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Vice-President Architectures & Platforms, Schneider Electric, Germany

Stefan Svensson

World-Wide Manager for the Industrial Communication Program, ABB Corporate Research, Sweden

Karl Weber

Fraunhofer, Germany

Tuesday, 18 September 2012

Track 1-1 (Room A, 120 min): PLC languages

Co-chairs: Rainer Drathanand and Georg Frey

An ISA88 Phase in IEC 61131-3 Code Based on the Concepts of a Normalized Flow Element

Dirk van der Linden, Wolfgang Kastner and Herwig Mannaert

Product Metrics for IEC 61131-3 languages

Anil Nair

Data-Type Checking of IEC61131-3 ST and IL Applications

Mario de Sousa

Opportunities and Challenges of Static Code Analysis of IEC 61131-3 Programs

Herbert Praehofer, Florian Angerer, Rudolf Ramler, Hermann Lacheiner and Friedrich Grillenberger

"Safety Automata" - A new Specification Language for the Development of PLC Safety Applications

Georg Frey, Rainer Drath, Bastian Schlich and Robert Eschbach

Track 2-1 (Room B, 120 min): High-Level Protocols and WiFi

Co-chairs: *Ivan Cibrario Bertolotti and Juergen Jasperneite*

A Method to Construct Network Traffic Models for Process Control Systems

Inaki Garitano, Christos Siaterlis, Bela Genge, Roberto Uribeetxeberria and Urko Zurutuza

Communication and Information Engineering of FDI Equipment Packages

Stefan Theurich, Markus Stoss, Martin Wollschlaeger and Leon Urbas

A Time-Triggered Data Distribution Service for FTT-CORBA

Adrian Noguero and Isidro Calvo

Tuning of IEEE 802.11 MAC for Improving Real-Time in Industrial Wireless Networks

Lucia Seno, Federico Tamarin and Stefano Vitturi

Comparing RT-WiFi and HCCA approaches to Handle Real-Time Traffic in Open Communication Environments

Robson Costa, Paulo Portugal, Francisco Vasques and Ricardo

Track 3-1 (Room C, 120 min): Time and Schedulability Analysis and Design for Real-Time

Co-chairs: *Michael Short and Lucia Lo Bello*

Numerically Efficient Probabilistic Guarantees for Resource Reservations

Nicola Manica, Luigi Palopoli and Luca Abeni

Response Time bounds for Static-Priority Tasks and Arbitrary Relative Deadlines with Resource Augmentation

Pascal Richard, Georges Kemayo, Frederic Ridouard, Emmanuel Grolleau and Thi Huyen Chau Nguyen

Efficiency Evaluation of Overhead Control Heuristics in DP-Fair Multiprocessor Scheduling

Muhammad Naeem Shehzad, Anne Marie Deplanche and Yvon Trinquet

Schedulability Analysis for a Combination of Non-Preemptive Strict Periodic Tasks and Preemptive Sporadic Tasks

Mohamed Marouf, Laurent George and Yves Sorel

Target-Sensitive Systems: Analysis and Implementation Issues

Giorgio Buttazzo, Carmelo Di Franco and Mauro Marinoni

Optimizing Stack Memory Requirements for Real-Time Embedded Applications

Haibo Zeng, Marco Di Natale and Qi Zhu

SS09 (Room D, 120 min): Closed-Loop Modelling for Design and Validation of Reactive Systems in Discrete Control

Co-chairs: Valeriy Vyatkin and Dariusz Kościelnik

Formal Verification of Intelligent Mechatronic Systems with Decentralized Control Logic

Sandeep Patil, Valeriy Vyatkin and Majid Sorouri

Closed-loop System Modeling, Validation, and Verification

Sebastian Preusse, Hans-Christian Lapp and Hans-Michael Hanisch

State-Vector Transition Model Applied to Supervisory Control

Bengt Lennartson, Sajed Miremadi, Zhennan Fei, Mona Noori Hosseini, Martin Fabian and Knut Akesson

Hierarchical and Distributed Discrete Event Control of Manufacturing Processes

Olaf Stursberg

Coupling Timed Plant and Controller Models without Introducing Dead-Locks

Matthieu Perin and Jean-Marc Faure

Track 5-1 (Room E, 120 min): Control Performance Assessment

Co-chairs: Ramon Vilanova and Jerome Mendes

Performance Monitoring of PID Controllers Through Unfalsified Control Theory

Daniel Gomez, Jose R. Janeiro, Enrique Baeyens and Eduardo J. Moya

Generation of Multiplatform Control for Transitive Systems using a Component-Based Approach

Romain Bevan, Mickael Adam, Pascal Berruet, Florent de Lamotte, Olivier Cardin and Pierre Castagna

On the Disturbance Decoupling of Linear Singular Multi-Delay Systems

Fotis Koumboulis

Set-Point Weight Selection for Robustly Tuned PI/PID Regulators for Over Damped Processes

Victor Alfaro and Ramon Vilanova

Conversion Formulae and Performance Capabilities of Two-Degree-of-Freedom PID Control Algorithms

Victor Alfaro and Ramon Vilanova

SS01 (Room F, 120 min): Distributed and Autonomous Intelligent Systems

Co-chairs: Thomas Strasser and Alois Zoitl

Test-Driven Agent-Oriented Software Development

Munir Merdan, Pavel Vrba and Martin Melik-Merkumians

Towards an Increased Reusability of Distributed Control Applications Modeled in IEC 61499

Ingo Hegny, Thomas Strasser, Martin Melik-Merkumians, Monika Wenger, and Alois Zoitl

Towards OPC UA as Portable SOA Middleware Between Control Software and External Added Value Applications

Martin Melik-Merkumians, Thomas Baier, Michael Steinegger, Wilfried Lepuschitz, Ingo Hegny and Alois Zoitl

Deployment of Multi-agent Systems for Industrial Applications

Arnaldo Pereira, Nelson Rodrigues and Paulo Leitao

Semantics for Self-configurable Distributed Diagnostics

Vaclav Jirkovsky, Petr Kadera and Pavel Vrba

Keynote 1 (Room A)

Mastering Complexity in Heterogenous Industrial Systems

Ronald Schoop Schneider Electric AG, Germany

Track 1-2 (Room A, 90 min): Process Modeling

Co-chairs: Andreas Schüller and Alexander Fay

PandIX - Exchanging P&I diagram model data

Andreas Schueller and Ulrich Epple

**Concept for managing multiple semantics with AutomationML- maturity level
concept of semantic standardization**

Rainer Drath and Mike Barth

**An NA 114 Conformant Support System for Automatic Generation of
Communication Structures**

Falk Doherr and Leon Urbas

Modeling Change and Structural Dependencies of Automation Systems

Markus Goring and Alexander Fay

Track 2-2 (Room B, 90 min): Wireless Communication

Co-chairs: Roman Obermaisser and Michael Short

MS-Aloha: Preliminary Analysis of Its Suitability for Wireless Automation

Hector Agustin Cozzetti, Daniele Brevi, Riccardo Scopigno, Paolo Ferrari, Emiliano Sisinni and Alessandra Flammini

