

4. Milling Strategy Prediction with SOM Neural Network  
(SI) Simon Klančnik, Joze Balic, F. Cus

Session 4.2 - Friday October 10th - 13:00-14:30, Room: Amber II  
Session name: **Control Systems and Their Interfaces**  
Chairs: Gérard Morel

- Basics of Modelling IEC 61499 Function Blocks with Integer-Valued Data Types  
(BG/GE) Ioanna Ivanova-Vasileva, Christian Gerber, Hans-Michael Hanisch
- A Data Processing Model of IEC 61499 Function Blocks with Integer-Valued Data Types  
(DE) Christian Gerber, Ioanna Ivanova-Vasileva, Hans-Michael Hanisch
- Designing Structure of Operations of Technological Process of Machining Shafts in CIM Considering the Technological Inheritance  
(PL/UA) Witold Halas, Victor Taranenko, Antoni Swic, Georgij Taranenko
- A Model of a Quality Control for an Integrated Manufacturing Systems  
(PL) Przemyslaw Korytkowski, Oleg Zaikin, Agnieszka Olejnik-Krugly

Session 4.3 - Friday October 10th - 13:00-14:30, Room: Turkus

Session name: **Advanced Maintenance Engineering, Services and Technology 3**  
Chairs: Carlos Pereira

- Evaluating the Role of Maintenance Maturity in the Adoption of New ICT in the Process Industry  
(IT/FR) Luca Fumagalli, Danilo Elefante, Marco Macchi, Benoit lung
- Challenges in the Development of an e-Maintenance System  
(ES/FI) Adam Adgar, Aitor Arnaiz, Erkki Jantunen
- A Road-Map to the Implementation of Advanced ICTs in Maintenance Organization  
(IT/FR) Danilo Elefante, Luca Fumagalli, Marco Garetti, Eric Levrat
- Modular Modeling of Maintenance Activities for Multi-Sites Structure  
(FR) Ahmad Alali Alhouaij, Zineb Simeu-Abazi

Session 5.1 - Friday October 10th - 15:00-16:30, Room: Amber I

Session name: **Performance Evaluation Models for Manufacturing Systems**  
Chairs: Edward Nawarecki

- Towards a Holistic Approach for Intelligent Manufacturing Systems Synthesis  
(RO/AT) Aurelian Mihai Stanescu, Dimitris Karagianni, Mihnea Moisescu, Ioan Sacala, Valentin Manoiu
- Mathematical Model of Discrete Event Dynamic System  
(RU) Vladimir Kulba, Sergey Nikolsky
- Multi-Objective Optimization of Dependability Attributes Using an Asynchronous Heterogeneous Hierarchical Parallel Genetic Algorithm  
(CN/UK) Zeng Wenhua, Yiannis Papadopoulos, David Parker
- Modelling of Ecological Risk of Industrial Systems  
(RU) Dmitry Kononov, Vladimir Kulba, Boris Pavlov
- A Multi-Objective Approach for Transfer Line Optimization  
(SY/FR) Lina Makdessian, Farouk Yalaoui, Alexandre Dolgui

Session 5.2 - Friday October 10th - 15:00-16:30, Room: Amber II

Session name: **Reconfigurable Manufacturing Systems and Transformable Factory**  
Chairs: Alexandre Dolgui

- Increasing Flexibility and Availability of Manufacturing Systems – Dynamic Reconfiguration of Automation Software at Runtime on Sensor Faults  
(DE) Andreas Wannagat, Birgit Vogel-Heuser
- Specification of a Device Interface for Service-Oriented Automation Control Componentes  
(PT) Jose Barbosa, J. Marco Mendes, Paulo Leitao
- OWL Ontology to Support Evolvable Assembly Systems  
(PT/SE) Luis Ribeiro, Jose Barata, Mauro Onori, Antonio Amado
- Machine-Part Grouping and Cluster Analysis  
(PL) Jan W. Owsinski
- Integrated approach for design of machining systems  
(FR) Alexandre Dolgui, Nikolai Guschinsky, Genrikh Levin



October 9-10, 2008  
Szczecin, Poland  
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International Federation of Automatic Control

