Research output: Scientific - peer-review › Conference contribution

Research output: Scientific - peer-review › Editorial

Research output: Scientific - peer-review › Conference contribution

Research output: Collection of articles › Doctoral Thesis

Research output: Scientific › Digital or Visual Products

Korpela, Timo; Kumpulainen, Pekka; Majanne, Yrjö; Häyrinen, Anna; Lautala, Pentti / Indirect NOx emission monitoring in natural gas fired boilers. In: Control Engineering Practice, Vol. 65, 01.08.2017, p. 11-25.
Research output: Scientific - peer-review › Article

Research output: Scientific - peer-review › Conference contribution

Research output: Scientific - peer-review › Article

Research output: Collection of articles › Doctoral Thesis

Research output: Scientific - peer-review › Article

Research output: Scientific - peer-review › Article

Research output: Scientific - peer-review › Article

Rantanen, Ville (Author); Verho, Jarmo (Author); Vehkaoja, Antti (Author); Veselý, Petr (Author). 2016. Combating Unilateral Facial Paralysis With Low-Latency Muscle Reanimation. National Instruments. .
Research output: Scientific › Digital or Visual Products
Backas, Joni; Ghabcheloo, Reza; Tikkanen, Seppo; Huhtala, Kalevi / Fuel optimal controller for hydrostatic drives and real-world experiments on a wheel loader.
Research output: Scientific › peer-review › Article

Rantanen, Ville (Author); Vehkajää, Antti (Author); Verho, Jarmo (Author); Lekkala, Jukka (Author); Ilves, Mirja (Author); Lylykangas, Jari (Author); Surakka, Veikko (Author); Mäkelä, Eeva (Author); Rautiainen, Markus (Author); Veselý, Petr (Author). 2016. Mimetic Interfaces Project: Eye Blink Pacing.
Research output: Scientific › Digital or Visual Products

Choi, Ji-Wung; Huhtala, Kalevi / Constrained Global Path Optimization for Articulated Steering Vehicles.
Research output: Scientific › peer-review › Article

Evchina, Yulia; Martinez Lastra, Jose Luis / An ICT-driven Hybrid Automation System for Elderly Care Support: A Rehabilitation Facility Study Case.
In: Journal of Housing for the Elderly, Vol. 30, No. 1, 15.03.2016, p. 52-74.
Research output: Scientific › peer-review › Article

Ramis Ferrer, Borja; Ahmad, Bilal; Vera, Daniel; Lobov, Andrei; Harrison, Robert; Martínez Lastra, José Luis / Product, process and resource model coupling for knowledge-driven assembly automation.
Research output: Scientific › peer-review › Article

Tuisku, Outi; Rantanen, Ville; Surakka, Veikko / Longitudinal study on text entry by gazing and smiling.
Research output: Scientific › peer-review › Conference contribution

Mäki, Antti-Juhana; Kontunen, Anton; Ryynänen, Tomi; Verho, Jarmo; Kreutzer, Joose; Lekkala, Jukka; Kallio, Pasi / Design and simulation of a thermal flow sensor for gravity-driven microfluidic applications.
Research output: Scientific › peer-review › Conference contribution

Research output: Scientific › Conference contribution


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Article


Research output: Professional › Commissioned report


Research output: Scientific - peer-review › Conference contribution


Research output: Monograph › Doctoral Thesis


Research output: Scientific - peer-review › Article

Alanen, Jarmo; Keränen, Janne; Kortelainen, Juha; Muhammad, Ali; Virtanen, Juha; Multanen, Petteri; Hietala, Jukka-Pekka; Krogerus, Tomi; Hyvönen, Mika ; Huhtala, Kalevi; Pajunen, Sami; Coatanoe, Eric; Baharudin, Ezral; Matikainen, Marko; Mikkola, Aki; Gao, Xiao-Zhi; Järvenpää, Seppo; Mokammel, Faisal; Ylä-Oijala, Pasi; Zenger, Kai; Miettinen, Kaisa; Sindhaya, Karthik / Towards a simulation-based product process : SIMPRO research project final report. VALTION TEKNILLINEN TUTKIMUSKESKUS, 2015. 112 p. (VTT Technology; Vol. 240).