Implementation of WirelessHART in NS-2 Simulator& %

Pouria Zand, Paul Havinga and Arta Dilo

Predictive Opportunistic Spectrum Access Using Markov Models& -

Kaleem Ahmad, Uwe Meier and Stefan Witte

**MC-EDF: A Control-Channel based Wireless Multichannel MAC Protocol with& -
Real-Time Support**

Magnus Jonsson and Kristina Kunert

Track 3-2 (Room C, 90 min): Wireless Networks

Co-chairs: Stefano Dalpez and Marco Di Natale

**Validation of Performance Data using Experimental Verification Process in \$)
Wireless Sensor Network**

Tiong Hoo Lim, Iain Bate and Jon Timmis

**WBUST: a Real-Time Energy-Aware MAC layer Protocol for Wireless %
Embedded Systems**

Gianluca Franchino and Giorgio Buttazzo

**Priority Handling Aggregation Technique (PHAT) for Wireless Sensor &%
Networks**

Dimitris Tsitsipis, Sofia Maria Dima, Angeliki Kritikakou, Christos Panagiotou, John Gialelis, Harris Michail and Stavros Koubias

**Performance Enhancement in WSN through Data Cache Replacement &
Policies**

Christos Panagiotou, Christos Antonopoulos and Stavros Koubias

SS06-1 (Room D, 90 min): Mechatronical Engineering

Co-chairs: Arndt Lüder and John Gialelis

**Assisted Engineering for Mechatronic Manufacturing Systems Based on a ' +
Modularization Concept**

Michael Weyrich and Philipp Klein

Development of a method for the implementation of interoperable tool chains ()
applying mechatronical thinking - Use case engineering of logic control
Arndt Lüder and Lorenz Hundt

ISO 15926 vs. IEC 62424 - Comparison of Plant Structure Modeling Concepts)'
Thomas Holm, Lars Christiansen, Markus Göring, Tobias Jäger and Alexander Fay

Domain Dependant Matching of MES Knowledge and Domain Independent *%
Mapping of AutomationML Models
Miriam Schleipen, Dirk Gutting and Franziska Sauerwein

WIP 5 (Room E, 90 min)

Co-chairs: Pascal Richard and Javier Silvestre-Blanes

An Approach for a Component-based Visualization of Heterogeneous * ,
Manufacturing Data Sources
Stefan Hesse, Martin Rosjat, Drazen Nadoveza and Vojtech Kresl

Improvement on Control Performance using FPGAs over Software-based +'
Platforms
Marco Santos and Jorge Ferreira

Bumpless Transfer Multi-controller Architecture for Switched-mode ++
Processes
Nagore Iriondo, Marga Marcos and Elisabet Estevez

Safety Critical Supervision for Steel Industry Robotic Applications , %
Paolo Demetlika, Fulvio Romano, Gianfranco Fenu, Andrea Paoli and Luca Cicognani

Fault detection for Sequential Interindustry Models ,)
Panagiotis Arsenos, Dimitrios Fragkoulis and Fotis Koumboulis

Control Toolbox for Industrial Programmable Analog Controller - Embedding , -
State Feedback Controller
Adam Pilat

An Approach to Identification Procedures for PID Control with PLC Implementation

Jiri Kocian, Jiri Koziorek and Stepan Ozana

On the Anti-windup Schemes for Fractional-order PID Controllers

Antonio Visioli, Fabrizio Padula and Manuel Pagnoni

Optimal Control in the Presence of State Uncertainty

Milton Cunguara, Tomas Silva and Paulo Pedreiras

Direct Deployment of Component-Based Automation Systems

Xiangjun Kong, Bilal Ahmad, Robert Harrison, Youngsaeng Park and Leslie Lee

PI+CI tuning for integrating plus deadtime systems

Miguel Angel Davo and Alfonso Banos

A Test Facility for Experimental HIL Analysis of Industrial Embedded Control Systems

Fathi Abugchem, Michael Short and Donglai Xu

Force Control Approach for the Automation of Cashew-Shelling Operation

Naoki Uchiyama, Hirofumi Yamanaka, Shigenori Sano, Phat Minh Ho and Son Doan Tran

Design and Experimental Evaluation of an Extended Data-Driven PID Controller

Shinichi Imai and Toru Yamamoto

Studies on the Yarn Mass Parameters Determination using Image Processing Techniques

Nuno Goncalves, Vitor Carvalho, Filomena Soares and Rosa Vasconcelos

WIP 6&7 + WIP 2.1 (Room F, 90 min)

Co-chairs: Luiz Affonso and Zoubir Mammeri

Design, Implementation and Evaluation of a Hybrid Approach for Software Agents in Automation

Sebastian Ulewicz, Daniel Schuetz and Birgit Vogel-Heuser

Fixed-budget Kernel Least Mean Squares

Dominik Rzepka

Artificial Neural Network Approach for Detection and Diagnosis of Valve Stiction

Allan R. S. Venceslau, Luiz Affonso Guedes and Diego Silva

Proposal of Automation of the Collaborative Modeling and Evaluation of Business Processes Using a Semantic Wiki

Grzegorz J. Nalepa, Krzysztof Kluza and Urszula Ciaputa

Proposal of a Rule-Based Testing Framework for the Automation of the Unit Testing Process

Grzegorz J. Nalepa and Krzysztof Kaczor

Agent-based Approaches for Exploration and Pathfinding in Unknown Environments

Matthias Becker, Florian Blatt and Helena Szczerbicka

Interactive 3D Scan-Matching Using RGB-D Data

Pedro Vieira and Rodrigo Ventura

Development of Robotic Solutions for Oil/Gas, Aluminum and Manufacturing Industry

Ingrid Schjolberg

L-PTP: a Novel Clock Synchronization Protocol for Powerline Networks (* %

Lucia Lo Bello, Antonio Rauceca, Gaetano Patti and Orazio Mirabella

Towards IEEE 802.1 Ethernet AVB for Advanced Driver Assistance Systems: a preliminary assessment (*)

Giuliana Alderisi, Giancarlo Iannizzotto and Lucia Lo Bello

An FPGA based Approach for the Enhancement of COTS Switch ASICs with Real-Time Ethernet Functions (* -

