

5TH FPNI-PHD, KRAKOW 2008

*in Mechanical Engineering Faculty - Cracow University of Technology, Czyzyny campus,
Krakow, Al. Jana Pawla II 37, bldg.2*

FINAL PROGRAM

1st day, Tuesday, July 1, 2008

Registration			
Location:	<i>Al. Jana Pawla II 37, bldg.2, Hall</i>	Time:	<i>04.00 pm - 07.00 pm</i>
Symposium Opening			
Location:	<i>Al. Jana Pawla II 37, bldg.2, room A3</i>	Time:	<i>05.30 pm - 06.30 pm</i>
<i>Occasional Welcomes and Symposium Official Opening</i>			
The Importance of Innovation and Technology Transfer in an Increasingly More Competitive Fluid Power Market Leif STOKKE & Mads GRAHL - MADSEN (Norway)			
Reception			
Location:	<i>Al. Jana Pawla II 39, Polish Aviation Museum Cracow</i>	Time:	<i>06.30 pm - 09.00 pm</i>

2nd day, Wednesday, July 2, 2008

Session 1			
Subject area:	<i>Power Management & Noise</i>	Time:	<i>08.30 am - 10.10 am</i>
Chairman:	<i>Kim Stelson</i>	Place:	Bldg. 2, Room A3
Time	Title of presentation	Name of Speaker	
08.30. - 08.50.	Towards an Optimal Energy Management Strategy for Hybrid Hydraulic Powertrains Based on Dual Stage Power Split Principle	Kyle WILLIAMS (USA)	
08.50. - 09.10.	Towards an Optimal Energy Management Strategy for Hydraulic Hybrid Powertrains Based on Output-Coupled Power Split Principle	Rajneesh KUMAR (USA)	
09.10. - 09.30.	A Method for Noise Reduction in Hydraulic Lines	James WANG (Canada)	
09.30. - 09.50.	Investigation of Noise source Reduction Strategies in Hydrostatic Transmissions	Richard KLOP (USA)	
09.50. - 10.10.	The Effect of System Pressure Level on the Energy Consumption of Displacement Controlled Actuator Systems	Josh ZIMMERMAN (USA)	
Coffee Break			
Place:	Bldg. 2, Room 31	Time:	<i>10.10 am - 10.30 am</i>
Session 2			
Subject area:	<i>Pumps & Motors</i>	Time:	<i>10.30 am - 12.10 pm</i>
Chairman:	<i>Edwad Lisowski</i>	Place:	Bldg. 2, Room A3
Time	Title of presentation	Name of Speaker	
10.30. - 10.50.	Valve Plate Surface Temperature Prediction in Axial Piston Machines	Najoua JOUINI (Germany)	
10.50. - 11.10.	Noise Reduction in Axial Piston Machines Based on Multi-Objective Optimization	Ganesh SEENIRAJ (USA)	
11.10. - 11.30.	Comparative Tests of Microprocessor Control LED Low Speed Hydraulic Motors in the Range of Low Rotation Speeds	Andrzej SKROCKI (Poland)	

11.30. - 11.50.	"Cycloidal Gear Machines" Optimal Designing of Inner Channels in Gerotor Pumps	Piotr ANTONIAK (Poland)
11.50. - 12.10.	Research on Non-Meshing Force Gear Pump	Zhen-Hui LUAN (China)
Lunch		
Place:	Bldg. 2, Room 31	Time: 12.10 pm - 01.10 pm
Session 3		
Subject area:	Control	Time: 01.10 pm - 02.50 pm
Chairman:	<i>Bernhard Manhartsgruber</i>	Place: Bldg. 2, Room A3
Time	Title of presentation	Name of Speaker
01.10. - 01.30.	Problems of the Adaptive Control for Electro-Hydraulic Servo-System	Piotr WOS (Poland)
01.30. - 01.50.	Pressure Control in Digital Hydraulics	Jyri JUHALA (Finland)
01.50. - 02.10.	A Multivariable Passivity Based Control For an Electropneumatic Actuator	Karima Turki SAIED (France)
02.10. - 02.30.	A 2nd-Order Robust Adaptive Differentiator-Controller Design for an Electropneumatic System	Lilia SIDHOM (France)
02.30. - 02.50.	Cascade Nonlinear Control of Pneumatic Actuators with Application to the Aeromovel Transport System	Mário SOBCZYK (Brasil)
Coffee Break		
Place:	Bldg. 2, Room 31	Time: 02.50 pm - 03.10 pm
FPNI - Open Meeting		
Subject area:		Time: 03.10 pm - 04.30 pm
Chairman:	<i>Rudolf Scheidl</i>	Place: Bldg. 2, Room A3
Free Time		
Time: 04.30 pm - 06.15 pm		
Bus Transport to Official Dinner in Grand Hotel Restaurant		
Place:	<i>Departure From AWF Hostel & Justyna Hotel Parking</i>	Time: 06.15 pm
Official Dinner		
Place:	<i>Grand Hotel Restaurant</i>	Time: 07.00 pm - 09.00 pm
Return Transport to AWF Hostel & Justyna Hotel		
Place:	<i>Departure From Szczepanski Square</i>	Time: 09.30 pm - 1 st bus departure 11.00 pm - 2 nd bus departure