Research output: Professional › Commissioned report


Research output: Scientific - peer-review › Article

In: International Journal on Interactive Design and Manufacturing, Vol. 9, No. 4, 22.03.2015, p. 325-338.
Research output: Scientific - peer-review › Article

Pyrhönen, Veli-Pekka; Koivisto, Hannu / Composite Nonlinear Feedback Control of a Chemical Reactor.
Research output: Scientific - peer-review › Conference contribution

Salmenperä, Mikko; Seppälä, Jari; Koivisto, Hannu; Lu, Shengye; Repo, Sami / Systematic approach to secure automation – coordinated voltage control use-case.
Research output: Scientific - peer-review › Conference contribution

Koivumäki, Janne; Mattila, Jouni / High performance nonlinear motion/force controller design for redundant hydraulic construction crane automation.
In: Automation in Construction, Vol. 51, 01.03.2015, p. 59-77.
Research output: Scientific - peer-review › Article

Mäki, Antti-Juhana; Hemmilä, Samu; Hirvonen, Juha; Narra Girish, Nathaniel; Kreutzer, Joose; Hyttinen, Jari; Kallio, Pasi / Modeling and Experimental Characterization of Pressure Drop in Gravity-Driven Microfluidic Systems.
Research output: Scientific - peer-review › Article

Saketi, Pooya; Latifi, Seyed Kourosh; Hirvonen, Juha; Rajala, Satu; Vehkaoja, Antti; Salpavaara, Timo; Lekkala, Jukka; Kallio, Pasi / PVDF Microforce Sensor for the Measurement of Z-directional Strength in Paper Fiber Bonds.
Research output: Scientific - peer-review › Article

Huova, Mikko; Ahopelto, Miika; Ketonen, Mikka; Ahola, Ville; Linjama, Matti; Huhtala, Kalevi / Characteristics of Digital Hydraulics with Commercial Controllers.
Research output: Scientific › Conference contribution

Linjama, Matti; Silvonen, Lauri; Huova, Mikko / Numerically Efficient Flow Model for On/Off Valves.
Research output: Scientific › Conference contribution

Martínez Landa, Héctor / Problems Analysis and Solutions for the Establishment of Augmented Reality Technology in Maintenance and Education.
Tampere University of Technology, 2015. 67 p. (Tampere University of Technology. Publication; Vol. 1275).
Research output: Collection of articles › Doctoral Thesis

M. Aref, Mohammad; Oftadeh, Reza; Ghabcheloo, Reza; Mattila, Jouni / Fault tolerant control architecture design for mobile manipulation in scientific facilities.
Research output: Scientific - peer-review › Article

Mettänen, Marja; Hirn, Ulrich / A comparison of five optical surface topography measurement methods.
Research output: Scientific - peer-review › Article
Takalo, Reijo; Hytti, Heli; Ihalainen, Heimo; Sohlberg, Antti / Adaptive autoregressive model for reduction of noise in SPECT.
Research output: Scientific - peer-review › Article

Yli-Fossi, Timo; Kuusisto, Risto / A dynamic paper machine simulator for testing of model predictive control applications.
Research output: Scientific - peer-review › Conference contribution

Kolu, Antti ; Lauri, Mikko ; Hyvönens, Mika ; Ghabcheloo, Reza; Huhtala, Kalevi / A Mapping Method Tolerant to Calibration and Localization Errors Based on Tilting 2D Laser Scanner.
Research output: Scientific - peer-review › Conference contribution

Salpavaara, Timo; Lekkala, Jukka / A model based analysis of the measurement errors in inductively coupled passive resonance sensors.
IMEKO XXI World Congress, Proceedings, August 30 - September 4, 2015, Prague, Czech Republic. ed. / Jan Holub. 2015.
Research output: Scientific - peer-review › Conference contribution

Krogerus, Tomi; Hyvönens, Mika; Backas, Joni; Huhtala, Kalevi / Anomaly Detection and Diagnostics of a Wheel Loader Using Dynamic Mathematical Model and Joint Probability Distributions.
Research output: Scientific - peer-review › Conference contribution