Holger Flatt, Sebastian Schriegel, Jurgen Jasperneite and Frank Schewe

A Software Tool for Efficient Configuration of EtherCAT Networks (+'

Mladen Knezic, Branko Dokic and Zeljko Ivanovic

A Stochastic Activity Networks Model for the Performance Evaluation of the KNXnet/IP Flow Control Mechanism (++

Salvatore Cavalieri and Ferdinando Chiacchio

Multicasting for Cascaded Fault-Tolerant Wireless Networked Control Systems in Noisy Industrial Environments (, %

Yomna El Faramawy, Mohamed Ibrahim, Hassan Halawa, Ahmed Elhamy, Ehab Abdel Reheem, Tarek Refaat, Ramez Daoud and Hassanein Amer

Robotic Solutions for Footwear Industry ~~AAAA~~ Ì Í

Inaki Maurtua, Aitor Ibarguren and Alberto Tellaeche

Keynote 2 (Room A)

Kai Hansen, ABB

Wednesday, 19 September 2012

Track 1-3 (Room A, 90 min): Automation Architecturs

Co-chairs: Susanne Rösch and Leon Urbas

Beyond App-Chaining: Mobile App Orchestration for Efficient Model Driven Software Generation

Jens Ziegler, Markus Graube, Johannes Pfeffer and Leon Urbas

Evaluation of the Openness of Automation Tools for Interoperability in Engineering Tool Chains

Mike Barth, Rainer Drath, Alexander Fay, Florian Zimmer and Karin Eckert

Fault-Centric System Modeling using SysML for Reliability Testing

Andreas Thoma, Benjamin Kormann and Birgit Vogel-Heuser

Data Distribution Service for Industrial Automation

Jinsong Yang, Kristian Sandstrom, Thomas Nolte and Moris Behnam

Track 2-3 (Room B, 90 min): CAN & RTE

Co-chairs: Paulo Portugal and Julian Proenza

Performance Comparison of Mechanisms to Reduce Bit Stuffing Jitters in Controller Area Networks

Gianluca Cena, Ivan Cibrario Bertolotti, Tingting Hu and Adriano Valenzano

Dynamic Configuration of a Time-Triggered Router for Controller Area Network

Roland Kammerer, Roman Obermaisser and Bernhard Froemel

Performance Evaluation and Improvement of the CPU-CAN Controller Interface for Low-Jitter Communication

Gianluca Cena, Ivan Cibrario Bertolotti, Tingting Hu and Adriano Valenzano

Improved Architecture for Profinet IRT devices

Christoph Felser, Max Felser and Hassan Kaghazchi

Track 3-3 (Room C, 90 min): Real-Time Networks

Co-chairs: Rolf Ernst and Magnus Jonsson

An Improved Timed Automata Approach for Computing Exact Worst-Case Delays of AFDX Sporadic Flows

Muhammad Adnan, Jerome Ermont, Jean-Luc Scharbag and Christian Fraboul

Frame Packing Strategy within Gateways for Multi-Cluster Avionics Embedded Networks

Hamdi Ayed, Ahlem Mifdaoui and Christian Fraboul

Schedulability Analysis of Multi-Packet Messages in Segmented CAN Controller Area Network

Ekain Azketa, Javier Gutierrez, Michael Gonzalez Harbour, Carlos Palencia, Luis Almeida and Marga Marcos

Worst-Case Response-Time Analysis for Mixed Messages with Offsets in Controller Area Network

Saad Mubeen, Jukka Maki-Turja and Mikael Sjodin

SS06-2 (Room D, 90 min): Mechatronical Engineering

Co-chairs: Thomas Moser and Arndt Lüder

Extending Mechatronic Objects for Automation Systems Engineering in Heterogeneous Engineering Environments

Thomas Moser, Richard Mordinyi and Dietmar Winkler

Residual Load Sway Suppression for Rotary Cranes Using Simple Dynamics Model and S-Curve Trajectory

Shigenori Sano, Huimin Ouyang, Naoki Uchiyama

Potentials of Mechatronic Objects for Improving Mechatronic Engineering: Results and Insights from an Online Survey

Adrian Koehlein, Birthe Boehm, Juergen Elger, Norbert Gewald, Fritz Stallinger, Robert Neumann, Reinhold Ploesch and Peter Hehenberger

Track 5-2 (Room E, 60 min): Process Modeling and Control I

Co-chairs: Juan J. Gude and Fotis Koumboulis

Multiregional PI Control Strategy for Dissolved Oxygen and Aeration System Control at Biological Wastewater Treatment Plant

Robert Piotrowski and Adam Zawadzki

Nonlinear Fuzzy Control of the Dissolved Oxygen in Activated Sludge Processes

Adam Zawadzki and Robert Piotrowski

Fuzzy Model Predictive Control for Nonlinear Processes

Jerome Mendes and Rui Araujo

Track 6-1 (Room F, 90 min): Scheduling, Simulation and Optimization in Automation

Co-chairs: Grzegorz Bocewicz and Francisco Souza

Solving a Multiobjective Job Shop Scheduling Problem using Pareto Archived Cuckoo Search

Samer Hanoun, Doug Creighton, Saeid Nahavandi and Hans Kull

Simulation Based Forecast of Supermarket Sales

Clemens Schwenke, Volodymyr Vasyutynskyy, Johannes Ziegenbalg and Klaus Kabitzsch

A Scheduling Method of Air Conditioner Operation using Workers Daily Action Plan towards Energy Saving and Comfort at Office

Katsunori Sato, Masaki Samejima, Masanori Akiyoshi and Norihisa Komoda

A Multi-Population Genetic Algorithm Approach for PID Controller Auto Tuning

Claudio Fabiano Motta Toledo, Joao Miguel G. Lima and Marcio Da Silva Arantes

Keynote 3 (Room A)

Formal performance analysis in industrial practice - lessons learned from automotive design

Rolf Ernst, Technical University of Braunschweig, Germany

Track 1-4 (Room A, 60 min): Knowledge-Based Systems

Co-chairs: Alois Zoitl and Klaus Kabitzsch

Rule-Driven Manufacturing Control Based On Ontologies

Andre Gellrich, Daniel Lunkwitz, Alexander Dennert and Klaus Kabitzsch

Automated Code Generation for Programmable Logic Controllers based on Knowledge Acquisition from Engineering Artifacts: Concept and Case Study

Michael Steinegger and Alois Zoitl

Track 2-4 (Room B, 60 min): Wireless Sensor Networks

Co-chairs: Mikael Sjodin and Wolfgang Kastner

A Dynamic Communication Approach for Data Fusion in IEEE 802.15.4 Wireless Sensor Networks