3rd day, Thursday, July 3, 2008

Session 4		
Subject area:	Fluids and Tribology	Time: 08.30 am - 10.10 am
Chairman:	<i>Mads Grah-Madsen</i>	Place: Bldg. 2, Room A3
Time	Title of presentation	Name of Speaker
08.30. - 08.50.	Condition-Monitoring-System for Hydraulic Fluids	Christian RIEDEL (Germany)

08.50. - 09.10.	A New Fluid-Structure Interaction Model for the Slipper-Swashplate Interface	Matteo PELOSI (USA)
09.10. - 09.30.	Hydraulic and Tribological Investigation of Injection Systems for or Fuels from Biomass	Sebastian DRUMM (Germany)
09.30. - 09.50.	Power Balance in Hydraulic Satellite Motors Supplied with Oil and Emulsion HFA-E	Paweł SLIWINSKI (Poland)
09.50. - 10.10.	Bubble Elimination for Hydraulic Systems - New Design of Hydraulic System for Environmental Compatibility	Koichi NAGAISHI (Japan)
Coffee Break		
Place:	Bldg. 2, Room 31	Time: 10.10 am - 10.30 am
Session 5		
Subject area:	<i>Pumps</i>	Time: 10.30 am - 12.10 pm
Chairman:	<i>Jarosław Stryczek</i>	Place: Bldg. 2, Room A3
Time	Title of presentation	Name of Speaker
10.30. - 10.50.	Improving the Dynamic Behaviour of Axial Piston Pumps by Means of a Generic Simulation Approach	Alexander WOHLERS (Germany)
10.50. - 11.10.	A Study of Gap Flow Conditions Between the Piston and the Cylinder of an Axial Piston Pump	Andrew FREDRICKSON (USA)
11.10. - 11.30.	Micro Mechatronics System Using Functional Fluid Power - Design and Fabrication of Micro Pump and Connecting Tube	Masafumi EBISAWA (Japan)
11.30. - 11.50.	New Design of Tribological Systems of Axial Piston Pumps With Coatings and Environmentally Friendly Fluids	Claus ENEKES (Germany)
11.50. - 12.10.	Investigation of Power Losses in the Lubricating Gap Between the Cylinder Block and Valve Plate of Axial Piston Machines	Jonathan BAKER (USA)
Lunch		
Place:	Bldg. 2, Room 31	Time: 12.10 pm - 01.10 pm
FPNI - Young Meeting		
Subject area:		Time: 01.10 pm - 02.50 pm
Chairman:	<i>Robert Rahmfeld</i>	Place: Bldg. 2, Room A3
Coffee Break		
Place:	Bldg. 2, Room 31	Time: 02.50 pm - 03.10 pm
Free Time		
Time: 03.10 pm - 04.15 pm		
Bus Transport to Royal Castle in Niepolomice		
Place:	<i>Departure From AWF Hostel & Justyna Hotel Parking</i>	Time: 04.15 pm
Poster Session		
Subject area:	<i>Poster Session</i>	Time: 05.00 pm - 06.00 pm
Chairman:	<i>Jacek Stecki</i>	Place: Royal Castle in Niepolomice
No	Title of Poster	Name of Presenter
1	Method of Characteristics Forming of the Multifunctional Hydrostatic Machine	Michał BANAS (Poland)
2	Dynamic Analysis of Hydraulic Receivers Controlled in the Proportional Technique	Ireneusz BURSZZAN (Poland)
3	CFD Analysis of a Flow Control Valve	Mariusz DOMAGALA (Poland)

