



Preliminary Program of 46th CIRP Conference on Manufacturing Systems

(<http://cms2013.ceni.pt/scientific-program/>)

28 th May	CMS2013 Registration and Welcome			
18:00-20:30	Conference Registration and Welcome			
29 th May	Wednesday - Morning Sessions			
	Room - I			
8:30-9:00	Late Registration			
9:00-9:40	Opening Session • P. F. Cunha, CIRP CMS2013 Conference Chairman, Portugal • E. Westkamper, Chairman of the CRIP WG manufacturing systems, Germany			
9:40-10:10	Keynote Speaker - Jack Hu, "Evolving Paradigms of Manufacturing and the Manufacturing Systems Challenges", University of Michigan, USA			
10:10-10:40	Keynote Speaker - António Conde, "Strategic Factors for Competitiveness", Industrial Director of Bosch Termotecnologia SA, Portugal			
10:40-11:00	Coffee Break			
	Production and logistics networks	Factory and production planning	Knowledge and data management in production and logistics	Process modeling and process planning
	Room: I	Room: II	Room: III	Room: IV
11:00 -11:25	A1	B1	C1	D1
11:25 -11:50	A2	B2	C2	D2
11:50-12:15	A3	B3	C3	D3
12:15-12:40	A4	B4	C4	D4
12:40-14:00	Lunch			
29 th May	Wednesday - Afternoon Sessions			
14:00-14:30	Keynote Speaker - Jaroslav Holecek, "The vision and the strategy of the Slovak automotive industry"			
	Production and logistics networks	Factory and production planning	Manufacturing processes	Product and service development and management
	Room: I	Room: II	Room: III	Room: IV
14:30-14:55	A5	B5	E1	F1
14:55-15:20	A6	B6	E2	F2
15:20-15:45	A7	B7	E3	F3

15:45-16:15	Coffee Break			
	Production and logistics networks	Factory and production planning	Manufacturing processes	Product and service development and management
	Room: I	Room: II	Room: III	Room: IV
16:15-16:40	A8	B8	E4	F4
16:40-17:05	A9	B9	E5	F5
17:05-17:30	A10	B10	E6	F6
17:30-17:55	A11	B11	E7	F7
18:30-20:30	Cocktail Reception in Sesimbra			
30 th May	Thursday - Morning Sessions			
8:30-9:00	Late Registration			
09:00-9:30	Keynote Speaker: George Chryssolouris “Manufacturing Systems: Skills & Competencies for the Future”			
	Production and logistics networks	Simulation and optimization of manufacturing systems	Production systems design and management	Manufacturing processes
	Room: I	Room: II	Room: III	Room: IV
9:30-9:55	A12	G1	H1	E8
9:55-10:20	A13	G2	H2	E9
10:20-10:45	A14	G3	H3	E10
10:45-11:05	Coffee Break			
	Production and logistics networks	Simulation and optimization of manufacturing systems	Production systems design and management	Manufacturing processes
	Room: I	Room: II	Room: III	Room: IV
11:05-11:30	A15	G4	H4	E11
11:30-11:55	A16	G5	H5	E12
11:55-12:20	A17	G6	H6	E13
12:20-12:45	A18	G7	H7	E14
12:45-14:00	Lunch			

30 th May	Thursday - Afternoon Sessions				
14:00-14:30	Keynote Speaker: Tullio Tolio, “Manufacturing Systems Modelling”				
	Process improvement and management	Simulation and optimization of manufacturing systems	Production systems design and management	Special Session "Experiences in developing human capital for sustainable and global competitive manufacturing"	
	Room: I	Room: II	Room: III		Room IV
14:30-14:55	I1	G8	H8		
14:55-15:20	I2	G9	H9		
15:20-15:45	I3	G10	H10		
15:45-16:15	Coffee Break				
	Process improvement and management	Simulation and optimization of manufacturing systems	Production systems design and management	Energy-efficient processes and systems	
	Room: I	Room: II	Room: III	Room: IV	
16:15-16:40	I4	G11	H11	J1	
16:40-17:05	I5	G12	H12	J2	
17:05-17:30	I6	G13	H13	J3	
17:30-17:55	Keynote Speaker: António Melo Pires, “The Relevance of Human Capital to the Contexts of a Sustainable Manufacturing System.”				
18:00-19:00	Factory 2013 "An award for the most efficient production site in Portugal"				
19:30-22:30	Conference Dinner and Best paper				
31 th May	Friday - Morning Sessions				
8:30-9:00	Late Registration				
9:00-9:30	Keynote Speaker Daniel Brissaud, “What Tracks for Sustainable Production Systems in Europe?”				
	Process improvement and management	Energy-efficient processes and systems	Manufacturing processes	Technology in production and logistics	
	Room: I	Room: II	Room: III	Room: IV	
9:30-9:55	I7	J4	E15	K1	
9:55-10:20	I8	J5	E16	K2	
10:20-10:45	I9	J6	E17	K3	

