

Programme SysInt 2014

Wednesday, July 2 nd , 2014			
8:00	Registration & Welcome Coffee		
9:00	Welcome & Introduction		
9:30	Keynote 1 Klaus-Dieter Thoben, University of Bremen Applying Industry 4.0 in Production and Logistic Systems		
10:00	Keynote 2 Kai Litwinski, Leibniz Universität Hannover Application of gentelligent components in production engineering		
10:30	Coffee Break		
11:00	Track 1 Chair: Berend Denkena, (IFW) Leibniz Universität Hannover Intelligent Systems: Enabling Technologies Georg Hackenberg, Christoph Richter, Michael F. Zäh: A Multi-Disciplinary Modeling Technique for Requirements Management in Mechatronic Systems Engineering Harald Anacker, Roman Dumitrescu, Jürgen Gausemeier, Peter Iwanek, Thomas Schierbaum: Methodology for the Identification of Potentials for the Integration of Self-Optimization in Mechatronic Systems Farisoroosh Abrishamchian, Ansgar Trächtler: Configuration of Mechatronic Systems Using Feature Models Uwe Mönks, Henning Trsek, Lars Dürkop, Volker Geneiß, Volker Lohweg: Assisting the Design of Sensor and Information Fusion Systems Tobias Meyer, Christoph Sondermann-Wölke, Walter Sextro: Method to Identify Dependability Objectives for use in Multiobjective Optimization Problem	Track 2 Chair: Tobias Mörke, (IFW) Leibniz Universität Hannover The Future of Manufacturing: Cyber-Physical Production Systems Michael Lütjen, Hans-Jörg Kreowski, Marco Franke, Klaus-Dieter Thoben, Michael Freitag: Model-Driven Logistics Engineering - Challenges of Model and Object Transformation Florian Harjes, Bernd Scholz-Reiter: Autonomous control in closed dynamic logistic systems Daniel Weimer, Daniel Rippel, Torsten Hildebrandt(a), Michael Lütjen, Bernd Scholz-Reiter: A Strategy for Logistic Quality Control in Micro Bulk Production Marco Lewandowski, Stephan Oelker: Towards Autonomous Control in Maintenance and Spare Part Logistics - Challenges and Opportunities for Preacting Maintenance Concepts Berend Denkena, Ruben Fischer, Dirk Euhus, Thomas Neff: Simulation based Process Monitoring for Single Item Production without Machine External Sensors	Track 3 Chair: Ahmed Jaffar, Universiti Teknologi Mara German-Malaysian Workshop Mohd Nor Azmi Ab Patar, Takashi Komeda, Cheng Yee Low, Jamaluddin Mahmud: System Integration and Control of Finger Orthosis for Post Stroke Rehabilitation Adam Tan Mohd Amin, Abdul Hakim Ab Rahim, Cheng Yee Low: Adaptive Controller Algorithm for 2-DOF Humanoid Robot Arm Khairul Azmi Mahadhir, Shing Chiang Tan, Cheng Yee Low, Roman Dumitrescu, Adam Tan Mohd Amin, Ahmed Jaffar: Terrain Classification for Track-Driven Agricultural Robots Rizal E.M. Nasir, Wahyu Kuntjoro, Wirachman Wisnoe: Aerodynamic, Stability and Flying Quality Evaluation on a Small Blended Wing-Body Aircraft with Canard Foreplanes
12:40	Lunch		

