

2nd Workshop on Service Orientation in Holonic and Multi-Agent Manufacturing and Robotics

Final Program

WEDNESDAY May 23, 2012

| SS F2: Service Orientation in Manufacturing Control and Management | |
|--|--|
| [WEDNESDAY May 23, 11:00-12:40] | |
| Conference Room 1 | |
| Organizers/Chairs: Radu Băbiceanu (USA), Fouzia Ounnar (France) | |
| 11:00-11:20 | <i>Multicriteria Decision Making Service for an Intelligent Control of Individuals Flow in Restricted Area,</i> Thamer Louati, Fouzia Ounnar*, Patrick Pujo, Christophe Pistoiresi (France) |
| 11:20-11:40 | <i>Large-Scale Computational Experiments for Complex Enterprise Behaviour Prediction,</i> Radu Băbiceanu* (USA) |
| 11:40-12:00 | <i>Customer Order Management in Service Oriented Holonic Manufacturing,</i> Cristina Morariu*, Octavian Morariu, Theodor Borangiu (Romania) |
| 12:00-12:20 | <i>HAPBA – a BDI Agent Based Solution for Holonic Manufacturing Execution Systems,</i> Carlos Pascal*, Doru Pănescu (Romania) |
| 12:20-12:40 | <i>Evolution of a Flexible Manufacturing System: From Communicating to Autonomous Product,</i> F. Gamboa Quintanilla, Olivier Cardin, Pierre Castagna* (France) |

| SS G4: Mobile Robots | |
|--|---|
| [WEDNESDAY May 23, 11:00-13:00] | |
| Conference Room 2 | |
| Organizers/Chairs: Rosario Sinatra (Italy), Ion Ion (Romania) | |
| 11:00-11:20 | <i>Symbolic Dynamic Formulation of a Rolling Robot with Spherical Wheels Moving on Smooth Surfaces,</i> Alessandro Cammarata, Rosario Sinatra* (Italy) |
| 11:20-11:40 | <i>Hexapod Robot Leg Dynamic Simulation and Experimental Control Using Matlab,</i> Sorin Mănoiu Olaru*, Mircea Nițulescu (Romania) |
| 11:40-12:00 | <i>Some Aspects of the Modular Walking Robot MERO's New Architecture,</i> Ion Ion*, Ion Simionescu, Adrian Curaj, Aurelian Vasile, Cornel Dinu (Romania) |
| 12:00-12:20 | <i>Obstacle Avoidance for Trajectory Tracking Control of Wheeled Mobile Robots,</i> Razvan Solea*, Daniela Cristina Cernega (Romania) |
| 12:20-12:40 | <i>Robust Kalman Filter Based Localization of an Omnidirectional Automated Guided Vehicle,</i> Roland Dixon*, Glen Bright, Ronald Harley (South Africa) |
| 12:40-13:00 | <i>Locomotion Over Common Types of Obstacles for a Legged Mobile Robot,</i> Sorin Mănoiu Olaru*, Mircea Nițulescu (Romania) |

SS F3: Holonic and Multi-Agent Technologies for Agile Manufacturing

[WEDNESDAY May 23, 14:40-16:00]

Conference Room 1

Chairs: Paul Valckenaers (Belgium), André Thomas (France), Damien Trentesaux (France)

| | |
|-------------|---|
| 14:40-15:00 | <i>Product-driven Control: State of the Art and Future Trends,</i> Damien Trentesaux*, André Thomas |
| 15:00-15:20 | <i>One Approach of Data-mining for Product Driven Systems,</i> Philippe Thomas*, André Thomas (France) |
| 15:20-15:40 | <i>An Approach for the Integration of a Scheduling System and a Multi-Agent Manufacturing Execution System. Towards a Collaborative Framework,</i> Juan Matías Novas*, Rudi Bahtiar, Jan Van Belle, Paul Valckenaers (Argentina) |
| 15:40-16:00 | <i>Distributed Manufacturing Control with Extended CNP Interaction of Intelligent Products,</i> Theodor Borangiu*, Silviu Răileanu, Damien Trentesaux, Thierry Berger, Iulia Iacob (Romania) |