Iarovyi, Sergii; Xu, Xiangbin; Lobov, Andrei; Lastra, Jose L. Martinez; Strzelczak, Stanislaw / Architecture for Open, Knowledge-Driven Manufacturing Execution System.
Research output: Scientific - peer-review › Conference contribution

Hyvönens, Mika ; Rajala, Miika ; Virtanen, Ari; Jankkari, Jari; Huhtala, Kalevi; Ritala, Risto / Assistive Situation Awareness System for Mobile Multimachine Work Environments.
Research output: Scientific - peer-review › Article

Boström, Pontus; Heikkilä, Mikko; Huova, Mikko; Waldén, Marina; Linjama, Matti / Bayesian statistical analysis for performance evaluation in real-time control systems.
Research output: Scientific - peer-review › Conference contribution

Research output: Scientific - peer-review › Conference contribution

Mantilla, R. M Fernanda; Nieto Lee, Angelica; Lastra, Jose L Martinez / Definition of key performance indicators for energy efficient assessment in the transport sector.
Research output: Scientific - peer-review › Conference contribution
Roinila, Tomi; Zeng, Hongjiang; Verho, Jarmo; Xiao, Yu; Vilikko, Matti; Kallio, Pasi; Lekkala, Jukka; Li, Tie; Wang, Yuelin / Measuring resistivity of silicon nanowire using pseudo-random binary sequence injection. 
Research output: Scientific - peer-review › Article

Linjama, Matti; Paloniitty, Miika; Tainen, Lassi; Huhtala, Kalevi / Mechatronic design of digital hydraulic micro valve package. 
Research output: Scientific - peer-review › Conference contribution

Vepsäläinen, Timo; Kuiikka, Seppo / Model-Driven Development of Automation and Control Applications: Modeling and Simulation of Control Sequences. 
Research output: Scientific - peer-review › Article

Peltokangas, Mikko; Verho, Jarmo; Salpavaara, Timo; Vehkaoja, Antti / Non-invasive System for Mechanical Arterial Pulse Will Measurements. 
Research output: Scientific - peer-review › Conference contribution

Hietala, Jukka-Pekka; Krogerus, Tomi; Multanen, Petteri; Hyvönen, Mika; Huhtala, Kalevi / Novel Procedure for Supporting Maintenance of Mobile Work Machines Using R&D Simulators. 
Research output: Scientific - peer-review › Conference contribution

Amjad, Faraz; Weick, Helmut; Mattila, Jouni; Kozlova, Ekaterina; Schloer, Christian / On Design and Development of Super-FRS main tunnel Remote Handling System Concept. 
Research output: Scientific - peer-review › Conference contribution

Korpela, Timo; Björkqvist, Tomas; Majanne, Yrjö; Lautala, Pentti / Online monitoring of flue gas emissions in power plants having multiple fuels. 
Research output: Scientific - peer-review › Conference contribution

Grigoray, Olga; Wondraczek, Holger; Daus, Stephen; Kühnöl, Katrin; Latifi, Seyed Kouros; Saketi, Pooya; Fardim, Pedro ; Kallio, Pasi; Heinze, Thomas / Photocontrol of Mechanical Properties of Pulp Fibers and Fiber-to-Fiber Bonds via Self-Assembled Polysaccharide Derivatives. 
Research output: Scientific - peer-review › Article

Kreutzer, Joose; Ilonen, Liisa; Hirvonen, Juha; Pekkanen-Mattila, Mari; Aalto-Setälä, Katrinna; Kallio, Pasi / Pneumatic cell stretching system for cardiac differentiation and culture. 
Research output: Scientific - peer-review › Article

Ahopelto, Miika; Huhtala, Kalevi / Prediction of drive torque in hydraulic wheel loader. 
Research output: Scientific - peer-review › Conference contribution
Carfora, D.; Di Gironimo, G.; Järvenpää, J.; Huhtala, K.; Määttä, T.; Siuko, M. / Preliminary concept design of the divertor remote handling system for DEMO power plant.
Research output: Scientific - peer-review › Article

