



The 3rd Workshop on Innovative Engineering for Fluid Power brings together **Brazilian, Swedish, and International industry and academia**, interested in this **evolving field of fluid power, driver, actuation, mechatronics, and control systems** present in almost all industrial and commercial sectors.

The WIEFP aims **to promote collaboration** in development of **technologies, education, innovation management, and methods and tools for system development and design.**

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• General Co-Chairs

- Victor J. De Negri (victor.de.negri@ufsc.br)
 - Federal University of Santa Catarina, Brazil
- Petter Krus (petter.krus@liu.se)
 - Linköping University, Sweden
- Luciana Pereira (luciana.pereira@ufabc.edu.br)
 - Federal University of ABC, Brazil



• Conference Administrator

- Henrique Raduenz (henrique@laship.ufsc.br)
 - Federal University of Santa Catarina, Brazil



• Chair CISB

- Alessandra Holmo (alessandra.holmo@cisb.org.br)
 - Swedish-Brazilian Research and Innovation Centre



• Chair CSHPA/ ABIMAQ

- Gustavo M. Szymisowicz (gustavo.marcelo@abimaq.org.br)
 - Chamber for Hydraulic, Pneumatic and Automation Equipment



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PROGRAM

	WIEFP₂₀₁₆ Tuesday - Oct. 25	WIEFP / FPNI Wednesday - Oct. 26	FPNI₂₀₁₆ Thursday - Oct. 27	Friday - Oct. 28	
08:00 - 08:30					08:00 - 08:30
08:30 - 09:00	FPNI attendees: Transp. UFSC	Session Wed1 3 WIEFP Inv. S.	Session Thu1 5 FPNI papers Discussion	Session Fri1 5 FPNI papers Discussion	08:30 - 09:00
09:00 - 09:30	Registration&Coffee	FPNI Registration			09:00 - 09:30
09:30 - 10:00	WIEFP2016	Coffee break&Exhibition	Keynote speaker	Keynote speaker	09:30 - 10:00
10:00 - 10:30	Session Tue1 Welcome	Session Wed2 Welcome & ABIMAQ	Coffee break&Exhibition	Coffee break&Exhibition	10:00 - 10:30
10:30 - 11:00	2 WIEFP Invited Speakers	1 WIEFP Invited Speaker	Session Thu2 5 FPNI papers Discussion	Session Fri2 5 FPNI papers Discussion	10:30 - 11:00
11:00 - 11:15		3 FPNI papers			11:00 - 11:15
11:15 - 12:00	Keynote speaker - Gold				11:15 - 12:00
12:00 - 12:30	Lunch&Exhibition	Lunch&Exhibition	Lunch	Lunch	12:00 - 12:30
12:30 - 13:00					12:30 - 13:00
13:00 - 13:30	Session Tue2 4 WIEFP Invited Speakers	Session Wed3 2 WIEFP Invited Speakers 3 FPNI papers	Session Thu3 4 FPNI papers Discussion	Session Fri3 4 FPNI papers Discussion	13:00 - 13:30
13:30 - 14:00			Keynote speaker	Keynote speaker	13:30 - 14:00
14:00 - 14:30	Coffee break&Exhibition	Coffee break&Exhibition	Coffee break&Exhibition	Coffee break&Exhibition	14:00 - 14:30
14:30 - 15:00	Keynote speaker - Gold				14:30 - 15:00
15:00 - 15:30		Session Wed4 2 WIEFP Invited Speakers 3 FPNI papers	Session Thu4 4 FPNI papers Discussion	Session Fri4 4 FPNI papers Discussion + Final Remarks	15:30 - 16:00
15:30 - 16:15					16:00 - 16:30
16:15 - 16:30	Session Tue3 3 WIEFP Invited Speakers	WIEFP Final Discussion		Best paper award FPNI meeting	16:30 - 17:00
16:30 - 17:00					17:00 - 17:30
17:00 - 17:30					17:30 - 17:45
17:30 - 17:45					
18:00	Visit to LASHIP	Laboratory party			
19:00	FPNI attendees: Transp. Hotel				19:00
20:00		Transportation to Jurerê Hotel	Conference dinner	Farewell party	20:00
	Venue: Campus of UFSC	Venue: Campus of UFSC	Venue: Jurerê Beach Village Hotel		

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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	Director of FLUMES	FLUMES/LIU	
		Luciana Pereira	Associate Professor	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	R&D Engineer	Saab AB	
		Magnus Landberg	Senior Engineer	Saab AB	

12:00-13:00 Lunch and Exhibition

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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 Manhartsguber	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	R&D Engineer	CNHi	
		Murilo Oliveira	R&D Engineer	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				