SS G1: Human - Robot Interaction and Coordination

[WEDNESDAY May 23, 14:40-16:00]

Conference Room 2

Chairs: Rosario Sinatra (Italy), Theodor Borangiu (Romania)

| | |
|-------------|---|
| 14:40-15:00 | <i>An Integrated Model of Speech to Arm Gestures Mapping in Human-Robot Interaction,</i> Amir Aly, Adriana Țăpuș* (France) |
| 15:00-15:20 | <i>Expressing Emotions in Social Robotics - a Schematic Overview Concerning the Mechatronics Aspects and Design Concepts,</i> Florentina Adăscăliței, Ioan Doroftei* (Romania) |
| 15:20-15:40 | <i>Models and Methods for H-R Synchronization,</i> Roy Someshwar*, Joachim Meyer Yael Edan (Israel) |
| 15:40-16:00 | <i>Human-Robot Natural Interaction and Collision Avoidance in Flexible Manufacturing Cells</i> Florin Daniel Anton*, Silvia Anton, Theodor Borangiu (Romania) |

SS F1: Intelligent Products

[WEDNESDAY May 23, 16:30-18:10]

Conference Room 1

Organizers/Chairs: Kary Främling (Finland), Yves Sallez (France)

| | |
|-------------|---|
| 16:30-16:50 | <i>Intelligent Products in the Supply Chain - 10 Years On,</i> Duncan Campbell McFarlane*, Vaggelis Giannikas, Alex Wong, Mark Geoffrey Harrison (United Kingdom) |
| 16:50-17:10 | <i>Assessment of Standards for Inter-Organizational Tracking Information Exchange in the Supply Chain,</i> Kary Främling*, Ville Hinkka, Sagar Parmar, Jaakko Tätilä (Finland) |
| 17:10-17:30 | <i>Information Dissemination Process for Context-Aware Products,</i> Sylvain Kubler*, William Derigent, Eric Rondeau, André Thomas (France) |
| 17:30-17:50 | <i>An Embedded Cooperative Hierarchy for Diagnosing Complex Moving Systems,</i> Antoine Le Mortellec*, Joffrey Clarhaut, Yves Sallez, Thierry Berger, Damien Trentesaux (France) |
| 17:50-18:10 | <i>Distributed Automatic Control System Supported by RFID Applied to a Logistic Centre Test Bench,</i> Javier de las Morenas*, Andres Garcia, Pablo García Ansola (Spain) |

SS G2: Artificial Intelligence in Robotics and Factory Automation

[WEDNESDAY May 23, 16:30-17:50]

Conference Room 2

Chairs: Corneliu Lazăr (Romania), Doru Pănescu (Romania)

| | |
|-------------|---|
| 16:30-16:50 | <i>On a Class of Multi-Robot Task Allocation Problems,</i> Marius Kloetzer, Adrian Burlacu, Doru Pănescu* (Romania) |
| 16:50-17:10 | <i>Predictive Control Architecture for Real-Time Image Moments Based Servoing of Robot Manipulators,</i> Adrian Burlacu*, Cosmin Copot, Corneliu Lazăr (Romania) |
| 17:10-17:30 | <i>Control System for a Hyper-Redundant Robot,</i> Ileana Vladu*, Daniel Strîmbeanu, Mircea Ivănescu, Nicu Bîzdoaca, Ionel Cristian Vladu, Mihaela Cecilia Florescu (Romania) |
| 17:30-17:50 | <i>Engine Head Blocks Handling Robot Guided by Vision System,</i> Ramon C. Semim, Roberto Ubertino Rosso*, Alexandre G. Silva, Anderson Resendes da Silva, Camila Tormena (Brazil) |