10:45 -11:05	Coffee Break			
11:05-11:30	I10	J7	E18	K4
11:30-11:55	I11	J8	E19	K5
11:55-12:15	I12	J9	E20	K6
12:15-12:40	Keynote Speaker: Engelbert Westkamper “Perspectives of Manufacturing for Re-industrialization and Adding Value in Europe”			
12:40-13:05	Closing Session CMS2013			
13:05-14:30	FAREWELL LUNCH			

Keynote speakers

- S. Jack Hu, University of Michigan (US), "Evolving Paradigms of Manufacturing and the Manufacturing Systems Challenges"
- António Conde, Industrial Director of Bosch Termotecnologia SA, (PT), "Strategic Factors for Competitiveness"
- Jaroslav Holecek (SK), Slovak Association for Automobile Industry, "The vision and the strategy of the Slovak automotive industry"
- Tullio Tolio, ITIA-CNR (I), "Manufacturing Systems Modelling"
- George Chrysosouris, University of Patras (GR), "Manufacturing Systems: Skills & Competencies for the Future"
- António Melo Pires, Executive Director Volkswagen Autoeuropa, Lda (PT), "The Relevance of Human Capital to the Contexts of a Sustainable Manufacturing System."
- Daniel Brissaud, University of Grenoble (F), "What Tracks for Sustainable Production Systems in Europe?"
- Engelbert Westkämper, Fraunhofer IPA (D), "Perspectives of Manufacturing for Re-industrialization and Adding Value in Europe"

Paper sessions

- A. Production and logistic networks
- B. Factory and production planning
- C. Knowledge and data management in production and logistics
- D. Process modeling and process planning
- E. Manufacturing processes
- F. Product and service development and management
- G. Simulation and optimization of manufacturing systems
- H. Production systems design and management
- I. Process improvement and management
- J. Energy-efficient processes and systems
- K. Technology in production and logistics

Session A - Production and Logistic Network

A1 - Gisela Lanza, Johannes Stoll, Nicole Stricker, Steven Peters and Christof Lorenz; Measuring Global Production Effectiveness.

A2 - Dimitris Mourtzis, Michalis Doukas and Foivos Psarommatis ; Manufacturing Network Design for Mass Customization using a Genetic Algorithm and an Intelligent Search Method

A3 - Vladimir Modrak and David Marton; Structural Complexity Issues of Assembly Supply Chains: a Theoretical Framework

A4 - Enzo Morosini Frazzon, Jens Hartmann, Thomas Makuschewitz and Bernd Scholz-Reiter; Towards Socio-Cyber-Physical Systems in Production Networks

A5 - Heiko Baum and Jens Schütze; An Organizational Concept for Collaborative Enterprise Networks

A6 - Luis Maia Carneiro, Pedro Cunha, Pedro S. Ferreira and Ahm Shamsuzzoha; Conceptual framework for non-hierarchical business networks for complex products design and manufacturing

A7 - Günther Schuh, Till Potente and Rawina Varandani; Methodology for the assessment of structural complexity in global production networks

A8 - Halvor Holtskog and Geir Ringen; Opportunities in the wake of crisis

A9 - Judith Aelker, Hans Ehm and Thomas Bauernhansl; Managing Complexity in Supply Chains: A Discussion of Current Approaches on the Example of the Semiconductor industry

A10 - Fang Yu, Toshiya Kaihara and Nobutada Fujii; Coalition formation based multi-item multi-attribute negotiation of supply chain network

A11-P - Carlos Briceño; Global supply chain optimization to produce 3.500 seats per day for VW & AutoEuropa.