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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	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	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	WIEFP Final Discussion	Victor De Negri Petter Krus	Professor Professor	UFSC LIU	 
18:00-20:00	Laboratory Party				

- Industry:

- Argo-Hytos
- Ascoval
- Bosch Rexroth
- Camozzi
- CNHi
- Moog
- NASA
- Saab
- Siemens
- Reivax

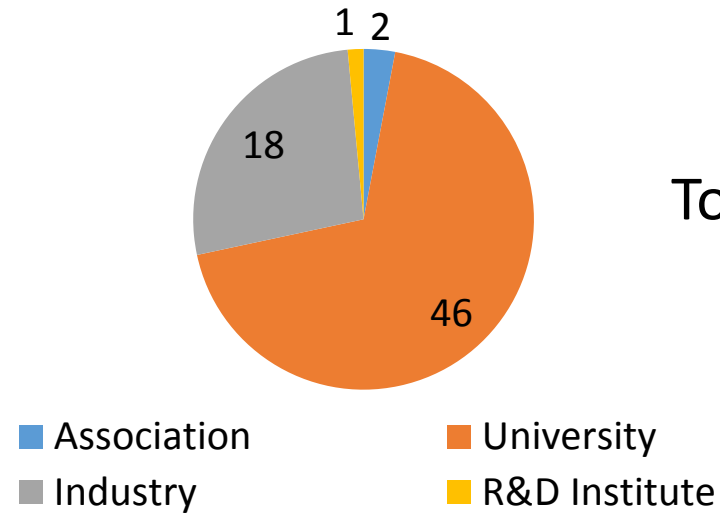
- Academy:

- IFPE
- ITA
- UNIJUI
- UFRGS
- UFSC

- Associations:

- CSHPA/ABIMAQ
- CISB

WIEFP2016: N° Participants/Sector



Total: 67

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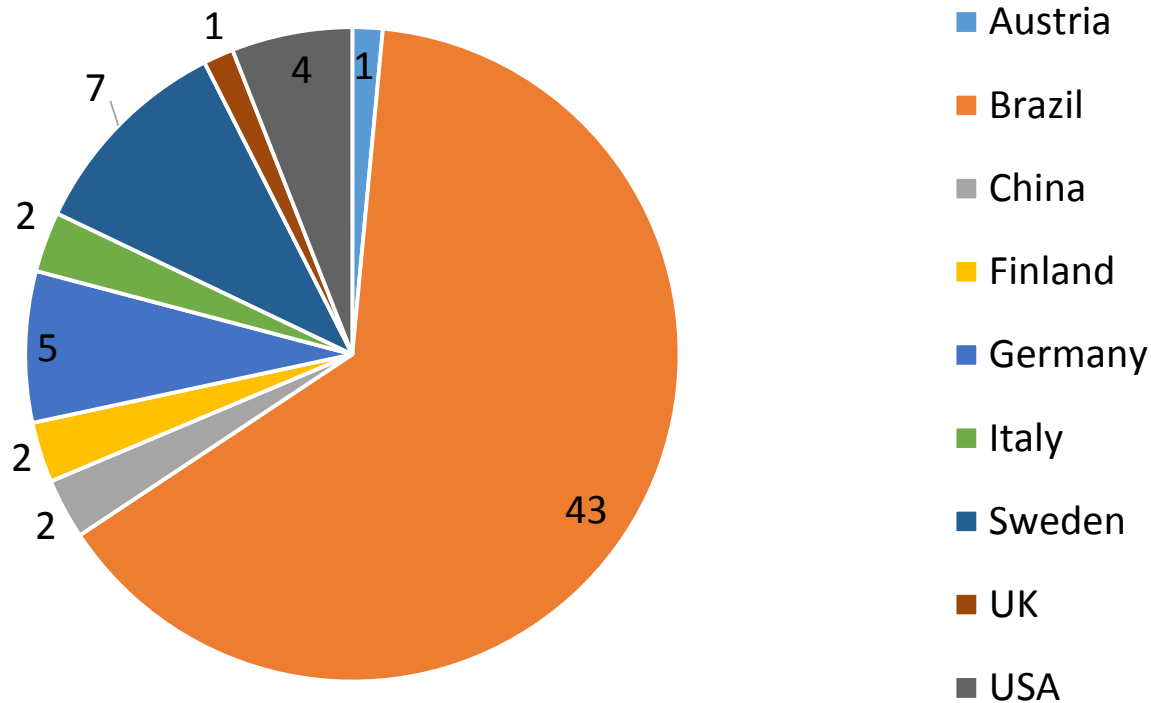
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