## 9th IFAC Workshop on Intelligent Manufacturing Systems (IMS'08)



### FINAL PROGRAM

Hour	Thursday - October 9th	Room	Hour	Friday - October 10th	Room
8:00 - 9:00	Registration		9:00 - 9:30	Plenary speech: Marek B. Zaremba	Amber
9:00 - 9:30	Opening ceremony	Amber	9:30 - 10:00	Plenary speech: Natalia N. Bakhtadze	Amber
9:30 - 10:00	Plenary speech: Gérard Morel	Amber	10:00 - 10:30	Coffee break	
10:00 - 10:30	Plenary speech: Carlos Eduardo Pereira	Amber	10:30 - 12:00	Session 3.1.	Amber I
10:30 - 11:00	Coffee break			Session 3.2.	Amber II
11:00 - 12:30	Session 1.1.	Amber I		Session 3.3.	Turkus
	Session 1.2.	Amber II	12:00 - 13:00	Lunch	
12:30 - 13:30	Lunch		13:00 - 14:30	Session 4.1.	Amber I
13:30 - 15:00	Industrial session	Amber		Session 4.2.	Amber II
15:00 - 15:30	Coffee break			Session 4.3.	Turkus
15:30 - 17:00	Session 2.1.	Amber I	14:30 - 15:00	Coffee break	
	Session 2.2.	Amber II	15:00 - 16:30	Session 5.1.	Amber I
	Session 2.3.	Turkus		Session 5.2.	Amber II
17:10 - 19:40	Official kick-off of the WG A-MEST	Amber I	16:30 - 17:00	Closing ceremony	Amber I
20:00	Banquet in the city centre				

Internet in access is available in Jaspis room.

Session 1.1 - Thursday October 9th - 11:00-12:30, Room: Amber I

Session name: **Modeling and Simulation for Manufacturing**  
Chairs: Jerzy Józefczyk

- Agent Environment for Supply Chain Modelling and Management  
(PL) Edward Nawarecki, Jaroslaw Koźlak
- Agent Approach to Transportation Modelling and Optimization  
(PL) Jaroslaw Koźlak
- The Modelling and Simulation Method in Computer Aided Cooperation  
(PL) Józef Matuszek, Aleksander Moczala
- Automation of the Training Process Using a Computerized Simulator System  
(RU) Valentin Lebedev, Elena Kulida
- Specificity of Bottlenecks in Conditions of Unit and Small-Batch Production  
(PL) Józef Matuszek, Janusz Mleczo

Session 1.2 - Thursday October 9th - 11:00-12:30, Room: Amber II

Session name: **Knowledge Driven Production Planning 1**

Chairs: Natalia N. Bakhtadze

1. Knowledge Based and CLP-Driven Approach to Multi Product Small-Size Production Flow  
(PL) Irena Bach, Grzegorz Bocewicz, Wojciech Muszyński, Zbigniew Banaszak
2. Discovery of Knowledge in Electrical Power Systems  
(PL) Bartosz Jędrzejec, Edward Nawarecki
3. Ontology-Based Knowledge Sharing in Flexible Supply Networks  
(RU) Alexander Smirnov, Tatiana Levashova, Nikolay Shilov
4. Benchmarking of ERP Systems Implementation: Case Study  
(PL) Sławomir Kłos, Justyna Patalas

**Industrial session** - Thursday October 9th - 13:30-15:00, Room: Amber

Chairs: Józef Matuszek

1. Digital Factory - The Slovak Productivity Center and The Central European Institute of Technology  
(SK) Milan Gregor
2. Polish Mobile Robots for Defense and Security  
(PL) Piotr Szymkarczyk
3. Modelling and Simulation for Production and Manufacturing Systems  
(PL) Dariusz Plinta

Session 2.1 - Thursday October 9th - 15:30-17:00, Room: Amber I

Session name: **Digital Factory**

Chairs: Oleg Zaikin

1. An Automatic Method to Identify Human Alternative Movements: Application to the Ingress Movement  
(FR) Mohand Ouidir Ait El Menceur, Philippe Pudlo, J-F. Debril, Philippe Gorce, François-Xavier Lepoutre
2. Virtual Manufacturing in Research & Industry  
(SK) Andrej Stefanik, Milan Gregor, Radovan Furmann, Peter Skorik
3. 3D Laser Scanning in Digitization of Current Production Systems  
(SK/PL) Milan Gregor, Fredinand Budzełng, Andrej Štefánik, Dariusz Plinta
4. Improving Digital Interaction for Operator-Driven Process-Plant Operation  
(FR) Dragos Dobre, G'erard Morel, Jean-Francois P'etin, Eddy Bajic
5. RFID-IMSII Methodology for the Management of a Real Factory Simulation Connected with a Physical Platform  
(MX/ES) Julio C. Encinas, Javier de las Morenas, Andrés García, José Manuel Pastor

Session 2.2 - Thursday October 9th - 15:30-17:00, Room: Amber II

Session name: **Knowledge Driven Production Planning 2**

Chairs: Marek Zaremba

1. Capturing Product Development Knowledge with Task Patterns: Approach and Economic Effects  
(SE) Kurt Sandkuhl
2. New Approach to a Modeling of Knowledge  
(GE) Alexandre Ediberidze, Badri Meparishvili, Gulnara Janelidze
3. Neural Networks as Classification Models in Intelligent CAPP Systems  
(PL) Izabela Rojek
4. Production Planning and Control in Intelligent Manufacturing System  
(RU) Boris Sovetov, Vladimir Chertovskoj
5. Decision Control System for HSM  
(MX) Antonio Jr Vallejoa, Ruben Morales-Menendez