A12 - Thiam-Soon Gan and Martin Grunow; Concurrent Product - Supply Chain Design & Trade-off Methodologies: A Conceptual Framework & Literature Review

A13 - Mathias Knollmann and Katja Windt; Control-Theoretic Analysis of the Lead Time Syndrome and its Impact on the Logistic Target Achievement

A14 - Andrea Prinz and Thomas Bauernhansl; Risk-Value-Cost-based Optimization of Global Value-Adding Structures

A15 - Bernd Scholz-Reiter, Jens Hartmann, Thomas Makuschewitz and Enzo Morosini Frazzon; A generic approach for the graph-based integrated production and intermodal transport scheduling with capacity restrictions

A16 - Sisi Yin, Tatsushi Nishi and Guoqing Zhang; A Game Theoretic Model to Manufacturing Planning with Single Manufacturer and Multiple Suppliers with Asymmetric Quality Information

A17 - Gisela Lanza, Nicole Stricker and Steven Peters; Ad-hoc Rescheduling and Innovative Business Models for Shock-Robust Production Systems

A18 - Dávid Gyulai, András Pfeiffer, Thomas Sobottka and József Váncza Milkrun; Vehicle routing approach for shop-floor logistics

Session B - Factory and production planning

B1 - Nicole Menck, Christian Weidig and Jan C. Aurich; Virtual Reality as a collaboration tool for factory planning based on scenario technique

B2 - Florian Albrecht, Laura Faatz and Eberhard Abele; Multidimensional evaluation of the changeability of interlinked production processes with material flow simulation

B3 - Günther Schuh, Till Potente and Christina Thomas; Design of production control's behavior

B4-P -Augusto Vilarinho; Manufacturing Execution System (MES) in a medical devices Manufacturing facility.

B5 - Pierre E. C. Johansson, Thomas Lezama, Lennart Malmköld, Birgitta Sjögren and Lena Moestam Ahlström; Current State of Standardized Work in the Automotive Industry in Sweden

B6 - Till Becker, Stanislav M. Chankov and Katja Windt; Synchronization Measures in Job Shop Manufacturing Environments

B7 - Byung Jun Joo, Yong Chan Choi and Paul Xirouchakis; Dispatching rule-based algorithms for a dynamic flexible flow shop scheduling problem with time-dependent process defect rate and quality feedback

B8 - Mohamed Kashkoush and Hoda Elmaraghy; Matching Bills of Materials (BOM) Using Trees Reconciliation

B9 - Stefan Silcher, Barbara Seeberg, Erich Zahn and Bernhard Mitschang; A Holistic Management Model for Manufacturing Companies and Related IT Support

B10 - Michiko Matsuda and Fumihiko Kimura; Usage of a digital eco-factory for green production preparation

B11 - James Baldwin, Christen Rose-Anderssen, Keith Ridgway, Fabian Boettinger, Istvan Nemeth, Kwabena Agyapong-Kodua, Ivan Brencsics, Roland Krain and Marcus Michen; The Evolution of Manufacturing Species – A Cladistic Analysis and its Application

Session C - Knowledge and data management in production and logistics

C1 - Daniel Lieber, Benedikt Konrad, Jochen Deuse, Marco Stolpe and Katharina Morik; Quality Prediction in Interlinked Manufacturing Processes based on Supervised & Unsupervised Machine Learning

C2 - George Pintzos, Markos Matsas, Nikolaos Papakostas and George Chryssolouris; Production Data Handling Using a Manufacturing Indicators' Knowledge Model

C3 - Christoph Groeger, Mark Hillmann, Friedemann Hahn, Bernhard Mitschang and Engelbert Westkaemper; The Operational Process Dashboard for Manufacturing

C4 - Paul Woolliscroft, Dagmar Caganova, Milos Cambal, Lenka Pucikova and Jaroslav Holecek; Implications for optimisation of the automotive supply chain through knowledge management

Session D -Process modeling and process planning

D1 - Hirohisa Narita; A Study of Automatic Determination of Cutting Conditions to Minimize Machining Cost

D2 - Gabor Erdos, Zsolt Kemeny, Andras Kovacs and Jozsef Vancza; Planning of Remote Laser Welding Processes

D3 - Jens Jäger and Andreas Kluth; Conceptual design of an off-site industrialisation process for FRP-based transport infrastructure components