THURSDAY May 24, 2012

SS F4: Distributed Intelligence for Sustainable Manufacturing

[THURSDAY May 24, 11:00-12:40]

Conference Room 1

Organizers/Chairs: Vittaldas Prabhu (USA), Duncan McFarlane (United Kingdom), Theodor Borangiu (Romania)

| | |
|-------------|--|
| 11:00-11:20 | <i>Simulation Modeling of Energy Dynamics in Discrete Manufacturing Systems,</i> Vittaldas Prabhu*, Marco Taisch (USA) |
| 11:20-11:40 | <i>Environmental Impact Assessment in Sustainable Manufacturing: A Case Study,</i> Ilke Bereketli*, Mujde Erol Genevois (Turkey) |
| 11:40-12:00 | <i>A Methodology for Deploying Flexibility in Supply Chains,</i> Miryam Barad* (Israel) |
| 12:00-12:20 | <i>A Framework for Distributed Intelligent Automation Systems Developments,</i> Duncan Campbell McFarlane*, Ajith Kumar Parlikad, Andy Neely, Alan Thorne (United Kingdom) |
| 12:20-12:40 | <i>Advanced Building Energy Management Systems, Optimize Power Consumption Using IP Base Control Improved Power Grid Stability,</i> Valentin Dache*, Mitruț Corneliu Caraivan, Valentin Sgârciu (Romania) |

SS K4: Industrial Applications for Enterprise Models and Integration

[THURSDAY May 24, 11:00-13:00]

Conference Room 2

Organizers/Chairs: Lawrence Whitman (USA), Arturo Molina (Mexico), Marek Obitko (Czech Rep.)

| | |
|-------------|---|
| 11:00-11:20 | <i>Social Learning System: A Reference Model,</i> Pin Pin Schunk, Don Malzahn, Lawrence Whitman* (USA) |
| 11:20-11:40 | <i>Diagnostics of Distributed Intelligent Control Systems: Reasoning Using Ontologies and Hidden Markov Models,</i> Vaclav Jirkovsky, Petr Kadera, Marek Obitko*, Pavel Vrba (CzechRepublic) |
| 11:40-12:00 | <i>Reference Modelling for Eco-Design,</i> Virginie Goepf*, Bertrand Rose, Emmanuel Caillaud (France) |
| 12:00-12:20 | <i>Towards Semantic Interoperability Framework for Custom Orthopaedic Implants Manufacturing,</i> Milan Zdravkovic*, Miloš Stojković, Dragan Mišić, Miroslav Trajanović (Serbia) |
| 12:20-12:40 | <i>Knowledge-Based System for Manufacturing Sustainability,</i> Antonio Giovannini*, Alexis Aubry, Hervé Panetto, Michele Dassisti, Hind El Haouzi (France) |
| 12:40-13:00 | <i>A Methodology to Identify Efficient Collaborative Practices of Decision-making in Industrial Projects, Based on Enterprise Process Modeling,</i> Saina Hassanzadeh*, Didier Gourc, François Marimer, Sophie Bougaret (France) |

SS F5: Multi-Agent Systems

[THURSDAY May 24, 14:40-16:00]

Conference Room 1

Chairs: Radu Dobrescu (Romania), Monica Drăgoicea (Romania)

| | |
|-------------|---|
| 14:40-15:00 | <i>Unified Framework for Self-Organizing Manufacturing Systems Design,</i> Radu Dobrescu*, Gheorghe Florea (Romania) |
| 15:00-15:20 | <i>A Distributed Multi-agent Framework for Shared Resources Scheduling,</i> JiuCheng Xu, Bernard Archimede*, Agnes Letouzey (France) |
| 15:20-15:40 | <i>Multi-Agent Simulation and Evaluation of Supply Chain Control Architectures,</i> Faten Ben Hmida*, Anne Séguy, Rémy Dupas (Tunisia) |
| 15:40-16:00 | <i>Cost Analysis for Service-Oriented Holonic Manufacturing System Design,</i> Cristina Morariu*, Octavian Morariu, Theodor Borangiu (Romania) |