Session 2.3 - Thursday October 9th - 15:30-17:00, Room: Turkus

Session name: **Advanced Maintenance Engineering, Services and Technology 1**

Chairs: Benoît lung

1. Machine Fault Diagnosis and Condition Prognosis using CART and Neuro-Fuzzy Systems  
(KR) Van Tung Tran, Bo-Suk Yang

2. Early Detection of Bearing Damage by Means of Decision Trees

(BE/FR) Bovic Kilundu, Christophe Letot, Pierre Dehombreux, Xavier Chimentin

3. Decentralized Fault Diagnosis System based on Intelligent Agents for Chemical Process Plant

(IR) Peyman Akhlaghi, Amir Reza Kashanipour, Karim Salahshoor

4. Repairable Systems Availability Optimization under Imperfect Maintenance

(TN) Slah Samet, Anis Chelbi, Fayçal Ben Hmida

5. Contribution for an Optimal Choice of Business and Maintenance Plans, Based of an Adaptive Failure Law

(FR) Jérémie Schutz, Nidhal Rezg, Jean-Baptiste Leger

Session 3.1 - Friday October 10th - 10:30-12:00, Room: Amber I

Session name: **Mathematical Models of Manufacturing Systems Optimization**

Chairs: Zbigniew A. Banaszak

1. Simulated Annealing with Adaptive Neighborhood Applied to the Placement over Containers with Fixed Dimensions  
(BR) Thiago de Castro Martins, Marcos de Sales Guerra Tsuzuki
2. Application of Uncertain Variables to Production Planning in a Class of Manufacturing Systems  
(PL) Dariusz Gąsior, Jerzy Józefczyk
3. Scheduling of Unit-time Jobs with Distinct Due Windows on Parallel Processors  
(PL) Adam Janiak, Rafał Januszkiewicz
4. CNC Machine Scheduling Problems with the Tool Aging  
(PL) Adam Janiak, Władysław Janiak, Radosław Rudek, Agnieszka Wielgus
5. Stiffness Analysis Of Multi-Chain Parallel Robotic Systems  
(FR) Anatol Pashkevich, Damien Chablat, Philippe Wenger

Session 3.2 - Friday October 10th - 10:30-12:00, Room: Amber II

Session name: **Intelligent Monitoring**

Chairs: Joze Balic

1. Intelligent Robotic Multisensorial System to Build Metallic Structures  
(ES) Juan Antonio Corrales, Gabriel García, Pablo Gil, Jorge Pomares, Santiago Puente, F. Torres
2. Intelligent Monitoring of an Industrial Robot  
(FR) Khaled Fawaz, Rochdi Merzouki, Belkacem. Ould-Bouamama
3. Real Interpolation Method in Automatic Control Systems Self-Adjustment Problem  
(RU) Vladislav Rudnitskiy, Ivan Volzhenin

Session 3.3 - Friday October 10th - 10:30-12:00, Room: Turkus

Session name: **Advanced Maintenance Engineering, Services and Technology 2**

Chairs: Marco Garetti

1. Maintenance Strategy Development within SME's: The Development of an Integrated Approach  
(UK) David Baglee, Robert Trimble, John MacIntyre
2. Maintenance Strategy Selection: A Comparison Between Fuzzy Logic and Analytic Hierarchy Process  
(IT) Stefano Ierace, Sergio Cavalieri
3. New Maintenance Opportunities in Legacy Plants  
(IT) Mario Tucci, Mario Rapaccini, Filippo De Carlo, Orlando Borgia
4. Review, Classification and Comparative Analysis of Maintenance Management Models  
(ES) Mónica López Campos, Adolfo Crespo Márquez
5. Overview on Opportunistic Maintenance  
(FR) Édouard Thomas, Éric Levrat, Benoît lung

Session 4.1 - Friday October 10th - 13:00-14:30, Room: Amber I

Session name: **Manufacturing Implementation of Advanced AI Methods**

Chairs: Anatol Pashkevich

1. Deadlock Freeness for Controlled Marked Graph  
(FR) Sioud Hatem, Zied Achour, Sava Alexandre, Nidhal Rezg
2. A Genetic Algorithm for Replenishment in Two-Level Assembly Systems  
(FR) Faicel Hnaïen, Xavier Delorme, Alexandre Dolgui
3. Inversion of Fuzzy Neural Networks for The Reduction of Noise in The Control Loop  
(DE) Mirko Nentwig, Paolo Mercorelli