13:40	<p>Poster Session</p> <p>Noor Ayuni Che Zakaria, Cheng Yee Low, Fazah Akthar Hanapiah, Takashi Komeda, Kaoru Inoue, Muhammad Shafiz Shazidi, Hamezan Mohamad Hamsan: Evaluation of Upper Limb Spasticity towards the Development of a High Fidelity Part-task Trainer</p> <p>Sharil Fadli Mohamad Zamri, Famiza Abdul Latif, Ab Malik Marwan Ali, Ruhani Ibrahim, Norashima Kamaluddin, Fitrah Hadip: Ionic Conductivity And Dielectric Properties Of LiBF₄ Doped PMMA/ ENR 50 Filled Acid Modified SiO₂ Electrolytes</p> <p>Jens Otto, Steffen Henning, Oliver Niggemann: Why cyber-physical production systems need a descriptive engineering approach – a case study in plug & produce</p> <p>Alhassan Salami Tijani, Ashraf M.S. Bin Roslan: Simulation analysis of thermal losses of parabolic trough solar collector in Malaysia using computational fluid dynamics</p> <p>M.Hanif M.Ramli, M.Hazwan M. Yunus, Cheng Yee Low, Ahmed Jaffar: Scavenging Energy from Human Activities using Piezoelectric Material</p> <p>Z.Salleh, Koay Mei Hyie, M.N.Berhan, Y. M.D. Taib, E.N. A. Latip, Anizah Kalam: Residual Tensile Stress of Kenaf Polyester and Kenaf Hybrid under Post Impact and Open Hole Tensile</p> <p>J.B. Saedon, Norkamal Jaafar, Mohd Azman Yahaya, NorHayati Saad, Mohd Shahir Kasim: Multi-Objective Optimization of Titanium Alloy Through Orthogonal Array and Grey Relational Analysis in WEDM</p>		
14:20	<p>Track 1 Chair: Maren Vaßholz, University of Paderborn Intelligent Systems: Enabling Technologies</p> <p>Jan Jatzkowski, Bernd Kleinjohann: Towards Self-Reconfiguration of Real-Time Communication within Cyber-Physical Systems</p> <p>Florian Pantke, Stefan Edelkamp, Otthein Herzog: Combinatorial Planning with Numerical Parameter Optimization for Local Control in Multi-Agent Systems</p> <p>Frederik Brunstein, Christoph Schweers, Ansgar Trächtler: An Automated Approach To Filter Design For Online State- And Parameter Estimation On Unknown, Non-Analytic Models</p> <p>Gaël Matten, Manuel Collet, Scott Cogan, Emeline Sadoulet-Reboul: Synthetic Impedance for Adaptive Piezoelectric Metacomposite</p> <p>Constantin-Bala Zamfirescu, Bogdan-Constantin Pirvu, Dominic Gorecky, Harish Chakravarthy: Human-centred assembly: a case study for an anthropocentric cyber-physical System</p>	<p>Track 2 Chair: Klaus-Dieter Thoben, University of Bremen The Future of Manufacturing: Cyber-Physical Production Systems</p> <p>Thorsten Wuest, Benjamin Knoke, Klaus-Dieter Thoben: Applying graph theory and the product state concept in manufacturing</p> <p>Roland Lachmayer, Iryna Mozgova, Bastian Sauthoff, Philipp Gottwald: Evolutionary Approach for an Optimized Analysis of Product Life Cycle Data</p> <p>Johannes Meyer, Quang Huy Dao, Bernd Geck: 24 GHz RFID Communication System for Product Lifecycle Applications</p> <p>Ahmed Shokry, Antonio Espuña: Sequential Dynamic Optimization of Complex Nonlinear Processes Based on Kriging Surrogate Models</p> <p>Joel Greenyer, Christian Hansen, Jens Kotlarski, Tobias Ortmaier: Towards Synthesizing Energy-Efficient Controllers for Modern Production Systems from Scenario-Based Specifications</p>	<p>Track 3 Chair: Stefan Bosse, University of Bremen Perceptive Robotics</p> <p>Lucia Seminara, Luigi Pinna, Ali Ibrahim, Luca Noli, Marco Capurro, Stefano Caviglia, Paolo Gastaldo, Maurizio Valle: Electronic Skin: achievements, issues and trends</p> <p>Masashi Yamashita: Robotic Rehabilitation System for Human Upper Limbs Using Guide Control and Manipulability Ellipsoid Prediction</p> <p>Joachim Michniewicz, Gunther Reinhart: Cyber-Physical-Robotics – Automated Analysis, Programming and Configuration of Robot Cells based on Cyber-Physical-Systems</p> <p>Markus Schatten, Petra Grd, Mladen Konecki, Robert Kudeli: Towards a Formal Conceptualization of Organizational Design Techniques for Large Scale Multi Agent Systems</p> <p>Sergei Gontscharov, Hauke Baumgärtel, Andre Kneifel, Karl-Ludwig Krieger: Algorithm development for minor damage identification in vehicle bodies using adaptive sensor data processing</p>