Gerson Budke, Carlos Montez, Ricardo Moraes and Paulo Portugal

TDMA Proposals for Wireless Sensor Networks for Highly Reliable and Energy Efficient Data Collection in an Industrial Application

Achim Berger, Albert Poetsch and Andreas Springer

Guaranteed Time Slot Allocation for Periodic Messages with (m,k)-firm Constraints in IEEE 802.15.4 Networks

Tiago Semperebom, Carlos Montez, Gustavo Zomer and Francisco Vasques

Track 3-4 (Room C, 60 min): Instrumentation, Sensing and Physical Systems Control

Co-chairs: Luigi Palopoli and Marco Di Natale

Program Transformation for Time-Aware Instrumentation

Hany Kashif and Sebastian Fischmeister

Feedback Scheduling of Real-Time Physical Systems with Integrator Dynamics

Marco L. Della Vedova and Tullio Facchinetti

Design of an Innovative Proximity Detection Embedded-System for Safety Application in Industrial Machinery

Stefano Dalpez, Alessandro Vaccari, Roberto Passerone and Alberto Penasa

Track 4-1 (Room D, 45 min): Multi-agent Systems and Simulation

Co-chairs: Mariagrazia Dotoli and Cristian Mahulea

Multi-Agent Model of a Sample Transport System for Modular IVD Laboratories

Lluís Ribas-Xirgo, Antonio Miro-Vicente, Ismael Fabricio Chaile and A. Josep Velasco-Gonzalez

Efficient Geometrical Simulation and Virtual Commissioning Performed in Stamping

Nima K. Nia, Fredrik Danielsson and Bengt Lennartson

Track 5-3 (Room E, 60 min): Process Modeling and Control II

Co-chairs: Antoni Grau and Timo Vepsäläinen

Kappa-Tau Type PI Tuning Rules for Specified Robust Levels: the Frequency Response Method

Juan J. Gude and Evaristo Kahoraho

Robust Control Algorithms for a Hydraulic Actuator with Variable Displacement Vane Pump

Michael Skarpetis, Fotis Koumboulis and Achilleas Ntellis

Current-Mode One-Cycle Control Applied to Linear-Assisted DC/DC Converters

Herminio Martinez-Garcia, Antoni Grau-Saldes and Yolanda Bolea-Monte

Track 6-2 (Room F, 60 min): Scheduling and Optimization in Automation

Co-chairs: Włodzisław Kasprzak and Dominik Rzepka

Evolutionary Fuzzy Models for Nonlinear Identification

Jerome Mendes, Samuel Pinto, Rui Araujo and Francisco Souza

A Declarative Approach to Cyclic Processes Coupling and Scheduling

Grzegorz Bocewicz, Banaszak Zbigniew and Nielsen Izabela

An Online Variable Selection Method using Recursive Least Squares

Francisco Souza and Rui Araujo

Track 1-5 (Room A, 60 min): Information Technology in Automation – Applications

Co-chairs: Mario Sousa and Nuno Cardoso

An Agile Software Product Line Model-Driven Design Environment for Video Surveillance Systems

Nuno Cardoso, Pedro Rodrigues, oscar Ribeiro, Jorge Cabral, Joao Monteiro, Jose Mendes and Adriano Tavares

Layered Architecture for Production and Logistics Cockpits

Volodymyr Vasyutynskyy, Christian Hengstler, Jessica McCarthy, Karl G. Brennan, Dražen Nadoveza and Alexander Dennert

Data Synchronization with Conflict Resolution for RFID Track and Trace

Chi Xu, Wei He, Yintai Ao, Nengsheng Zhang, Wendong Xiao, Tieyan Li and Xuejian Xiao

SS05 (Room B, 90 min): Industrial Applications of Emerging Automation Paradigms and Technologies

Co-chairs: Gerd von Colln and Rolf Behrens

Model Based Debugging and Testing of Embedded Systems Without Affecting the Runtime Behaviour

Michael Spieker, Arne Noyer, Padma Iyengar, Gert Bikker, Juergen Wuebbelmann and Clemens Westerkamp

Industrial Evaluation of Process Control using Non-Periodic Sampling

Tommy Norgren, Jonathan Styru, Alf Isaksson, Johan Åkerberg and Thomas Lindh

Knowledge-Based Mobile Remote Engineering for Maintenance Processes

Rolf Behrens, Clemens Westerkamp, Holger Speckmann and Wolfgang Bisle

Context Aware Decision Support for Mobile Participants of Distributed Production Processes

Holger Kremer, Clemens Westerkamp and Julian Quindt

Track 3-5 (Room C, 90 min): Distributed Systems

Co-chairs: Jean-Luc Scharbarg and Tullio Facchinetti

A Distributed Load Balancing Approach for Industrial IEEE 802.11 Wireless Networks

Mario Collotta, Giovanni Pau, Valerio Mario Salerno and Gianfranco Scatà

A User Space EtherCAT Master Architecture for Hard Real-Time Control Systems

Marco Cereia and Stefano Scanzio

A Hierarchical Transaction Concept for Runtime Adaptation in Real-time Networked Embedded Systems

Christian Prehofer and Marc Zeller

A Code Generation Framework for Distributed Real-Time Embedded Systems

Mario Bambagini and Marco Di Natale

Track 4-2 (Room D, 90 min): Verification and Fault Diagnosis

Co-chairs: *Lluís Ribas-Xirgo and Carla Seatzu*

IGBT Fault Detection for Three Phase Motor Drives using Neural Networks

Marjan Alavi, Ming Luo, Danwei Wang and Haonan Bai

Planning in Assembly Systems - A Common Modeling for Products and Resources

Julien Provost, Bengt Lennartson, Martin Fabian, Åsa Fasth and Johan Stahre

Compositional Verification of Material Handling Systems

Thomas Klotz, Norman Seßler, Bernd Straube, Eva Fordran, Karsten Turek and Jens Schonherr

On Evaluation of Alternative Switching Strategies for Energy-Efficient Operation of Modular Factory Automation Systems

Sebastian Mechs, Steffen Lamparter and Jorg P. Muller

WIP 3.1 (Room E, 90 min)

Co-chairs: *Tullio Facchinetti and Zoubir Mammeri*

A Self-Configuration Protocol for a Cover Made of Smart Tiles

Guido Benetti and Tullio Facchinetti

Bandwidth Measurement using Performance Counters for Predictable Multicore Software

Rafia Inam, Mikael Sjodin and Marcus Jagemar

Towards using the Graphics Processing Unit (GPU) for Embedded Systems

Daniel Hallmans, Mikael Åsberg and Thomas Nolte

Enhancing the Generation of Correct-by-Construction Code from Design Models for Complex Embedded Systems