4	Modelling of Bent Axis Axial Piston Machines – New Approach	Daniel DYMINSKI (USA)
5	Pressure Control in Band-Saw Hydraulic System Using the Fuzzy Logic	Grzegorz FILO (Poland)
6	Concept of Active Counterweight System for Medium Excavator	Artur GAWLIK (Poland)
7	Conception of Mobile Robot with Hydrostatic Drive Controlled by Use of Plus+1 Module	Artur GUZOWSKI (Poland)
8	An Analysis of a Hydraulic Cylinder Sealing by the Use of Finite Element Method	Michał HAWRYLUK (Poland)
9	Mini-Excavator Performance Prediction and Verification Through Experiment	Edward HUGHES (USA)
10	Optimization of Pneumatic Power Servo-Mechanism Made Completely from Polymeric Materials	Paweł KOT (Poland)
11	Energy Recuperation in Hydrostatic Transmission System	Piotr KUCYBALA (Poland)
12	CFD Analysis of Pilot Operated Relief Valve	Hassan MOMENI (Norway)
13	Experimental Investigations of Guide Rings Made of UHMWPE and PTFE Composite in Water Hydraulic Systems	Wojciech OKULARCZYK (Poland)
14	Residual Life Prediction of Hydrostatic Drive Using Artificial Neural Networks	Imrich PÓSA (Slovakia)
15	Control System of Double Acting Single Ended Cylinder - Water Turbine Simulation Conception	Paweł WALCZAK (Poland)
16	Topology Optimization of the Connecting Rod	Anna ULATOWSKA (Poland)
Dinner		
Place:	<i>Royal Castle in Niepolomice</i>	Time: <i>06.00 pm - 09.00 pm</i>
Transport to AWF Hostel & Justyna Hotel		
Place:	<i>Departure From Royal Castle in Niepolomice Parking to AWF Hostel & Justyna Hotel</i>	Time: <i>09.00 pm</i>

4th day, Friday, July 4, 2008

Session 6			
Subject area:	<i>Computer Methods</i>	Time:	<i>08.30 am - 10.10 am</i>
Chairman:	<i>Petr Noskievic</i>	Place:	Bldg. 2, Room A3
Time	Title of presentation	Name of Speaker	
08.30. - 08.50.	Modelling and Simulation of External Gear Pumps and Motors	Barbara ZARDIN (Italy)	
08.50. - 09.10.	FMEA Matrix Method in Analysis of Hydraulic Systems	Joanna FABIS (Poland)	
09.10. - 09.30.	Developing and Tailoring a CFD code for Multiphase Multicomponents Flows	Federica FRANZONI (Italy)	
09.30. - 09.50.	Automatic Recognition of Hydraulic Component Symbols in the Technical Drawings	Marek CIEZOBKA (Poland)	
09.50. - 10.10.	Optimization of the Power Management Strategy for a Hydraulic Hybrid Vehicle	Jonathan MEYER (USA)	

Coffee Break			
Place:	Bldg. 2, Room 31	Time:	10.10 am - 10.30 am
Session 7			
Subject area:	Robotics	Time:	10.30 am - 12.10 pm
Chairman:	<i>Monika Ivantysynova</i>	Place:	Bldg. 2, Room A3
Time	Title of presentation	Name of Speaker	
10.30. - 10.50.	Water Hydraulic weld/cut Robot with Parallel Architecture	Pekka PESSI (Finland)	
10.50. - 11.10.	Design of A Hydraulic Servo System for Robotic Manipulation	Martin CHOUX (Norway)	
11.10. - 11.30.	Application of Parallel Control System in Manipulators Work Visualization Process	Tadeusz CZYZEWSKI (Poland)	
11.30. - 11.50.	Pseudo-Dynamic Solution of Pressures in Small Volumes in Fluid Power Circuit Simulation	Rafael ÅMAN (Finland)	
11.50. - 12.10.	Simulation of a Periodically Excited Nonlinear Transmission Line	Rainer HAAS (Austria)	
Lunch			
Place:	Bldg. 2, Room 31	Time:	12.10 pm - 01.10 pm
Announcement & Symposium Session Closure			
Subject area:		Time:	01.10 pm - 02.10 pm
Chairman:	<i>Backé Award Jury President</i>	Place:	Bldg. 2, Room A3
Coffee Break			
Place:	Bldg. 2, Room 31	Time:	02.10 pm - 02.30 pm
FPNI General Assembly			
Place:	Bldg. 2, Room A3	Time:	02.30 pm - 04.00 pm
Transport to Krakow Center			
Place:	<i>Departure From AWF Hostel & Justyna Hotel</i>	Time:	05.30 pm
Unofficial Meeting			
Place:		Time:	06.00 pm