16:00	<p>Coffee Break</p>		

16:40	<p>Track 1 Chair: Gerrit Dumstorff, University of Bremen Intelligent Systems: Enabling Technologies</p> <p>Angelina Besgan, Volker Zöllmer, Robert Kun, Edit Pál, Lorenz Walder, Matthias Busse: Inkjet printing as a flexible technology for the deposition of thermoelectric composite structures</p> <p>M. Kohl, G. Veltl, M. Busse: Printed sensors produced via thick-film technology for the use in monitoring applications</p> <p>D. Klaas, P. Taptimthong, L. Jogschies, L. Rissing: Component Integrated Sensors: Deposition of Thin Insulation Layers on Functional Surfaces</p> <p>Jan Friedrich Düsing, Tíme Eichele, Jürgen Koch, Oliver Suttmann, Ludger Overmeyer: Laser Surface Processing of Integrated Thin Film Systems on Arbitrary Shaped Components</p>	<p>Track 2 Chair: N. N. The Future of Manufacturing: Cyber-Physical Production Systems</p> <p>Stefan Scheifele, Jens Friedrich, Armin Lechler, Alexander Verl: Flexible, self-configuring control system for a modular production system</p> <p>Berend Denkena, Justin Schmidt, Max Krüger: Data mining approach for knowledge-based process planning</p> <p>Berend Denkena, Kai Martin Litwinski, Haythem Boujnah: Process Monitoring with a Force Sensitive Axis-Slide for Machine Tools</p> <p>Berend Denkena, Jens Köhler, Alexander Seibel: Experimental Analysis of Cutting Forces in actuated Face Milling of Micro Patterns</p>	<p>Track 3 Chair: Maurizio Valle, University of Genova Perceptive Robotics</p> <p>Christian Friedrich, Armin Lechler, Alexander Verl: Autonomous systems for maintenance tasks- requirements and design of a control architecture</p> <p>Alexander Bubeck, Benjamin Maidel, Felipe Garcia Lopez: Model driven engineering for the implementation of user roles in industrial service robot applications</p> <p>B. Denkena, D. Dahlmann, J. Damm: Self-Tuning of Techless Process Monitoring Systems with multi-criteria Monitoring Strategy in Series Production</p> <p>M.S. Essers, T.H.J. Vaneker: Evaluating a Data Distribution Service system for dynamic manufacturing environments: a case study</p>
18:30	Guided Tour LogDynamics Lab and Projects		
19:30	Get Together at BIBA Institute (Hochschulring 20, 28359 Bremen)		

Thursday, July 3 rd , 2014			
8:00	Registration & Welcome Coffee		
9:00	Keynote 1 Abdul Rahman Omar, Universiti Teknologi Mara Humanoid Research for Brain Impairment		
9:30	Keynote 2 Ludger Overmeyer, (ITA), Leibniz Universität Hannover On the way to Planar Optronic Systems		
10:00	Keynote 3 Mareen Vaßholz, Heinz Nixdorf Institute, University of Paderborn The Development to Intelligent Technical Systems		
10:30	Coffee Break		