Federico Ciccozzi and Mikael Sjodin

FPGA Based Hardware Accelerator for Calculations of the Parallel Robot Inverse Kinematics

Konrad Gac, Grzegorz Karpiel and Maciej Petko

Analysis of Real-Time Systems using Convolution of Probability Mass Function

Stanisław Wideł, Jarosław Flak, Piotr Gaj and Arkadiusz Jestratjew

A Distributed Scheduling Algorithm for Real-time (D-SAR) Industrial Wireless Sensor and Actuator Networks

Pouria Zand, Supriyo Chatterjea, Jeroen Ketema and Paul Havinga

Timing Analysis of Mixed-Criticality Hard Real-Time Applications Implemented on Distributed Partitioned Architectures

Sorin Ovidiu Marinescu, Domitian Tamas-Selicean, Vlad Acretoaie and Paul Pop

Wireless Locating and Data Communication in Harsh Industrial Environments

Tilman Leune, Thorsten Wehs, Gerd von Colln, Carsten Koch and Manuel Janssen

A Software-Defined Radio Implementation of an 802.11 OFDM Physical Layer Transceiver

Giammarco Zacheo, Aljosa Dorni, Dragan Djukic, Fulvio Babich and Fabio Ricciato

A Hybrid EDF Algorithm for Implementing Resource-Constrained Real-Time Control Applications

Fathi Abugchem, Michael Short and Donglai Xu

HSR and PROFINET IRT Bandwidth Management in Generic Embedded Systems

Matthias May, David Ganz and Hans Dermot Doran

WIP 2.2 & WIP 1.1 (Room F, 90 min)

Co-chairs: Gianluca Cena and Javier Silvestre-Blanes

The Reference-Broadcast Infrastructure Synchronization Protocol

Gianluca Cena, Stefano Scanzio, Adriano Valenzano and Claudio Zunino

Design and Verification of Simulation Models of Passive Houses - * %

Petr Novak and Radek Sindelar

Virtual Industrial Ethernet Devices for Testing Purposes - *)

Stefan Matzler, Robert Lehmann, Stefan Theurich, Alexander Dennert and Martin Wollschlaeger

**Packet-Based Time-Critical Medium Access for a Process-Oriented
Deterministic Bus System** - * -

Klaus-Peter Kirchner, Andreas Fink, Matthias Voss and Helmut Beikirch

Developing TOBE-CAN: Total Order Broadcast Enforcement in CAN - +'

Manuel Barranco and Julian Proenza

Using FTT and Stars to Simplify Node Replication in CAN-Based Systems - ++

Julian Proenza, Manuel Barranco, Joan Llodrà and Luis Almeida

A First Qualitative Evaluation of Star Replication Schemes for FTT-CAN - , %

David Gessner, Manuel Barranco, Julian Proenza and Michael Short

A Distributed Intrusion Detection System for Industrial Automation Networks - ,)

Franka Schuster and Andreas Paul

Impact of Mobility on the Management and Performance of WirelessHART - , -
Industrial Communications

Sergio Montero, Javier Gozalvez, Miguel Sepulcre and Gonzalo Prieto

**Experimental RSSI-based Localization System using Wireless Sensor
Networks** - - '

Jose Antonio Palazon, Javier Gozalvez, Miguel Sepulcre and Gonzalo Prieto

Better, Faster, Cheaper, and Safer Too - Is This Really Possible? - - +

Iain Bate, Hans Hansson and Sasikumar Punnekkat

**Design of a Mechatronic System for Human Blood Typing in Emergency
Situations** %\$\$%

Vania Moreira, Filomena Soares, Ana Ferraz, Vitor Carvalho and Jose Machado

Optimal Scheduling of Smart Homes' Appliances for the Minimization of Energy Cost under Dynamic Pricing

Christos Antonopoulos, Vasilis Kapsalis and Loukas Hadellis

Model-Driven Approach to Design of ICT Infrastructure for Precision Farming

Igor Kaitovic, Cesare Fantuzzi, Rafael Ribeiro Rezende and Cristina Murillo

Application of Engineering Processes Analysis to Evaluate Benefits of Mechatronic Engineering

Arndt Luder, Matthias Foehr, Adrian Kohlein and Birthe Bohm

Discovery Mechanisms in Industrial Networking

Rahil Hussain and Judith E. Y. Rossebo

Power Gyration Structures and Their Use as Cells for Energy Processing in Photovoltaic Solar Facilities

Herminio Martinez-Garcia, Antoni Grau-Saldes, Yolanda Bolea-Monte and Juan Gamiz-Caro

Thursday, 20 September 2012

Track 7-1 (Room A, 90 min): Automatic Classification, Modern Robotics and Distributed Control Design

Co-chairs: Antoni Grau and Dariusz Pazderski

Automatic Threat Classification Using Multiclass SVM From Audio Signals

Grzegorz Altman and Andrzej Głowacz

High Speed Robotics with Low Cost Hardware

Daniele Fontanelli, Luigi Palopoli and Tizar Rizano

ARES-III: A Versatile Multi-Purpose All-Terrain Robot

Magno Guedes, Pedro Santana, Pedro Deusdado, Ricardo Mendonca, Francisco Marques, Nuno Henriques, Andre Lourenco, Luis Correia, Jose Barata and Luis Flores

A Distributed Control Design for the Output Regulation and Output Consensus of a Class of Switched Linear Multi-Agent Systems

Alejandro Cervantes-Herrera, Javier Ruiz-Leon, Carlos Lopez-Limon and Antonio

WIP 4 & WIP 2.3 (Room B, 90 min)

Co-chairs: Ivan Cibrario and Arndt Lüder

Minimizing Bounded Uncertainty Impact on Scheduling with Earliest Start and Due-date Constraints via Interval Computation

Ahmad Hossny, Saeid Nahavandi and Douglas Creighton

Marking estimation of fuzzy Petri nets

Maria Paola Cabasino, Mariagrazia Dotoli and Carla Seatzu

Improved Virtual Build to Order

Marcos Calle and Pedro L. Gonzalez-R

Process Theory for Supervisory Control of Stochastic Systems with Data

Jasen Markovski

A Methodological Support for Designing Industrial Control Systems

Maria Luz Alvarez, Isabel Sarachaga, Arantzazu Burgos, Elisabet Estevez and Marga Marcos

Milling with Industrial Robots: Strategies to Reduce and Compensate Process Force Induced Accuracy Influences

Christian Lehmann, Marcel Halbauer, Dirk Euhus and Daniel Overbeck

New Concept to Develop a Safety Sensor Network for Continuous Noninvasive Blood Pressure Monitoring