D4 - Peter Vatter and Raoul Plettke; Process model for the design of bent 3-dimensional free-form geometries for the three-roll-push-bending process

Session E - Manufacturing processes

E1 - Dirk Biermann, Markus Steiner and Eugen Krebs; Investigation of Different Hard Coatings for Micromilling of Austenitic Stainless Steel

E2 - Wessel Wits, Sander Weitkamp and Johannes Van Es; Metal additive manufacturing of a high-pressure micro-pump

E3 - Zhaoyan Fan, Robert Gao, Xiyue Zou and Jian Cao; Pressure Retrieval for Microrolling Process Monitoring

E4 - Benjamin Vayre, Frederic Vignat and Francois Villeneuve; Designing rules for additive manufacturing: application on Electron Beam Melting

E5 – Juan M. Jauregui Becker, Guido Tossello, Fred J.A.M. van Houten and Hans N. Hansen; Performance evaluation of a design tool for automated design of cooling systems in injection moulding

E6 - Dirk Biermann, Henning Hartmann, Ina Terwey, Charlotte Merkel and Dominic Kehl; Turning of High-Strength Bainitic and Quenched and Tempered steels

E7 - Christina Schmitt and Dirk Bähre; An Approach to the Calculation of Process Forces during the Precision Honing of Small Bores

E8 - Miklós Czampa, Sándor Markos and Tibor Szalay; Improvement the drilling possibilities of difficult to machine materials

E9 - Andreas Schubert, Ran Zhang and Philipp Steinert; Manufacturing of Twist-Free Surfaces by Hard Turning

E10 - Dr. Uday Anna Dabade; Multi-objective Process Optimization to Improve Surface Integrity on Turned Surface of Al/SiCp Metal Matrix Composites Using Grey Relational Analysis

E11 - Ulrich Schneider, Manuel Drust, Arnold Puzik and Alexander Verl; Compensation of Errors in Robot Machining With a Parallel 3D-Piezo Compensation Mechanism

E12 - Alexey A. Vereschaka, Anatoly S. Vereschaka, Sergey N. Grigoriev, Andrej K. Kirillov and Olga J. Khaustova; Technological development and research of environmentally friendly dry machining system with compensation of physical function of cutting fluids

E13 - Renato L. G. Monaro, André L. Helleno and Klaus Schützer Evaluation of Dynamic Behavior of Machine Tools for Sculptured Surface Manufacturing

E14 - Doriana Marilena D'Addona and Roberto Teti; Genetic algorithm-based optimization of cutting parameters in turning processes

E15 - Marco Schumann, Marco Witt and Philipp Klimant; A Real-Time Collision Prevention System for Machine Tools

E16 - Adeilton Fernandes, Alexandre T. Simon and Carlos R. C. Lima; Study of the environmental and technical performance of a diesel engine with the alternative use of biofuel obtained from the reutilization of vegetal oil.

E17 - João Gandra, Diogo Pereira, Rosa Miranda and Pedro Vilaça; Influence of force and travel speed in the friction surfacing of AA 6082-T6 over AA 2024-T3

E18 - Daniel Weimer, Bernd Scholz-Reiter and Hendrik Thamer; Learning defect classifiers for textured surfaces using neural networks and statistical feature representations

E19 - Julius F. Klinger and Martin Bohn; Predicting dimensional deviations of structural vehicle body parts deep drawn from aluminum blanks

E20 - Gonalo Almeida, Joo Gonzalez, Lu s Rosado, Pedro Vilaa and Telmo Santos; Advances in NDT and materials characterization by eddy currents

Session F - Product and service development and management

F1 - Horst Meier, Thomas Dorka and Friedrich Morlock; Architecture and Conceptual Design for IPS²-Execution Systems

F2 - Pedro Marques, Pedro Cunha, Fernando Valente and Ana Leito; A methodology for developing product-service systems

F3 - Bernard Kornfeld and Sami Kara; A framework for developing portfolios of improvements projects in manufacturing

F4 - Ana Leito, Pedro Cunha, Fernando Valente and Pedro Marques; Roadmap for business models definition in manufacturing companies

F5 - Nariaki Nishino, Sihui Wang, Nobuyuki Tsuji, Kazuro Kageyama and Kanji Ueda; Five Models of Platform-type Product Service Systems in Manufacturing