11:00	Track 1 Chair: Ludger Overmeyer, Leibniz Universität Hannover Intelligent Systems: Enabling Technologies <i>Invited talk:</i> R. Bergmann, V. V. Parsi Sreenivas, M. Bülters, A. Garcia-Ortiz, J. Gutowski, W. Lang: Nanophotonics in Three Dimensions: Heading from Microelectronics towards Optical Computing Bechir Hachicha, Ludger Overmeyer: In-line production, optronic assembly and packaging of polymer optical fibers Michael Koerdt, Simon Kibben, Johanne Hesselbach, Christian Brauner, Axel Siegfried Herrmann, Frank Vollertsen, Lothar Kroll: Fabrication and characterization of Bragg gratings in a graded- index perfluorinated polymer optical fiber Anne-Katrin Schuler, Raimund Rother, Oswald Prucker, Claas Müller, Holger Reinecke, Jürgen Rühle: A novel reactive lamination process for the generation of func- tional multilayer foils for optical applications Torsten Otto, Torsten Rabe, Sebastian Döring, Wolfgang Kowalsky: Organic Solar Cells as Polymer Waveguide integrated Photodetectors	Track 2 Chair: Tobias Mörke, Leibniz Universität Hannover The Future of Manufacturing: Cyber-Physical Production Systems Hong-Seok Park, Ngoc-Tran Le: Developing a Self-Optimizing Forming System U. Damerow, D. Tabakajew, M. Borzykh, W. Schaermann, W. Homberg, A. Trächtler: Concept for a self-correcting sheet metal bending operation Juan Ramirez, Jörg Wollnack: Flexible Automated Assembly Systems for Large CFRP- Structures B.-A. Behrens, M. Kammler, A. Klassen, N. Vahed, M. Bonhage: Development of a Powder Metal- lurgical Self Cooling Forging Die with Inner Cavities Berend Denkena, Dominik Dahlmann, Johann Kiesner: Sensor Integration for a Hydraulic Clamping System	Track 3 Chair: Cheng Yee Low, Universiti Teknologi Mara German-Malaysian Workshop Koay Mei Hyie, Athirah Ahmad, Nor Azrina Resali, Mohd Firdaus Munir, Choong Soo Li, Sheridan Saidin: Corrosion Study of Electrodeposited Co-Ni-Fe Protective Coating on Electroless Nickel Immersion Gold (ENIG) Flexible Printed Circuit Alhassan Salami Tijani, Afiqah Binti Yusup, A. H. Abdol Rahim: Simulation analysis of advanced alkaline electrolyzer system for hydrogen production Muhammad Azmi Ayub, Azmi B. Mohamed, Abdul Halim Esa: In-Line Inspection Of Roundness Using Machine Vision
12:40	Lunch		

14:20	<p>Track 1 Chair: N. N. Intelligent Systems: Enabling Technologies</p> <p>Uwe Gleißner, Kirsten Honnef, Thomas Hanemann: Tuning the Optical and Rheological Properties of Host-Guest Systems based on an Epoxy acrylate and MMA</p> <p>Meriem Akin, Lutz Rissing, Elke Pichler: Design guidelines for efficient eutectic soldering onto low Tg polymeric multimode light waveguides</p> <p>Roland Lachmayer, Iryna Mozgova, Wilfried Reimche, Frank Colditz, Gregor Mroz, Philipp Gottwald: Technical Inheritance: A Concept to Adapt the Evolution of Nature to Product Engineering</p> <p>Christian Demminger, Christian Klose, Piriya Taptimthong, Hans Jürgen Maier: Material-inherent data storage using magnetic magnesium-cobalt alloys</p> <p>Andreas Meier, Mark Gonter, Rudolf Kruse: Precrash classification of car accidents for improved occupant safety systems</p>	<p>Track 2 Chair: Dirk Lehmus, University of Bremen The Future of Manufacturing: Cyber-Physical Production Systems</p> <p>Johannes Günther, Patrick M. Pilarski, Gerhard Helfrich, Hao Shen, Klaus Diepold: First steps towards an intelligent laser welding architecture using deep neural networks and reinforcement learning</p> <p>M. Winkens, P. Nyhuis: Determining a Suitable Maintenance Measure for Gentelligent Components Using Case-based