Lai, Yuli; Cervinka, Tomas; Kallio, Pasi / Releasing tool-adhered natural fibrous microscale objects with vacuum system.
Research output: Scientific - peer-review › Conference contribution

Von Essen, Mathias; Hirvonen, Juha; Kuikka, Seppo; Kallio, Pasi / Robotic software frameworks and software component models in the development of automated handling of individual natural fibers.
Research output: Scientific - peer-review › Article

Jafary, Peyman; Repo, Sami; Koivisto, Hannu / Secure integration of the Home Energy Management System to the battery management system in the customer domain of the smart grid.
Research output: Scientific - peer-review › Conference contribution

Hirvonen, Juha; Latifi, Seyed Kourosh; Palouvuori, Karri; Kallio, Pasi / Semi-automatic Measurement of Microfibril Angle on a Microrobotic Platform.
Research output: Scientific - peer-review › Conference contribution

Sibois, Romain; Määttä, Timo; Siuko, Mikko; Mattila, Jouni / Simulation-based design process for the verification of ITER remote handling systems.
In: Fusion engineering and design, 2014, p. 2341-2346.
Research output: Scientific - peer-review › Article

Alho, Pekka; Mattila, Jouni / Software fault detection and recovery in critical real-time systems: An approach based on loose coupling.
Research output: Scientific - peer-review › Article

Melin, Joonas; Lauri, Mikko; Ritala, Risto / Stereo vision with consumer grade high resolution cameras for a micro air vehicle.
Research output: Scientific - peer-review › Conference contribution

Lauri, Mikko; Ritala, Risto / Stochastic control for maximizing mutual information in active sensing.
Research output: Scientific - peer-review › Conference contribution

Rauhamäki, Jari; Kuikka, Seppo / Strategies for Hazard Management Process.
Research output: Scientific - peer-review › Conference contribution

Halme, Aarne; Lautala, Pentti; Ollus, Martin; Wahlström, Björn; Ylinnen, Raimo / Systeemien teoriat, mallit, menetelmät ja sovellukset.
Research output: Scientific › Conference contribution


Research output: Scientific › Conference contribution


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Article


Research output: Scientific - peer-review › Article


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Conference contribution


Research output: Scientific - peer-review › Article
Roinila, Tomi; Vilkkko, Matti; Sun, Jian / Broadband Methods for Online Grid Impedance Measurement.
Research output: Scientific - peer-review › Conference contribution

Vehkaoja, Antti; Peltokangas, Mikko; Verho, Jarmo; Lakkala, Jukka / Combining the Information of Unconstrained Electrocardiography and Ballistography in the Detection of Night-Time Heart Rate and Respiration Rate.
Research output: Scientific - peer-review › Article

Viinikainen, Mikko; Mattila, Jouni; Tuominen, Janne / Computer-Assisted Bilateral Teleoperation System for Water Hydraulic Manipulator.
Research output: Scientific - peer-review › Conference contribution

Herranen, Mika (Inventor); Huhtala, Kalevi (Inventor); Virvalo, Tapio (Inventor) / Control arrangement of an electro-hydraulic gas exchange valve actuation system.
Research output: Scientific › Patent

Vehkaoja, Antti; Rajala, Satu; Kumpulainen, Pekka; Lakkala, Jukka / Correlation approach for the detection of the heartbeat intervals using force sensors placed under the bed posts.
In: Journal of Medical Engineering & Technology, Vol. 37, No. 5, 2013, p. 327-333.
Research output: Scientific - peer-review › Article

Salmenperä, Mikko; Eerola, Risto; Seppälä, Jari; Koivisto, Hannu / Design and analysis of secure integration solution for Smart grids.
Research output: Scientific - peer-review › Conference contribution

Nurmi, Jarmo; Mattila, Jouni / Detection and isolation of faults in mobile hydraulic valves based on a reduced-order model and adaptive thresholds.
Research output: Scientific - peer-review › Conference contribution

Linjama, Matti / Digitaalihydrauliikan seminaarin satoa Tampereella.
Research output: Professional › Article

Heikkilä, Mikko; Linjama, Matti / Displacement control of a mobile crane using a digital hydraulic power management system.
Research output: Scientific - peer-review › Article

Lyytikäinen, Ville; Kinnunen, Pasi; Koivumäki, Janne; Mattila, Jouni; Siuko, Mikko; Esque, Salvador; Palmer, Jim / Divertor cassette locking system remote handling trials with WHMAN at DTP2.
Research output: Scientific - peer-review › Article

Yli-Fossi, Timo / Dynaamisten voimalaitosmallien parametrien määrittäminen ja virittäminen.