F6 - Joris Van Ostaeyen, Yves Kerremans, Guy Van Goethem and Joost R. Duflou; A PSS model for diamond gemstone processing: economic feasibility analysis

F7 - Ga per  kulj, Rok Vrabi, Peter Butala and Alojzij Sluga; Statistical Process Control as a Service: An Industrial Case Study

Session G - Simulation and optimization of manufacturing systems

G1 - Azrul Azwan Abdul Rahman and G nther Seliger - Simulation integrated control system for supporting changes of routing strategy in an automated material flow system

G2 - Michael Neumann and Engelbert Westk mper; Method for situation based Modelling and Simulation of Assembly Systems

G3 - Erik Lindskog, Jonatan Berglund, Johan Vallhagen and Bj rn Johansson; Visualization Support for Virtual Redesign of Manufacturing Systems

G4 - Marcello Colledani, Marcello Urgo, Walter Terkaj and Giulia Pedrielli; Integrated Virtual Platform for Manufacturing Systems Design

G5 - Istv n N meth, J nos P sp ki, Csaba Haraszk , Gyula M ty si, Tibor Nagy, Christopher Freeman, Robin W. Scott and James S. Baldwin; 3D Design Support for Rapid Virtual Prototyping of Manufacturing Systems

G6 - Yasuhiro Sudo and Michiko Matsuda; Agent based manufacturing simulation for efficient assembly operations

G7 - Richard Hedman, Robin Sundkvist, Peter Almstr m and Anders Kinnander; Using work study input to object-oriented modeling of manufacturing resources

G8 - Mirja Meyer, Marius-Vasile Apostu and Katja Windt; Analyzing the influence of excess capacities on performance robustness in fluctuating job-shop environments

G9 - Csaba Kardos, Gergely Popovics, Botond Kádár and Laszlo Monostori; Methodology and data-structure for a uniform system's specification in a simulation project

G10 - Christian Brecher, Simon Müller, Thomas Breitbach and Wolfram Lohse; Viable System Model for Manufacturing Execution Systems

G11 - Tobias R. Philipp, Thomas Winkler and Gunther Reinhart; Enhanced Production Control for Prepreg Manufacturing

G12 - Sergei Grigoriev, Andrey Kutin and Mikhail Turkin; Modelling complex production processes in aerospace industry based on dimensional analysis

G13 - Yuji Yamamoto and Monica Bellgran; Four types of manufacturing process innovation and their managerial concerns

H - Production systems design and management

H1 - Imad Chalfoun, Khalid Kouiss, Anne-Lise Huyet, Nicolas Bouton and Pascal Ray; Proposal for a Generic Model Dedicated to Reconfigurable and Agile Manufacturing Systems (RAMS)

H2 - Horst Meier, Stefan Schröder and Niklas Kreggenfeld; Changeability by a modular design of production systems – consideration of technology, organization and staff

H3 - Anna Valente, Andrea Cataldo and Emanuele Carpanzano; A dispatching algorithm and software tool for managing the part flow on Reconfigurable Transportation System

H4 - Karel Kruger and Anton Basson; Control of the feeder for a reconfigurable assembly system

H5 - Nestor Andres Arteaga Martin, Victor Mittelsaedt, Michael Prieur, Rainer Stark and Thomas Bär; Using movable props as passive haptic feedback in the simulation of manual assembly processes in automotive assembly planning and verification

H6 - Maarten Essers and Tom Vaneker; Developing concepts for improved efficiency of robot work preparation

H7-P - Carlos Sousa; ProFlex - Evolvable Assembly Systems

H8 - Robert Riggs and S. Jack Hu; Disassembly liaison graphs inspired by word clouds

H9 - Philipp Holtewert, Joachim Seidelmann and Thomas Bauernhansl; Virtual Fort Knox – Federative, secure and cloud-based platform for manufacturing

H10 - Hesam Shidpour, Alain Bernard and Mahmoud Shahrokhi; A group decision-making method based on intuitionistic fuzzy set in the three dimensional concurrent engineering environment: a multi-objective programming approach

H11 - Lukas Lingitz, Christian Morawetz, Dariush Tavaghof Gigloo, Stefan Minner and Wilfried Sihm; Modelling of flexibility costs in a decision support system for mid-term capacity planning

H12 - Bernard Schmidt and Lihui Wang; Contact-less and Programming-less Human-Robot Collaboration

H13 - João Paulo Pimentão; COSMOS - Desing, development and implementation of factory control system

Session I - Process improvement and management

I1 - Jose Duarte, Pedro Cunha and Joao Craveiro; Maintenance database

I2 - Marcello Colledani and Anteneh Teferi; Impact of Machine Reliability Uncertainty on the Design and Operation of Manufacturing Systems.

