
ROSE 2012 - IEEE International Symposium on Robotic and Sensors Environments
16-18 November 2012

Location:

Otto-von-Guericke University
Magdeburg, Germany
Building 05
Room 205

Final Program:

Friday, November 16, 2012

8:00-8:45	Registration	
	Opening and Welcome Word	
8:45		
9:00 - 10:00	Invited Speaker	Prof. Klaus Schilling , Julius-Maximilians-University Würzburg , GERMANY <u>Advanced Relative Navigation Technology for Space Applications</u>
10:00 - 10:15	Coffee Break	
10:15 - 12:20	Session 1	Human Robot Interaction & Teleoperation
	Chair	Mohamad Eid, University of Ottawa, Canada
10:15 - 10:40		<u>Stability and Transparency Analysis of a Bilateral Teleoperation in Presence of Data Loss</u> Ali Bakhshi; Ali Talebi; Amir Abolfazl Suratgar; Mahyar AbdeEtedal <i>AmirKabir University of Technology, IRAN</i>
10:40 - 11:05		<u>Design and Implementation of a Magnetic Levitation Control System for Robotically Actuated Capsule Endoscopes</u> Ibrahim Mohammed; Bayan Sharif; Jeffrey A. Neasham <i>University of Newcastle upon Tyne, UNITED KINGDOM</i>
11:05 - 11:30		<u>Gaze Estimation Using Kinect/PTZ Camera</u> Djemel Ziou; Reza Jafari <i>Université de Sherbrooke, CANADA</i>
11:30 - 11:55		<u>Interaction and Evaluation of an Augmented Virtuality Assistance System for Teleoperated Robots</u> Tomás de Jesús Mateo Sanguino*; José Manuel Andújar Márquez*; Tom Edward Carlson*; José Millán* <i>*University of Huelva, SPAIN</i> <i>"École Polytechnique Fédérale de Lausanne, SWITZERLAND</i>
11:55 - 12:20		<u>Design and Construction of a Robot Hand Activated by Electromyographic Signals</u> Javier Collahuazo <i>Universidad Politécnica Salesiana, ECUADOR</i>
12:20 - 13:15	Lunch	
13:15 - 15:45	Session 2	Robot Control Systems
	Chair	Sebastian Zug, Otto-von-Guericke Universität, Magdeburg, Germany
13:15 - 13:40		<u>Position Feedback in Force Control of Industrial Manipulators - An Experimental Comparison with Basic Algorithms</u> Alexander Winkler; Jozef Suchý <i>Chemnitz University of Technology, GERMANY</i>
13:40 - 14:05		<u>Prediction of Object Manipulation using Tactile Sensor Information by a Humanoid Robot</u> Shigeyuki Uematsu*; Yuichi Kobayashi"; Akinobu Shimizu*; Toru Kaneko" <i>*Tokyo University of Agriculture and Technology, JAPAN</i> <i>"Shizuoka University, JAPAN</i>
14:05 - 14:30		<u>Slippery and Sandy Ground Detection for Hexapod Robots Based on Organic Computing Principles and Somatosensory Feedback</u> Ahmad Al-Homsy*; Jan Hartmann"; Erik Maehle" <i>*Institut of Computer Engineering, GERMANY</i> <i>"University of Lübeck, GERMANY</i>