Reasoning</p> <p>G. Mroz, W. Reimche, W. Frackowiak, O. Bruchwald, H. J. Maier: Setting discrete yield-stress sensors for recording early component loading using eddy-current array technology and induction thermography</p> <p>Matthias Nestler, Welf-Guntram Drossel, Sebastian Hensel, Roland Müller: Fabrication method for series production of sheet metal parts with integrated piezoelectric transducers</p> <p>B. Denkena, B. Breidenstein, W. Reimche, G. Mroz, T. Mörke, H. J. Maier: Changes of subsurface properties due to fatigue determined by sin²-Ψ-method and harmonic analysis of eddy current signals</p>	<p>Track 3 Chair: Martin Bach, Airbus Group Innovations, Structure Health Engineering Structural Health Monitoring</p> <p>Stefan Bosse, Armin Lechleiter: Structural Health and Load Monitoring with Material-embedded Sensor Networks and Self-organizing Multi-Agent Systems</p> <p>Y. Yang, G. Chiesura, G. Luyckx, T. Vervust, F. Bossuyt, M. Kaufmann, J. Degrieck, J. Vanfleteren: Development of a dielectric sensor system for the on-line cure monitoring of composites</p> <p>M. Moix-Bonet, I. Bueth, M. Bach, C.-P. Fritzen, P. Wierach: Durability of Co-bonded Piezoelectric Transducers</p> <p>Mariugenia Salas, Oliver Focke, Axel S. Herrmann, Walter Lang: Low-Frequency Inductive Power Transmission for Piezo-Wafer-Active-Sensors in the Structural Health Monitoring of Carbon-Fiber-Reinforced-Polymer</p> <p>M. Müller, B. Müller, S. Hensel, M. Nestler, S. F. Jahn, V. Wittstock, A. Schubert, W.-G. Drossel: Structural integration of PZT fibers in deep drawn sheet metal for material-integrated sensing and actuation</p>
16:00	Coffee Break		
16:40	<p>Workshop 1 Chair: Dirk Lehmus, University of Bremen Gerrit Dumstorff, Walter Lang Material Integration of Intelligent Systems</p>	<p>Workshop 2 Chair: Stefan Bosse, University of Bremen Armin Lechleiter, Stefano Mariani Big Data and Cloud Computing in Distributed Sensor Networks - Challenges, Scaling, and Algorithms</p>	<p>Workshop 3 Chair: Marein Vaßholz, Heinz Nixdorf Institute University of Paderborn Peter Iwanek Intelligent Development of Intelligent Technical Systems</p>
18:30	Guided Tour Fraunhofer IFAM		
20:00 - 23:00	Conference Dinner (Martini Anleger - Schlachte 1, 28195 Bremen)		

Friday, July 4 th , 2014			
8:00	Registration & Welcome Coffee		
9:00	Keynote 1 W. A. (Pim) Groen, Holst Centre Eindhoven Printed electronics – from simple circuitry to integrated devices		
9:30	Keynote 2 Ralf Ackermann, Research Manager - Mobile Computing at SAP AG / SAP Research How to be a successful player in the Internet of Things and Industry 4.0		
10:00	Keynote 3 Willy Van Puymbroeck, DG Connect Smart System Integration in EU research - results, trends and opportunities		
10:30	Coffee Break		
11:00	Track 1 Chair: Lutz Rissing, Leibniz Universität Hannover Intelligent Systems: Enabling Technologies J. Vanfleteren, I. Chtioui, B. Plovie, Y. Yang, F. Bossuyt, T. Vervust, S. Dunphy, B. Vandecasteele: Arbitrarily Shaped 2.5D Circuits using Stretchable Interconnections and Embedding in Thermoplastic Polymers Gerrit Dumstorff, Walter Lang: Failure of silicon substrates embedded in epoxy resin L. Jogschies, J. Heitmann, D. Klaas, L. Rissing: Investigations on Strain Behaviour of Polymer