I3 - Kirsten Tracht, Jan Westerholt and Peter Schuh; Spare Parts Planning for Offshore Wind Turbines subject to Restrictive Maintenance Conditions

I4 - Tim Mielke and Uwe Dombrowski; Lean Leadership – fundamental principles and their application

I5 - Halvor Holtskog; Continous Improvement beyond the Lean understanding

I6 - Michael Tisch, Christian Hertle, Jan Cachay, Eberhard Abele, Joachim Metternich and Ralf Tenberg; A systematic approach on developing action-oriented, competency-based Learning Factories

I7 - Alexandra Marques, António C. Alves and Jorge Pinho De Sousa; A new approach for integrated design of flexible production systems

I8 - Sven Bechtloff, Stefan Seifermann and Joachim Metternich; Cellular Manufacturing – A lean and flexible Approach for Machining

I9 - Pablo Guzmán Ferradás and Konstantinos Salonitis; Improving changeover time: a tailored SMED approach for welding cells

I10 - Frank Zwißler, Eftal Okhan and Engelbert Westkämper; Lean and Proactive Liquidity Management for SMEs

I11 - Lars Krogstie and Kristian Martinsen; Beyond Lean and Six-Sigma; Cross-Collaborative Improvement of Tolerances and Process Variations - A Case Study

I12 - Dr. Uday Anna Dabade and Rahul C. Bhedasgaonkar; Casting Defect Analysis using Design of Experiments (DoE) and Computer Aided Casting Simulation Technique

J - Energy-efficient processes and systems

J1- Egon Müller, Romina Poller, Hendrik Hopf and Manuela Krones; Enabling Energy Management for Planning Energy-Efficient Factories

J2 - Apostolos Fysikopoulos, Alexios Papachralampopoulos, Georgios Pastras, Panagiotis Stavropoulos and George Chrysosolouris; Energy Efficiency Issues of Manufacturing Processes

J3-P - João Pereira; Think Blue. Factory. (VW-AE)

J4 - Konstantinos Salonitis and Peter Ball; Energy efficient manufacturing from a machine tool to manufacturing systems

J5 - Philipp Eberspächer and Alexander Verl; Model-based energy reduction of machine tools through control-integrated optimization techniques

J6 - Hong-Seok Park and Xuan-Phuong Dang; A study on the heating process for forging of an automotive crankshaft in terms of energy efficiency

J7 - Marcus Andreas Dörr, Sylvia Wahren and Thomas Bauernhansl; Methodology for energy-efficiency on process level

J8 - Jumyung Um and Ian Stroud; Total energy estimation model for remote laser welding process

J9-P - Maria Marques?? ; LifeSaver project is aimed at supporting the analysis and decision-making processes in industry to achieve additional gains by reducing energy consumption and related emissions

K - Technology in production and logistics

K1 - Christoph Gröger, Stefan Silcher, Engelbert Westkämper and Bernhard Mitschang; Leveraging Apps in Manufacturing. A Framework for App Technology in the Enterprise

K2 - Per Saunders, Bin Cai, Paul Maropoulos and Nick Orchard; Towards a definition of PLM-integrated Dimensional Measurement

K3 - Johannes Volkmann and Engelbert Westkämper; Cost Model for Digital Engineering Tools

K4 - Frederic Vignat; A NEW NUMERICAL CHAIN FROM 3D MODEL OF PARTS TO CNC MANUFACTURING

K5 - Alexander Verl, Armin Lechler, Stefan Wesner, Andreas Kirstädter, Jan Schlechtendahl, Lutz Schubert and Sebastian Meier; An approach for cloud based machine tool control

K6 - Jody Muelaner, Oliver Martin and Paul Maropoulos ; Achieving Low Cost and High Quality Aero Structure Assembly through Integrated Digital Metrology Systems