Guidelines, Opportunities, Challenges</i> Prof. Rudolf Scheidl, Head of the institute Machine Design and Hydraulic Drives, Johannes Kepler Universität
14.00	Coffee break
14.10	Session 3: Digital Fluid Power Applications <i>Chairman: Henrik C. Pedersen</i>
	<i>Feasibility study of a digital hydraulic winch drive system</i> Sondre Nordås, Torben O. Andersen & Morten K. Ebbesen
	<i>Test-Rig for Digital Displacement Machine Valves</i> Christian Nørgård, Michael M. Bech, Jeppe H. Christensen & Torben O. Andersen
14.50	Closure

Conference Dinner – Practical Info



For people not attending the lab. tour and staying in downtown Aalborg, buses will depart from First Hotel Aalborg at 17.30. For persons attending the lab. tour the bus will depart from AAU around 17.50. When arriving at Rold skov there will be a 15 min walk to the conference dinner through the forest. The buses will return to Aalborg around 24.00.

Of course, the dress code of this evening is outdoor/casual and warm clothes and flat shoes are highly recommended!

Should you have any problems or questions please contact:

Maria Hald (mha@et.aau.dk)

Phone: +45 9940 9238