SS G3: Robotic Systems for Services

[THURSDAY May 24, 14:40-16:00]

Conference Room 2

Organizers/Chairs: Florin Daniel Anton (Romania), Marco Ceccarelli (Italy)

| | |
|-------------|--|
| 14:40-15:00 | <i>Open Robot Control for Services in Construction,</i> Theodor Borangiu*, Marco Ceccarelli, Florin Daniel Anton, Silvia Anton, Giuseppe Carbone, Octavian Stocklosa (Romania) |
| 15:00-15:20 | <i>Deploying Underwater Sensors Safe-Net in Offshore Drilling Operations Surrounding Areas Using Remote Operated Vehicles,</i> Mituț Corneliu Caraivan*, Valentin Dache, Valentin Sgârciu (Romania) |
| 15:20-15:40 | <i>A Low-Cost Control Architecture for User-Oriented Service Applications of Cassino Parallel Manipulator,</i> Giuseppe Carbone*, Marco Ceccarelli, Theodor Borangiu (Italy) |
| 15:40-16:00 | <i>Efficient Genetic Algorithm for Unidirectional Flow Path Design,</i> Julie Rubaszewski*, Alice Yalaoui, Lionel Amodeo, Sylvain Fuchs (France) |

SS F6:Service Oriented Architectures within Automation

[THURSDAY May 24, 16:30-17:50]

Conference Room 1

Chairs: Tina Krausser (Germany), Tobias Gerber (Austria)

| | |
|-------------|--|
| 16:30-16:50 | <i>Rule-Based Adaption of Distributed Automation Systems at Operation Time,</i> Tina Krausser*, Henning Mersch, Ulrich Epple (Germany) |
| 16:50-17:10 | <i>Service-Oriented Process Control with Grafchart and the Devices Profile for Web Services,</i> Alfred Theorin, Lisa Ollinger*, Charlotta Johnsson (Germany) |
| 17:10-17:30 | <i>Semantic Runtime Interface Description Based on Engineering Knowledge,</i> Petr Novak*, Martin Melik-Merkumians, Michael Steinegger, Thomas Moser, Radek Sindelar, Alois Zoitl (Austria) |
| 17:30-17:50 | <i>Vertical Integration of Decision Relevant Production Information into IT-Systems of Manufacturing Companies,</i> Tobias Gerber*, Hans-Christian Bosch, Charlotta Johnsson (Germany) |

SS Q: Service Supply Systems and Networks Management and Design

[THURSDAY May 24, 16:30-18:10]

Conference Room 2

Organizers/Chairs: Sergio Cavalieri (Italy), Filippo Visintin (Italy)

| | |
|-------------|---|
| 16:30-16:50 | <i>Applying Discrete Event Simulation to the Design of a Service Delivery System in the Aerospace Industry: A Case Study,</i> Filippo Visintin*, Isabella Porcelli, Andrea Ghini (Italy) |
| 16:50-17:10 | <i>Modeling and Measuring After-Sales Service Delivery Processes,</i> Elena Legnani, Sergio Cavalieri* (Italy) |
| 17:10-17:30 | <i>Supply Chain Vertical Integration Timing Strategy,</i> Rui Fernandes*, Borges Gouveia, Carlos Pinho (Portugal) |
| 17:30-17:50 | <i>The Design and Implementation of an Experimental Model for Secure Management of Personal Data Based on Electronic Identity Card and PKI Infrastructure,</i> Alexandra Cernian*, Valentin Sgârciu, Adriana Olteanu, Dorin Cârstoiu, Magdalena Anghel (Romania) |
| 17:50-18:10 | <i>A Service Science Knowledge Environment in the Cloud,</i> Monica Drăgoicea*, Theodor Borangiu (Romania) |