Huiyun Sheng, Michael Schwarz and Josef Borcsok

A Hybrid Petri Nets approach for Unmanned Aerial Vehicles Monitoring%\$, '
Francesco Basile, Pasquale Chiacchio, Jolanda Coppola and Diego Gerbasio

Approach to a Simulation-Based Verification Environment for Material Handling Systems%\$, +
Stephan Seidel, Ulrich Donath and Jurgen Haufe

Towards Periodicity Based Anomaly Detection in SCADA Networks%\$- %
Rafael Ramos Regis Barbosa, Ramin Sadre and Aiko Pras

Information Model for Distributed Traffic Management Applications%\$-)
Stefan Szucsich, Lukas Krammer, Wolfgang Kastner and Thomas Novak

Time as Non-Functional Requirement in Distributed Control Systems%\$- -
Thomas Hadlich, Stephan Hoeme, Christian Diedrich, Karin Eckert, Timo Frank, Alexander Fay and Birgit Vogel-Heuser

Detecting User Dissatisfaction in Ambient Intelligence Environments%\$\$)
Felix Iglesias Vazquez and Wolfgang Kastner

Scheduling Time-Triggered Traffic in TTEthernet Systems%\$-
Ekarin Suethanuwong

Usage of Public Key Infrastructures in Automation Networks%\$\$%
Stefan Hausmann and Stefan Heiss

Track 3-6 (Room C, 90 min): Real Time Systems, Operating Systems and Resource Management

Co-chairs: Saad Mubeen and Marco Di Natale

Towards Collaborative Resource Sharing under Real-Time Conditions in Multitasking and Multicore Environments%\$\$+
Marcel Baunach

Rodosvisor - an ARINC 653 Quasi-compliant Hypervisor: CPU, Memory and I/O virtualization

Adriano Tavares, Adriano Didimo, Tiago Lobo, Paulo Cardoso, Sergio Montenegro and Jorge Cabral

Monitoring Capabilities of Schedulers in Model-Driven Development of Real-Time Systems

Mehrdad Saadatmand, Mikael Sjodin and Naveed Ul Mustafa

Energy-Aware Algorithms for Tasks and Bandwidth Co-Allocation under Real-Time and Redundancy Constraints

Francesco Prosperi, Mario Bambagini, Giorgio Buttazzo, Mauro Marinoni and Gianluca Franchino

WIP 1.2 (Room D, 90 min)

Co-chairs: Paulo Portugal and Javier Silvestre-Blanes

Modeling Wastewater Pumping Stations for Cost-Efficient Control

Mohamed Abdelati, Felix Felgner and Georg Frey

Distributed Applications Management Platform Based on Service Component Architecture

Aitor Agirre, Marga Marcos and Elisabet Estevez

Visual Modeling of Condition Monitoring Systems

Maciej Zygmunt, Marek Budyn, Michał Orkisz, Victor-Hugo Jaramillo-Velasquez, Agnieszka Nowak and James Ottewill

Meeting Challenges of Generic Pervasive Diagnostics

Andreas Mueller

Model Driven Architecture Approach in the Semiconductor Industry: A Practical Implementation

Manuel Jose Moreno Lizaranzu and Federico Cuesta Rojo

Diagnosis of Automation Devices Based on Engineering and Historical Data%/(
Jens Folmer, Heiko Meyer and Birgit Vogel-Heuser

Integration of Advanced Quality of Service in IEC 61499 Based Networks%/(,
Aleksey Bratukhin, Thilo Sauter, Joergen Mad and Albert Treytl

**Model-Driven Development of Industrial Embedded Systems : Challenges%/% &
Faced and Lessons Learnt**
Kyle Nicholas, Zeeshan Bhatti and Parthasarathi Roop

**A Generic Middleware for Automated Source Code-Level Coupling of%/% *
Embedded Software-Subsystems Developed Using Heterogeneous Modeling
Domains**
*Padma Iyengar, Michael Spieker, Juergen Wuebbelmann and Clemens
Westerkamp*

Model-Driven Template Metaprogramming%/% -
*Nuno Cardoso, Joao Vale, oscar Ribeiro, Jorge Cabral, Paulo Cardoso, Jose
Mendes and Adriano Tavares*

A Structured Text to MISRA-C Translator and Issues with IEC 61131-3%/% '
Standard
Ashutosh Kabra, Gopinath Karmakar and R. K. Patil

**Multi-Agent System "Smart Factory" for Real-time Workshop Management:%/% +
Results of Design & Implementation for Izhevsk Axion-Holding Factory**
*Ivan Tyrin, Andrey Vylegzhanin, Elina Kolbova, Petr Skobelev, Sergey
Kozhevnikov, Yaroslav Shepilov and Oleg Kuznetsov*

Process Mining for Alarm Rationalization and Fault Patters Identification%&\$%
Ricardo Kondo, Eduardo Rocha Loures and Eduardo Portela Santos

Track 5-4 (Room E, 45 min): Fault Detection and Safety

Co-chairs: Timo Vepsäläinen and Juan J. Gude

Sensor Placement for Fault Diagnosis Using Genetic Algorithm%&\$)
Guoyi Chi, Danwei Wang, Ming Yu, Tung Le, Ming Luo and Marjan Alavi

Software Architecture Knowledge Management for Safety Systems%&/&
Timo Vepsalainen, Veli-Pekka Eloranta and Seppo Kuikka

WIP 3.2 (Room F, 90 min)

Co-chairs: Stefano Scanzio and Manuel Barranco

Reliability Correlation Between Physical and Virtual Cores At The ISA Level.....%&&\$

Paulo Garcia, Tiago Gomes, Filipe Salgado, Paulo Cardoso, Mongkol Ekpanyapong and Jorge Cabral

Shifting SOA to MPSoC: An Exploratory Example of Application.....%&&(

Filipe Salgado, Paulo Garcia, Tiago Gomes, Joao Vale, Sandro Pinto and Jorge Cabral

Hardware-based Object Layout in an Embedded Real-Time Java%&&, **Environments?**

M. Teresa Higuera-Toledano

Partitioned Environment for Programmable Controller in Safety Applications.....%&' &

Gopinath Karmakar, Ashutosh Kabra, R K Patil and Krithi Ramamritham

Towards Integrating IoT Devices with the Web.....%&' *

Orestis Akribopoulos, Ioannis Chatzigiannakis and Dimitrios Amaxilatis

On the Use of Communication Infrastructure in Distributed Power%&(\$ **Generation: a Preliminary Case Study**

