

FACULTY OF ENGINEERING IN MODENA
UNIVERSITY OF MODENA AND REGGIO EMILIA



DEMOCENTER S. C. A R. L.



FLUID POWER NET
INTERNATIONAL

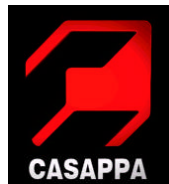


THE 2nd INTERNATIONAL FPNI
Ph.D. SYMPOSIUM ON FLUID POWER

July, 3-5 2002 - MODENA – Italy

FINAL PROGRAM

KINDLY SUPPORTED BY



WEDNESDAY 3rd of July 2002

16,00/19,30

REGISTRATION DESK OPENING
WELCOME REFRESHMENTS

THURSDAY 4th of JULY

8,00/18,30

REGISTRATION DESK OPENING
POSTER EXHIBITION OPENING

SYMPOSIUM OPENING

9,30/10,30 - ROOM FA1B

Prof. G. Pellacani – Major of the University of Modena and Reggio Emilia

Prof. P. Tiberio – Assistant Dean of the Faculty of Engineering in Modena

Prof. G. Cantore – DIMEC, University of Modena and Reggio Emilia – Chairman of the 2nd Int. FPNI PhD Symp. Scientific Committee

10,30/11,00

COFFEE BREAK

PLENARY SESSION

11,00/12,30 - ROOM FA1B

Invited Lectures

Prof. J. Stecki – Monash University - AUSTRALIA

Prof. M. Ivantysynova – Technical University of Hamburg-Harburg – GERMANY

Prof. C. Burrows – University of Bath – UK

12,30/14,30

LUNCH & VISIT TO THE EXPO

HYDRAULIC PUMPS & MOTORS (1)

14,30/16,00 - ROOM FA1B

CHAIRMAN: Prof. N. NERVEGNA – Politecnico di Torino – ITALY

1. A Precise Steady-State Model of Displacement Machines for the Application in Virtual Prototyping of Power Split Drives - D. Mikeska - Technical University of Hamburg-Harburg – GERMANY
2. Satellite Hydraulic Motor with Axial Clearance Compensation - K. Elgert- Technical University of Gdansk- POLAND
3. Theoretical and Experimental Studies of a New Hydrostatic Coupling - M. Banas, J. Stryczek- Wroclaw University of Technology- POLAND
4. Research on the Main Components of a Positive Displacement Pump by FEM - C. Rosu, N. Vasiluiu- University Politechnica of Bucarest- ROMANIA

HYDRAULIC SYSTEMS & FILTRATION (1)

14,30/16,00 - ROOM FA1C

CHAIRMAN: Prof. J. STECKI – Monash University – AUSTRALIA

1. Active Lubrication for reducing Wear and Vibration - A Combination of Fluid Power Control and Tribology - R. Nicoletti, I. Ferreira Santos- University of Campinas / DTU- BRASIL/DENMARK
2. Experimental Investigation of the Dynamic Processes and Parameters Identification in Electrohydraulic Power System - H.N. Hristov- Technical University of Gabrovo- BULGARIA
3. Steady State Analysis of the Load Sensing System - D. Wu- University of Saskatchewan- CANADA
4. Theoretical and Experimental researches on the Shock Absorbers - I. Antonescu, N. Vasiliu, C. Calinoiu- University Politechnica of Bucarest- ROMANIA

16,00/16,30

COFFEE BREAK

HYDRAULIC SYSTEMS CONTROL (1)

16,30/18,00 - ROOM FA1B

CHAIRMAN: Prof. J. WATTON – Cardiff University – UK

1. Automatic Level Control in Agricultural Machinery - B. Winkler, R. Scheidl- University of Linz- AUSTRIA
2. Tool Center Control of Mobile Hydraulic Manipulators - M.E. Munzer, P. Pedersen- Aalborg University- DENMARK
3. Development of an Automated Camber Control System for the Roughing Stands of a Hot Strip Mill - R. Montague, J. Watton, K. Brown- Cardiff University- UK