Substrates during a Separation Process P. Taptimthong, J. Rittinger, M.C. Wurz, L. Rissing: Flexible Magnetic Writing / Reading System: Polyimide Film as Flexible Substrate Robert Berganski, Walter Lang: Flexible Flow Measuring System for Measurements on Non-Planar Surfaces	Track 2 Chair: Michael Koerdt, FVSV The Future of Manufacturing: Cyber-Physical Production Systems Maher Rezem, Axel Günther, Maik Rahlves, Bernhard Roth, Eduard Reithmeier: Hot embossing of polymer optical waveguides for sensing applications Tim Wolfer, Patrick Bollgruen, Dario Mager, Ludger Overmeyer, Jan G. Korvink: Flexographic and inkjet printing of polymer optical waveguides for fully integrated sensor systems Y. Wang, L. Overmeyer: Low temperature optodic bonding for integration of micro optoelectronic components in polymer optronic systems Melanie Gauch, Henrik Ehlers, Detlev Ristau: Mixing of PTFE and oxides by sputtering techniques: a comparison of different approaches	Track 3 Chair: Dirk Lehmus, University of Bremen Structural Health Monitoring <i>Invited talk:</i> Nikhil Gupta, Kevin Chen: Power modulation based optical fiber loop-sensor for structural health monitoring in composite materials Yanfen Xiao, Elke Pichler, Meike Hofmann, Konrad Bethmann, Michael Köhring, Ulrike Willer, Hans Zappe: Towards Integrated Resonant and Interferometric Sensors in Polymer Films Stanislav Sherman, Hans Zappe: Printable Bragg gratings for polymer-based temperature sensors Christian Kelb, Eduard Reithmeier, Bernhard Roth: Foil-integrated 2D optical strain sensors
12:40	Lunch		

<p>14:20</p>	<p>Track 1 Chair: Florian Harjes, University of Bremen Intelligent Systems: Enabling Technologies</p> <p>Felix Andre, Frederieke Langer, Julian Schwenzel, Róbert Kun: Energy Storage Options for Self-Powering Devices</p> <p>Mohammad Al-Sharman, Mamoun Abdel-Hafez, Muhannad Al-Omari: State Estimation for a Small Scale Flybar-less Helicopter</p> <p>Bara J. Emran, Muhannad Al-Omari, Mamoun F. Abdel-Hafez, Mohammad A. Jaradat: A Cascaded Approach for Quadrotor's Attitude Estimation</p> <p>Daniel Weimer, Hendrik Thamer, Klaus-Dieter Thoben: GPU architecture for unsupervised surface inspection using multi-scale texture analysis</p> <p>Michael Dellnitz, Julian Ecksteinc, Kathrin Flaßkamp, Patrick Friedel, Christian Horenkamp, Ulrich Köhler, Sina Ober-Blöbaum, Sebastian Peitz, Sebastian Tiemeyer: Development of an intelligent cruise control using optimal control methods</p>		<p>Track 3 Chair: Stefan Bosse, University of Bremen Structural Health Monitoring</p> <p>Hauke Baumgärtel, Andre Kneifel, Sergei Gontscharov(a), Karl-Ludwig Krieger: Investigations and comparison of noise signals to useful signals for the detection of dents in vehicle bodies by sound emission analysis</p> <p>Luis Vera-Tudela, Martin Kühn: On the selection of input variables for a wind turbine load monitoring system</p> <p>A. Engel, A. Friedmann, M. Koch, J. Rohlfing, T. Siebel, D. Mayer, A. Koch: Hardware-Accelerated Wireless Sensor Network for Distributed Structural Health Monitoring</p> <p>D. Coronado, C. Kupferschmidt: Assessment and Validation of Oil Sensor Systems for On-line Oil Condition Monitoring of Wind Turbine Gearboxes</p>
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