Pau Marti, Manel Velasco, Miguel Castilla, Jaume Miret and Antonio Camacho

On Jitter in Time Partitioned Real-Time Systems%&((

Kristian Sandstrom, Thomas Nolte, Moris Behnam and Reinder Bril

Extending Response-Time Analysis of Mixed Messages in CAN with.....%&(, **Controllers Implementing Non-Abortable Transmit Buffers**

Saad Mubeen, Jukka Maki-Turja and Mikael Sjodin

Towards RTOS Support for Mixed Time-Triggered and Event-Triggered Task Sets

Martijn M.H.P. Van Den Heuvel, Reinder J. Bril, Johan Lukkien, Damir Isovich and Gowri Sankar Ramachandran

On Variations of the Suspension-Based Multiprocessor Priority Ceiling Synchronization Protocol

Andreu Carminati and Romulo Silva De Oliveira

Guided Task Model Construction for Automotive Systems based on Time Budgets

Ernest Wozniak, Chokri Mraidha and Sebastien Gerard

Keynote 4 (Room A)

Computational Intelligence Methods for Factory Automation and Industrial Applications

Jacek M. Zurada University of Louisville, Kentucky, USA

Track 7-2 (Room A, 60 min): Path Following, Trajectory Tracking, Planning and Diagnostic Reasoning

Co-chairs: Antoni Grau and Dariusz Pazderski

Path Following for an Articulated Vehicle Based on Switching Model Predictive Control Under Varying Speeds and Slip Angles

Thaker Nayl, George Nikolakopoulos and Thomas Gustafsson

Causality-Based Planning and Diagnostic Reasoning for Cognitive Factories

Esra Erdem, Kadir Haspalamutgil, Volkan Patoglu and Tansel Uras

Residual Vibration Suppression for Industrial Machines Using Simple Motion Trajectory

Yuta Honda, Naoki Uchiyama, Shigenori Sano, Atsushi Kato and Takahiro Yonezawa

SS02-1 (Room B, 60 min): Fault Tolerance Techniques in Distributed Embedded and Automation Systems

Co-chairs: Michael Short and Julián Proenza

Application Level Compensation for Burst Errors in Wireless Control Networks

Michael Short, Usama Abrar and Fathi Abugchem

Probabilistic Scheduling Guarantees in Distributed Real-Time Systems under Error Bursts

Huseyin Aysan, Radu Dobrin, Sasikumar Punnekkat and Julian Proenza

Fault-Tolerant Audio and Video Bridging (AVB) Ethernet: A Novel Method for Redundant Stream Registration Configuration

Oliver Kleineberg, Peter Froehlich and Donal Heffernan

The Design of the CANbids Architecture

Julian Proenza, Manuel Barranco, Guillermo Rodriguez-Navas, David Gessner, Fernando Guardiola and Luis Almeida

SS07-1 (Room C, 60 min): Distributed Automation Systems Development: Trends and Challenges

Co-chairs: Kleanthis Thramboulidis and Stefano Campanelli

Comparison of a Transformed Matlab/Simulink Model into the Programming Language CFC on Different IEC 61131-3 PLC Environments

Gulden Bayrak, Patrik Johannes Murr, Sebastian Ulewicz and Birgit Vogel-Heuser

Design Patterns for Distributed Automation Systems with Consideration of Non-Functional Requirements

Karin Eckert, Thomas Hadlich, Timo Frank, Alexander Fay, Christian Diedrich and Birgit Vogel-Heuser

Evaluation of a Graphical Modeling Language for the Specification of Manufacturing Execution Systems

Benedikt Weissenberger and Birgit Vogel-Heuser

Hardware in the loop simulation for Distributed Automation Systems% (%
Cesare Fantuzzi and Roberto Pancioli

Track 4-3 (Room D, 60 min): Production Planning and Petri Nets Based Methods

Co-chairs: Mariagrazia Dotoli and Bengt Lennartson

Closed-loop Production and Automation Schedule Execution in RMSs under% (+ Uncertain Environmental Conditions

Emanuele Carpanzano, Mauro Mazzolini, Andrea Orlandini, Anna Valente, Amedeo Cesta, Fernando Marinò and Riccardo Rasconi

Online Petri Net Based Algorithm for Planning and Controlling Mobile Robots%))

Cristian Mahulea and Marius Kloetzer

Modular Petri net Modeling of the Spanish Health System% *'

Cristian Mahulea, Juan Manuel Garcia Soriano and Jose Manuel Colom

SS04-1 (Room E, 60 min): Internet of Things Technologies for Adaptable and Agile Automation Systems

Co-chairs: Amine M. Houyou and John Gialelis

Employing Internet of Things Technologies for Building Automation% +%

Dimitrios Amaxilatis, Vasileios Georgitzikis, Dimitrios Giannakopoulos and Ioannis Chatzigiannakis

Security Architecture Elements for IoT Enabled Automation Networks% +-

Kai Fischer and Jurgen Gessner

IoT@Work Automation Middleware System Design and Architecture% , +

Sergio Gusmeroli, Salvatore Piccione and Domenico Rotondi

Track 6-3 (Room F, 60 min): Ontology, Evolutionary Algorithms, and Correlation Based Approaches in Industrial Processes

Co-chairs: Norisha Komoda and Anthony Diniz

A Correlation-based Approach to Determining Related Alarms in Industrial Processes

Gustavo Leitao, Luiz Affonso Guedes and Juliano Araujo

Ontology for Industrial Petrochemical Processes: Case Study of a DEA Process

Anthony Diniz, Rodrigo Silva, Adriaio Doria Neto and Jorge Melo

STLF in the User-Side for an iEMS based on Evolutionary training of Adaptive Networks

Juan Jose Cardenas, Francisco Giacometto, Antoni Garcia and Jose Luis Romeral

SS02-2 (Room A, 60 min): Fault Tolerance Techniques in Distributed Embedded and Automation Systems

Co-chairs: Paulo Portugal and Julián Proenza

Performance Analysis of Parallel Redundant WLAN

Markus Rentschler and Per Laukemann

A Status Protocol for System-operation in a Fault-tolerant System – Verification and Testing with SPIN

Carl Berghem

Dependability Evaluation of WirelessHART Best Practices

Ivanovitch Silva, Luiz Affonso Guedes, Paulo Portugal and Francisco Vasques

SS08 (Room B, 60 min): Building Automation and Smart Homes

Co-chairs: Wolfgang Kastner and Rumen Kyusakov

Emerging Energy Management Standards and Technologies - Challenges and Application Prospects

Rumen Kyusakov, Robert Cragie, Jens Eliasson, Jan van Deventer and Jerker Delsing

Certificate Management in OPC UA Applications: An Evaluation of Different Trust Models

Andreas Fernbach and Wolfgang Kastner

Integrated Control of Centralized and Removable Heat Sources with Peak Demand Compensation

Wojciech Grega

Real-Time Infinite Horizon Adaptive/Predictive Control for Smart Home HVAC Applications

Michael Short

SS07-2 (Room C, 60 min): Distributed Automation Systems Development: Trends and Challenges

Co-chairs: Kleanthis Thramboulidis and Dariusz Kościelnik

Integration of Existing IEC 61131-3 Systems in an IEC 61499 Distributed Solution

Stefano Campanelli, Pierfrancesco Foglia and Cosimo Antonio Prete

IEC 61499: Back to the well Proven Practice of IEC 61131?