4. Preliminary Design Rules for Electro-Hydraulic Position Control Actuation System with Structure Compliance - Y. Liming, J-C. Mare, W. Zhanlin- INSA Toulouse- France
5. Friction Compensation for Secondary Control Load Simulator Based on Fuzzy Control - W. Xiaodong, J. Zongxia- Beijing University of Aeronautics and Astronautics - CHINA

HYDRAULIC SYSTEMS & FILTRATION (2)

16,30/18,00 - ROOM FA1C

CHAIRMAN: Prof. E. CODINA MACIA – Universitat Politècnica de Catalunya (UPC)- SPAIN

1. Modal Characteristics of a Hydraulic Cylinder and Their Variation with Rod Extension - F. Monroig, H. Sumali, B. Yagci- Purdue University- USA
2. Dynamic Stability of a Pipe Subjected to a Pulsating Flow - G. Catellani, M. Milani, F. Pellicano- University of Modena- ITALY
3. Realizing Multiple Injections Strategy with a Common Rail Electro Injector - A.Giuffrida, R. Lanzafame, G.Esposito Corcione - University of Catania- ITALY
4. Modeling and Simulation of a Fuel Metering System, Employing a Pulse Width Modulated Unloading Valve Connected to a Fixed Displacement Pump - S. Vijayakumar, R. S. Chandran- Kettering University- USA

GALA DINNER

(20,30/24,00)

KINDLY OFFERED BY



FRIDAY 5th of JULY

8,00/18,30

REGISTRATION DESK OPENING
POSTER EXHIBITION OPENING

HYDRAULIC SYSTEMS CONTROL (2)

9,00/10,30 - ROOM FA1B

CHAIRMAN: PROF. J.C. MARE – INSA Toulouse – FRANCE

1. Neurons Adaptive Control Based on Sliding Mode Control Optimized by Fuzzy Logic Inference Applied on a Hydraulic Actuator System - Y. Yong, W. Shan, H. Wenmei, K.E. Rydberg- Changsha University, Linkoeping University- CHINA/SWEDEN
2. Torque Control System Based on Compound Control Strategies for Aerodynamic Load Simulator - R. Zhiting, J. Zongxia-Beijing University of Aeronautics and Astronautics- CHINA
3. Application of Neural Networks in Hydraulic Control Systems - E. Lisowski, G. Filo- Cracow University of Technology- POLAND
4. Development of a Robust Controller for a Pressure Control Unit - A.Bootz, B. Stoffel- Darmstadt University of Technology- GERMANY

COMPONENT DESIGN & CFD APPLICATIONS (1)

9,00/10,30 - ROOM FA1C

CHAIRMAN: PROF. N. VASILIU – University Politechnica of Bucarest- ROMANIA

1. Modelling of a Water Hydraulic Poppet Valve Using CFD Technique - T. Leino, M. Linjama, K.T. Koskinen, M. Vilenius- FINLAND
2. Flow Forces Analysis on a Four-Way Valve - G. Del Vescovo, A. Lippolis- Bari Politechnic- ITALY
3. Research on Pressure Drop in Hydraulic Components by means of CFD Method on Example of Control Valve - P. Gromala, M. Domagala, E. Lisowski- Cracow University of Technology- POLAND
4. Methodology for the Miniaturization of Hydraulic Components – D. Huguet, E. Codina Macia- Universitat Politècnica de Catalunya (UPC)- SPAIN

10,30/11,00

COFFEE BREAK

HYDRAULIC PUMPS & MOTORS (2)

11,00/12,30 - ROOM FA1B

CHAIRMAN: PROF. C. BURROWS – University of Bath – UK

1. Bearing Load on Circular Slippers: Hydrodynamic and Hydrostatic Aspects - G. Carbone, L.Soria- Bari Politechnic- ITALY
2. Suction Capability of Gear Pumps - M. Poy Ferrer, E. Codina Macia- Universitat Politècnica de Catalunya (UPC)- SPAIN

