



OCTOBER 25-26 · FLORIANÓPOLIS - SC · BRAZIL

A Swedish - Brazilian Initiative

3rd Workshop on Innovative Engineering for Fluid Power

October 25 - 26, 2016

Florianópolis, SC, Brazil

Organized by:



PROGRAM - Presentations at laship.ufsc.br/wiefp2016

Tuesday, Oct 25

09:00-10:00 Registration & coffee

10:00-12:00 Session Tue 1 - Introduction - H&P Applications - Chair: Victor De Negri, UFSC

10:00-10:15	Welcome and introduction	Petter Krus Luciana Pereira	Director of FLUMES Associate Professor	FLUMES/LIU UFABC	
10:15-10:45	Hydrostatic transmissions and actuators - overview and applications	Gustavo K. Costa	Associate Professor	IFPE	
10:45-11:15	4EE - Eficiência Energética de Alta Performance para o Aacionamento de Máquinas Hidráulicas	Wagner Mattos	Manager	Bosch Rexroth	
11:15-12:00	Aircraft Hydraulic System Technologies	Birgitta Lantto Magnus Landberg	R&D Engineer Senior Engineer	Saab AB Saab AB	

12:00-13:00 Lunch and Exhibition

13:00-15:00 Session Tue 2 - Innovation - Automation and Control - Chair: Luciana Pereira, UFABC

13:00-13:45	Research on hydraulic wind turbines of Yanshan University	Xiangdong Kong	Vice-President	Yanshan University	
13:45-14:00	Open innovation platform between Brazil and Sweden	Alessandra Holmo	Innovation Engineer	CISB	
14:00-14:30	Application of advanced control functions for double regulated turbines at the Jirau power plant	Henrique Menarin	R&D Engineer	Reivax	
14:30-15:00	DIGITAL SERVOVALVES - The smart approach to electrohydraulic motion control	Mario Valdo	General Manager	Moog	

15:00-15:30 Coffee Break & Exhibition

15:30-17:45 Session Tue 3 - System and Component Modelling - Chair: Jonny Silva, UFSC

15:30-16:15	Predictive Engineering Analytics	André Oliveira	Manager	Siemens/LMS	
16:15-16:45	Advanced modeling techniques and innovations in external gear pumps	Andrea Vacca	Professor	Maha/Purdue University	
16:45-17:15	Bond-Graph Modeling and System Identification of Flight Actuation Systems: EHS, EHA, and MEA	Luiz Góes	Professor Research Dean	ITA	
17:15-17:45	Construction of low-order models for wave propagation in arbitrary 3D geometries	Bernhard Manhartgruber	Professor	Johannes Kepler University	

18:00-19:00 Visit to LASHIP

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Wednesday, Oct 26

08:00-09:30 Session Wed 1 - H&P Applications- Chair: Edson De Pieri, UFSC

08:00-08:30	Design of Safe, Reliable and Efficient Electro-Hydraulic Systems for Subsea Applications	Alexandre Orth	Manager	Bosch Rexroth	
08:30-09:00	Solutions for Valve Process Automation	Maurício Garcia	Director	Ascoval	
09:00-09:30	Challenges and opportunities in fluid power for agriculture machines	Leandro Santos Murilo Oliveira	R&D Engineer R&D Engineer	CNHi CNHi	 


09:30-10:00 Coffee break & Exhibition

10:00-12:00 Session Wed 2 - Introduction - Hydraulic Actuators - Chair: Andrea Vacca, Purdue University

10:00-10:15	Welcome	Victor De Negri	Professor Head of LASHIP	LASHIP/UFSC	
10:15-10:30	ABIMAQ - Chamber for Hydraulic, Pneumatic and Automation Equipment: Brazilian Market Overview	Maurício Garcia	Vice-President CSHPA	CSHPA/ABIMAQ	
10:30-11:00	Challenges and Opportunities for Fluid Power	Monika Ivantysynova	Professor Diretor of Maha	Maha/Purdue University	
11:00-11:15	Design and Research on a Hydraulic Cylinder with Plastic Components	Piotr Stryczek	FPNI presenter	Wroclaw University	
11:15-11:30	Motion Control Concepts for the Hydraulic Infinite Linear Actuator	Martin Hochwallner	FPNI presenter	Linköping University	
11:30-11:45	Virtual Environment with AMESim and its Integration with Matlab-Simulink	Rafael Tovo	FPNI presenter	Embraer	
11:45-12:00	Discussion				







12:00-13:00 Lunch & Exhibition

13:00-15:00 Session Wed 3 - Pneumatic Systems - Chair: Petter Krus, Linköping University

13:00-13:30	A Park-like transform for fluid power systems : application to pneumatic stiffness control	Eric Bideaux	Professor	University of Lyon	
13:30-14:00	Pneumatic control microfluidic systems and applications	Songjing Li	Professor Head of Department	Harbin Institute of Technology	
14:00-14:15	Economy analysis for the selection of the most cost-effective pneumatic drive solution	Elvira Rakova	FPNI presenter	TU Dresden	
14:15-14:30	Design and implementation of supervisory control for electro-pneumatic station subject to faults	Rodrigo Szpak	FPNI presenter	UFSC	
14:30-14:45	Trajectory Planning Based on Firefly Metaheuristic Algorithm Applied to Pneumatically Driven Robots	Anselmo Rafael Cukla	FPNI presenter	UFRGS	
14:45-15:00	Discussion				

15:00-15:30 Coffee Break & Exhibition

15:30-17:45 Session Wed 4 - Digital and Switched Hydraulics - Chair: Bernhard Manhartsguber, Johannes Kepler University Linz

15:30-16:00	When will it Break? Prognostics and Health Management at NASA	Kai Goebel	Area Lead	Nasa Ames	
16:00-16:30	Why Condition Monitoring? Success case on Blow Moulding Machines	Waldir Vianna Jr.	General Manager	Argo-Hytos AT	
16:30-16:45	Reducing fatigue loading due to pressure shift in Discrete Fluid Power Force Systems	Anders Hedegaard Hansen	FPNI presenter	Aalborg University	
16:45-17:00	LQR Feedback Control Development for Wind Turbines Featuring a Digital Fluid Power Transmission System	Niels Henrik Pedersen	FPNI presenter	Aalborg University	
17:00-17:15	Motion Observer with On-Line Parameter Estimation for Moving-Coil Based Digital Valves	Christian Noergaard	FPNI presenter	Aalborg University	
17:15-17:30	Discussion				
17:30-17:45	LASHIP Presentation	Victor De Negri	Professor Head of LASHIP	UFSC	

18:00-20:00 Laboratory Party