14:30 - 14:55		<u>Visual Attitude Stabilization of a Unmanned Helicopter in Unknown Environments with an Embedded Single-board Computer</u> Cihat Yigit; Erdinc Altug <i>Istanbul Technical University, TURKEY</i>
14:55 - 15:20		<u>Taking Control: Modular and Adaptive Robotics Process Control Systems</u> Peter Ulbrich; Florian Franzmann; Christian Harkort; Martin Hoffmann; Tobias Klaus; Anja Rebhan; Wolfgang Schröder-Preikschat <i>FAU Erlangen-Nürnberg, GERMANY</i>
15:20 - 15:45		<u>Online Learning of Optimal Robot Behavior for Object Manipulation using Mode Switching</u> Takuo Sekiguchi*; Yuichi Kobayashi"; Akinobu Shimizu*; Toru Kaneko" *Tokyo University of Agriculture and Technology, JAPAN "Shizuoka University, JAPAN
15:45 - 16:00	Coffee Break	
16:00 - 18:05	Session 3	Distributed Sensing & Collaborative Robotics
	Chair	Pierre Payeur, University of Ottawa, Canada
16:00 - 16:25		<u>Exploring the Possibilities of Supporting Robot-Assisted Work Places using a Projection-based Sensor System</u> Christian Vogel; Christoph Walter; Norbert Elkmann <i>Fraunhofer Institute for Factory Operation and Automation IFF, GERMANY</i>
16:25 - 16:50		<u>Improving the Efficiency of Highly Predictable Wireless Sensor Platforms with Hybrid Scheduling</u> Mihai V. Micea; Cristina S. Stangaciu; Valentin Stangaciu; Vladimir I. Cretu <i>Politehnica University of Timisoara, ROMANIA</i>
16:50 - 17:15		<u>MMBIP: Biofeedback System Design on Cloud-Oriented Architecture</u> Mohammed F. Alhamid; Mohamad Eid; Abdurhman Alshareef; Abdulmotaleb El Saddik <i>University of Ottawa, CANADA</i>
17:15 - 17:40		<u>Estimation with Non-White Gaussian Observation Noise using a Generalised Ensemble Kalman Filter</u> Jan Curn; Dan Marinescu; Gerard Lacey; Vinny Cahill <i>Trinity College Dublin, IRELAND</i>
17:40 - 18:05		<u>Derivative-free Distributed Nonlinear Kalman Filtering for Cooperating Agricultural Robots</u> Gerasimos Rigatos <i>Industrial Systems Institute, GREECE</i>
19:00 - 21:00	Conference Dinner	Location: Wenzel Prager Bierstuben, Leiterstrasse 3, Magdeburg

Saturday, November 17, 2012

8:30-9:00	Registration	
9:00 - 10:00	Invited Speaker	Prof. Ana-Maria Cretu , Université du Québec en Outaouais, CANADA <u>Evolving Sensor Environments with Visual Attention: an Experimental Exploration</u>
10:00 - 10:15	Coffee Break	
10:15 - 12:45	Session 4	Intelligent Sensing & New Sensor Technologies
	Chair	Mihai Micea, Politehnica University of Timisoara, Romania
10:15 - 10:40		<u>A Forward Model for an Active Tactile Sensor Using Echo State Networks</u> Nalin Harischandra; Volker Dürr <i>University of Bielefeld, GERMANY</i>
10:40 - 11:05		<u>Determining Wrist Reference Kinematics Using a Sensory-mounted Stress Ball</u> Ali Karime; Mohamad Eid; Wail Gueaieb; Abdulmotaleb El Saddik <i>University of Ottawa, CANADA</i>
11:05 - 11:30		<u>Prototype Energy Harvesting Wheel Speed Sensor for Anti-lock Braking</u> Dhasarathy Parthasarathy*; Roy Johansson"; Peter Enoksson* *Chalmers University of Technology, SWEDEN "Volvo Group Trucks Technology, Advanced Technology And Research, SWEDEN
11:30 - 11:55		<u>Method of Sensor Noise Attenuation in High-Gain Observers - Experimental Verification on Two Laboratory Systems</u> Rafal Madonski; Przemyslaw Herman <i>Poznan University of Technology, POLAND</i>