3. Modelling and Simulating Hydraulically Balanced External Gear Pumps - M. Borghi, M. Milani, F. Paltrinieri- University of Modena & Reggio Emilia- ITALY
4. Fluid Borne Noise Characteristics of a Gerotor Pump: Measurement and Prediction - P.J. Gamez-Montero, E. Codina Macia- Universitat Politecnica de Catalunya (UPC)- SPAIN

HYDRAULIC SYSTEMS CONTROL (3)

10,30/12,30 - ROOM FA1C

CHAIRMAN: PROF. M. IVANTYSNOVA – Tech. University of Hamburg–Harburg - GERMANY

1. On a FRF Based Experimental Sub-Structuring Technique for Linear Vibrating Systems - A.O. Andrisano, G. Bonori, G. Catellani, F. Pellicano- University of Modena- ITALY
2. Control of Hydrostatic Multisources Power Systems in terms of Selected Criteria - H. Chrostowski, K. Kedzia- Wroclaw University of Technology- POLAND
3. Development of a Control Concept for a Hydrostatic Drive with Optimized Primary Power Consumption - J.C. Ossyra- Technical University of Hamburg-Harburg- GERMANY
4. A High Precision Control System for Hydraulic Cylinder – R. Amirante, A. Lippolis, V. Marzullo -Bari Politechnic- ITALY
5. Robust Controller Design for Hydraulic Joint Servo Actuators - J. Grabbel- Technical University of Hamburg-Harburg- GERMANY
6. Hybrid Pressure Control Concept for a Speed Variable AC Motor Pump in Aerospace Application - J. Engelhardt, C. Greissner- Technical University of Hamburg-Harburg- GERMANY

12,30/14,30

LUNCH & VISIT TO THE EXPO

COMPONENT DESIGN & CFD APPLICATIONS (2)

14,30/16,00 - ROOM FA1B

CHAIRMAN: Prof. K.E. RYDBERG – Linköping University - SWEDEN

1. Optimal Response of Pressure Reducers and Stability Influences of the Downstream Line Dynamics - G. Favennec, M. Alirand, M. Lebrun- Imagine S.A.- FRANCE
2. Hydraulic Damping Device in Servosolenoids - M. Sorli, A. Guala, S. Pastorelli- Politecnico di Torino- ITALY
3. Theoretical and Experimental Researches on the Electrohydraulic Speed Governors for Hydraulic Turbines - C. Dragoi, D. Vasiliu- University Politechnica of Bucarest- ROMANIA
4. Theoretical and Experimental Researches on the Proportional Solenoids for Electrohydraulic Control Systems - V. Muraru, C. Muraru, N. Vasiliu- University Politechnica of Bucarest- ROMANIA

HYDRAULIC SYSTEMS & FILTRATION (3)

14,30/16,00 - ROOM FA1B

CHAIRMAN: PROF. R. SCHEIDL – UNIVERSITY OF LINZ – AUSTRIA

1. A Novel Concept for a Fast Switching Positioning Actuator - N. Krinbacher, R. Scheidl- University of Linz- AUSTRIA
2. Simulation of a Local Source of Concentration Polarization in Membrane Channels - A. Estuti, E. Litvai- Budapest University of Technology and Economics-UNGARY
3. Modelling Filtration in Water Hydraulic Systems - H. Riipinen, S. Varjus, S. Soini, J. Puhakka, K.T. Koskinen, M. Vilenius- Tampere University of Technology- FINLAND
4. Efficiency of UV-Irradiation and Filtration in Controlling Microbial Growth in Water Hydraulic Systems - S.M. Soini, K.T. Koskinen, M.J. Vilenius, J.A. Puhakka- Tampere University of Technology - FINLAND

16,00/17,00

COFFEE BREAK
POSTER SESSION TOUR
EXPO VISIT

SYMPOSIUM CLOSURE

17,00 – ROOM FA1B

CONCLUDING REMARKS

Prof. G. Cantore – Chairman of the 2nd International FPNI PhD Symposium Scientific Committee
Prof. J. Stecki – Chairman of the Fluid Power Net International Board

BEST PAPER AWARD
Kindly Offered by