Mattila, J.; Alho, P.; Väyrynen, J.; Sibois, R.; Salminen, K.; Määttä, T. / Euratom and EFDA Fusion Training Scheme, EFDA goal oriented training in remote handling -GOTRH. VTT, 2013. 3 p. (VTT Science; Vol. 30).


Tuominen, Janne; Rasi, Teemu; Mattila, Jouni; Siuko, Mikko; Esque, Salvador; Hamilton, David / Interoperability of remote handling control system software modules at Divertor Test Platform 2 using middleware.
Research output: Scientific - peer-review › Article

Research output: Scientific - peer-review › Article

Hirvonen, Juha; Kallio, Pasi / Kohdi automaatista yksittäisten paperikuitujen manipulointia.
Research output: Scientific - peer-review › Conference contribution

Hietanen, Tero; Rask, Outi; Zenger, Kai; Strömman, Mika / Kouluutuksen ytimessä.
Research output: Professional › Article

Seppälä, Jari; Salmenperä, Mikko; Koivisto, Hannu / Making sense of information security in real time automation - information flow approach.
Research output: Scientific - peer-review › Conference contribution

Vepsäläinen, Timo; Kuikka, Seppo / Mallipohjainen automaatio tulee.
Research output: Professional › Article

Väyrynen, Teemu; Itävuo, Pekka; Vilikko, Matti; Jaatinen, Antti; Peltonen, Mika / Mass-Flow Estimation in Mineral-processing Applications.
Research output: Scientific - peer-review › Conference contribution

Research output: Scientific - peer-review › Conference contribution

Honkakorpi, Janne; Vihonen, Juho; Mattila, Jouni / MEMS-based State Feedback Control of Multi-Body Hydraulic Manipulator.
Research output: Scientific - peer-review › Conference contribution

Honkakorpi, Janne; Vihonen, Juho; Mattila, Jouni / Mem sensor network based anti-sway control system for articulated hydraulic crane.
Research output: Scientific - peer-review › Conference contribution

Raunio, Jukka-Pekka; Ritala, Risto / Method for detecting free fiber ends in tissue paper.
Saketi, Pooya; Mikczinski, Manuel; Fatikow, Sergej; Kallio, Pasi / Method for Investigations of Aged Fibre-Fibre Bonds with Micro and Nanorobotic Tools.

Nurmi, Jarmo; Honkakorpi, Janne; Vihonen, Juho; Mattila, Jouni / Micro-electromechanical System Sensors in Unscented Kalman Filter-based Condition Monitoring of Hydraulic Systems.

Uotila, Turkka; Korpela, Timo; Majanne, Yrjö / Monitoring of CO2 emissions in coal fired power plants.

Huhtala, Kalevi; Ahopelto, Mikka; Heikkitä, Mikko; Backas, Joni; Tammisto, Jyrki; Huova, Mikko; Linjama, Matti / New energy efficient solutions to mobile machines.

Ziaei, Zahra; Oftadeh, Reza; Mattila, Jouni / New Scheme for Image Space Path Planning Incorporating CAD-Based Recognition Methods for Visual Servoing.

Kattipparambil Rajan, Dhanesh; Raunio, Jukka-Pekka; Karjalainen, Markus Tapani; Rynänen, Tomi; Lekkala, Jukka / Novel method for intensity correction using a simple maskless lithography device.

Roinila, Tomi; Huusari, Juha; Vilko, Matti / On frequency-response measurements of power-electronic systems applying MIMO identification techniques.