11:55 - 12:20		<u>A Capacitive Ice Layer Detection System Suitable for Autonomous Inspection of Runways using an ROV</u> Cyril Baby K; Bobby George <i>Indian Institute of Technology Madras, INDIA</i>
12:20 - 12:45		<u>A Biofeedback System for Sleep Management</u> Sadek Hamdan; Hussein Al Osman; Mohamad Eid; Abdulmotaleb El Saddik <i>University of Ottawa, CANADA</i>
12:45 - 13:40	Lunch	
13:40 - 14:00	Walk to Fraunhofer IFF	
14:00 - 15:30	Visit of Fraunhofer IFF	
15:30 - 15:45	Return from Fraunhofer IFF	
15:45 - 16:00	Coffee Break	
16:00 - 17:40	Session 5 3D Sensing & Imaging	
	Chair	Vladimir Cretu, Politehnica University of Timisoara, Romania
16:00 - 16:25		<u>Calibration of a Dual-Laser Triangulation System for Assembly Line Completeness Inspection</u> Edmond So*; Stefano Michieletto*; Emanuele Menegatti* *University of Padua, ITALY "University of Padova, ITALY
16:25 - 16:50		<u>Are Laser Scanners Replaceable by Kinect Sensors in Robotic Applications?</u> Sebastian Zug; Felix Penzlin; André Dietrich; Tran Tuan Nguyen; Sven Albert <i>Otto-von-Guericke-Universität Magdeburg, GERMANY</i>
16:50 - 17:15		<u>Experimental Characterization of Two Generations of Kinect's Depth Sensors</u> Rizwan Macknoja; Alberto Chávez-Aragón; Pierre Payeur; Robert Laganière <i>University of Ottawa, CANADA</i>
17:15 - 17:40		<u>Improved Phase Detection Algorithms for Indirect Time of Flight Range Imaging Cameras</u> Benjamin M. Drayton*; Dale A. Carnegie*; Adrian Dorrington* *Victoria University of Wellington, NEW ZEALAND "University of Waikato, NEW ZEALAND

Sunday, November 18, 2012

8:30-9:00	Registration	
9:00 - 10:40	Session 6 Mobile Robots	
	Chair	Pierre Payeur, University of Ottawa, Canada
9:00 - 9:25		<u>Utilizing Dynamic Hazard Knowledge for Risk Sensitive Action Planning of Autonomous Robots</u> Philipp Ertle*; Holger Voos*; Dirk Söffker* <i>University Duisburg-Essen, GERMANY</i> <i>University Ravensburg-Weingarten, GERMANY</i>
9:25 - 9:50		<u>Automated Odometry Self-Calibration for Car-Like Robots with Four-Wheel-Steering</u> Karsten Bohlmann; Henrik Marks; Andreas Zell <i>University of Tuebingen, GERMANY</i>
9:50 - 10:15		<u>Rigorous Movement of Convex Polygons on a Path Using Multiple Robots</u> Pierre Chamoun; Mark Lanthier <i>Carleton University, CANADA</i>
10:15 - 10:40		<u>Real Time Face Detection using Geometric Constraints, Navigation and Depth-based Skin Segmentation on Mobile Robots</u> Vo My; Andreas Masselli; Andreas Zell <i>University of Tuebingen, GERMANY</i>
10:40 - 11:00	Coffee Break	
11:00 - 12:15	Session 7 Machine Vision	
	Chair	Ana-Maria Cretu, Université du Québec en Outaouais, Canada

11:00 - 11:25	<u>Object Recognition Based on Depth Information and Associative Memory</u> Stephan Puls; Norah Schnorr; Heinz Wörn <i>Karlsruhe Institute of Technology, GERMANY</i>
11:25 - 11:50	<u>Plant Leaf Imaging using Time of Flight Camera under Sunlight, Shadow and Room Conditions</u> Wajahat Kazmi*; Sergi Foix"; Guillem Alenya" * <i>Aalborg University, DENMARK</i> " <i>UPC, SPAIN</i>
11:50 - 12:15	<u>Estimating Optimal Regions for Improvement in Range Acquisition from a Single Point of View</u> Phillip Curtis, Pierre Payeur <i>University of Ottawa, CANADA</i>
12:15 - 12:45	Best Paper Awards and Closing Remarks