Kleanthis Thramboulidis

Towards an Object-Oriented Extension for IEC 61131

Kleanthis Thramboulidis

Track 4-4 (Room D, 90 min): Modeling and Optimization

Co-chairs: Riccardo Rasconi and Carla Seatzu

A Cross Efficiency Fuzzy Data Envelopment Analysis Technique for Supplier Evaluation under Uncertainty

Nicola Costantino, Mariagrazia Dotoli, Nicola Epicoco, Marco Falagario and Fabio Sciancalepore

Development of a Flexible and Adaptive Robotic Cell for Marine Nozzles Processing

Manuel alvarez Souto, Felix Vidal, Ivan Iglesias, Rodrigo Gonzalez, Carlos Alonso and Manuel Remuinan

Infinitesimal Perturbation Analysis Based Optimization for a Manufacturing System with Delivery Time

Sadok Turki, Olivier Bistorin and Nidhal Rezg

A Universal Framework for Lean Design and Control of Automated Material Handling Systems

SS04-2 (Room E, 60 min): Internet of Things Technologies for Adaptable and Agile Automation Systems

Co-chairs: Amine Houyou and Domenico Rotondi

Agile Manufacturing: General Challenges and IoT@Work Perspective

Amine M. Houyou, Hans-Peter Huth, Christos Kloukinas, Henning Trsek and Domenico Rotondi

Towards Autoconfiguration of Industrial Automation Systems: A Case Study Using PROFINET IO

Lars Duerkop, Henning Trsek, Juergen Jasperneite and Lukasz Wisniewski

A Generic Synchronized Data Acquisition Solution for Distributed Automation Systems

Florian Pethig, Bjorn Kroll and Oliver Niggemann

Track 6-4 (Room F, 90 min): Signal Processing and Fault Detection in Automation

Co-chairs: Jacek Zurada and Boguslaw Cyganek

Auditory Scene Analysis by Time-Delay Analysis with Three Microphones

Nozomu Hamada, Wlodzimierz Kasprzak and Paweł Przybysz

Sensor Fault Detection with Low Computational Cost: A Proposed Neural Network-based Control Scheme

Konstantinos Michail and Kyriakos Deliparaschos

Expert System for Power Generation Fault Diagnosis using Hierarchical Meta-Rules

Edgar Amaya and Alberto Alvares

Predictive Control Strategy in delta Domain for Damping Oscillations in a Driveline System

Cristina Budaciu and Corneliu Lazar

Friday, 21 September 2012

iATPA Workshop, session 1

Chair: Thomas Moser

Semantic Design and Integration of Simulation Models in the Industrial Automation Area

Petr Novak and Radek Sindelar

Integrating Mechatronic Thinking and Multi-agent Approaches

Matthias Foehr, Paulo Leitao, Thomas Wagner

Let's talk AutomationML - What is the effort in AutomationML programming?
Rainer Drath

iATPA Workshop, session 2

Chair: Estefania Serral

Extraction of safety relevant functions from CAE data for evaluating the reliability of communications system
Annett Krause, Michael Obst and Leon Urbas

A Tool for Trace Visualization and Offline Debugging of PLC Applications
Richard Berger, Herbert Praehofer, Christian Wirth and Roland Schatz

Towards an Engineering Community as Driver and Basic Tool Support for Lean Approaches in Engineering Projects
Johannes Goetz, Verena Bauer and Joerg Franke

SOCNE Session 1: Cyber-physical Systems and Internet of Things

Chair: Frank Golasowski, Sebastian Hudert

Industry Adoption of the Internet of Things: A Constrained Application Protocol Survey
Christian Lerche, Klaus Hartke and Matthias Kovatsch

Interoperability in Large Scale Cyber-Physical Systems
Jesús Bermejo Muñoz, Terje Grimstad, Diego R. López, Sebastian García-Galán, Luis Ramón López, Rocío P. Prado and José Enrique Muñoz

Generating Test Data for Black-Box Testing using Genetic Algorithms
Marten Fischer and Ralf Tönjes

SOCNE Session 2: Enhanced Services for Smart and Cloud Environments

Chair: Frank Golasowski, Sebastian Hudert

Transactional Service Life Cycle Management in Smart Electromobility Ecosystems
Sebastian Hudert, Michael Ditze, Stefan König, Victor Fässler

Real-time Rating and Charging in federated Cloud Environments) \$

Stephan Flake, Juergen Tacke and Carsten Zoth

**A Web Service-based Communication Architecture for Smartphone/WPAN) *
Sensor Ensembles**

Nico Laum, Christian Lerche, Frank Golatowski and Dirk Timmermann

3rd 4DIAC Users' Workshop - Session Communication Integration and Interoperability

Chair: Alois Zoitl

Welcome and Recent Activities of the 4DIAC Open Source Initiative

Alois Zoitl (Vienna University of Technology, Automation and Control Institute)

Integration of IEC 61131-3 and IEC 61499 control logic using FORTE and ProConOS

Stefano Campanelli (University of Pisa)

Automation Concept for a Smart Grid Laboratory using 4DIAC

Filip Andr n (AIT Austrian Institute of Technology)

Demonstrating interoperability of forte runtime with synchronous execution environments

Majid Sorouri (University of Auckland)

3rd 4DIAC Users' Workshop - Session Application Modeling

Chair: Thomas Strasser

IEC 61499/4DIAC Applications for the Power and Energy Domain

Thomas Strasser (AIT Austrian Institute of Technology)

E3ICP - Embedded Energy Efficiency Industrial Controller Platform

Alois Zoitl (Vienna University of Technology, Automation and Control Institute)

Automatic Generation of IEC 61499 Applications based on Workflow Models

Gerhard Ebenhofer (PROFACTOR GmbH)

IEC 61499 Coordinated Object Pose Recognition using ReconstructMe Technology **''B#**
Gerhard Ebenhofer (PROFACTOR GmbH)

Plenary Discussion - Future Development of 4DIAC: Goals and Targets **''B#**
Alois Zoitl, Gerhard Ebenhofer and Thomas Strasser