Roinila, Tomi; Vilko, Matti; Sun, Jian / Online Grid Impedance Measurement Using Discrete-Interval Binary Sequence Injection.

Saarikoski, Heli; Mustajoki, Jyrj; Marttunen, Mika / Participatory multi-criteria assessment as 'opening up' vs. 'closing down' of policy resources: A case of old-growth forest conflict in Finnish upper Lapland.
Alho, Pekka; Mattila, Jouni / **Real-Time Service-Oriented Architectures: A Data-Centric Implementation for Distributed and Heterogeneous Robotic System.**
Research output: Scientific - peer-review › Conference contribution

Research output: Scientific - peer-review › Conference contribution

Krogerus, Tomi; Hyvönen, Mika; Huhtala, Kalevi / **Recognition of Operating States of a Wheel Loader for Diagnostics Purposes.**
Research output: Scientific - peer-review › Article

Ihalainen, Heimo; Ritala, Risto; Saarela, Olli / **Reliability of operating window identified from process data.**
Research output: Scientific - peer-review › Article

Väyrynen, Jukka; Mattila, Jouni / **Reliability requirements management for ITER Remote Handling maintenance systems.**
Research output: Scientific - peer-review › Article

Tuominen, Janne; Mattila, Jouni / **Remote Handling Control System for Water Hydraulic Mover.**
Research output: Scientific - peer-review › Conference contribution

Hirvonen, Juha; Kallio, Pasi / **Scale and Rotation Invariant Two View Microgripper Detection that Uses a Planar Pattern.**
Research output: Scientific - peer-review › Conference contribution

Hästbacka, David; Kuikka, Seppo / **Semantics enhanced engineering and model reasoning for control application development.**
Research output: Scientific - peer-review › Article

Vepsäläinen, Timo; Kuikka, Seppo / **Simulation-Based Development of Safety Related Interlocks.**
Research output: Scientific - peer-review › Chapter

Koivumäki, Janne; Mattila, Jouni / **Stable and high performance energy-efficient motion control of electric load sensing controlled hydraulic manipulators.**
Research output: Scientific - peer-review › Conference contribution
Orona, Luis Miguel; Weick, Helmut; Mattila, Jouni; Amjad, Faraz; Kozlova, Ekaterina; Karagiannis, Christos; Behr, Karl-Heinz; Winkler, Martin / Super-FRS target area remote handling: Scenario and development.
Research output: Scientific - peer-review › Article

Yunhua, Li; Yang, Wang; Chase, J.G.; Mattila, J.; Hyun, Myung; Sawodny, O. / Survey and Introduction to the Focused Section on Mechatronics for Sustainable and Resilient Civil Infrastructure.
Research output: Scientific - peer-review › Review Article

Amjad, Faraz; Weick, Helmut; Mattila, Jouni; Orona, Luis Miguel; Kozlova, Ekaterina; Winkler, Martin; Behr, Karl-Heinz; Karagiannis, Christos / Survey on Remote Handling Logistics for Super-FRS Regular Paper.
Research output: Scientific - peer-review › Article

Rauhamäki, Jari; Rask, Outi; Kuikka, Seppo / Suunnittelumallien hyödyntäminen suunnittelutyössä ja oppimisessa.
Research output: Scientific - peer-review › Conference contribution

Majanne, Yrjö; Maasalo, Mikael; Nyman, Jarno / Teollisuusvoimalaitoksien liukuva vastapaineen säätö.
Research output: Scientific - peer-review › Conference contribution

Pekkonen, Juuso; Elo, Lauri; Kuosku, Mika; Rinkinen, Jari / Test bench for measuring technical cleanliness of assembled fluid power components.
Research output: Scientific - peer-review › Conference contribution

Tuisku, Outi; Surakka, Veikko; Rantanen, Ville; Vanhala, Toni; Lekkala, Jukka / Text entry by gazing and smiling.
Research output: Scientific - peer-review › Article

Research output: Scientific - peer-review › Conference contribution

Xiong, Yi; Hirvonen, Juha; Kallio, Pasi / Three-dimensional calibration of micromanipulators using stereo vision.
Research output: Scientific - peer-review › Article