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Lee, Dong Seok	Graduate School of Mechanical Engineering, Pusan NationalUnivers
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Zhang, Wei	Interdisciplinary Cooperative Course : Mechatronics, PusanNation
Lee, Yun Ja	Department of Dance, Pusan National Univ.
Hong, Sin Pyo	Graduate School of Mechanical Engineering, Pusan NationalUnivers
Lee, Man Hyung	Graduate School of MechanicalEngineering, PusanNationalUniversit

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Morel, Guillaume	Univ. Pierre et Marie Curie - Paris 6
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Technical Program for Tuesday July 5, 2011

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Rew, Keun-Ho	Dept. of Robotic Engineering, Hoseo Univ. KOREA
Kim, Kyung-Soo	KAIST(Korea Advanced Inst. of Science and Tech.
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<i>Line Stitching in Servo-Assisted Electron Beam Lithography System</i> , pp. 397-402.	
Yen, Jia Yush	National Taiwan Univ.
Chen, Lien-Sheng	National Taiwan Univ.
Chiu, Pablo	National Taiwan Univ.
09:50-10:10	TA2.5
<i>Microfabricated PMN-PT on Silicon Cantilevers with Improved Static and Dynamic Piezoelectric Actuation: Development, Characterization and Control</i> , pp. 403-408.	
Ivan, Ioan Alexandru	FEMTO-ST Inst.
Agnus, Joël	FEMTO-ST Inst. / ENSMM
Rakotondrabe, Micky	FEMTO-ST Inst.
Lutz, Philippe	FEMTO-ST - UMR CNRS 6174 - UFC/ENSMM/UTBM
Chaillet, Nicolas	Univ. of Franche-Comté / FEMTO-ST Inst.
TA3	Room C
Cooperative and Industrial Robots (Regular Session)	
Chair: Jiang, Xin	Tohoku Univ.
Co-Chair: Verl, Alexander	Fraunhofer-Gesellschaft
08:30-08:50	TA3.1
<i>A Path Generation Method for Collision Risk Reduction and Quantitative Evaluation of Assembly Task Partner Robot</i> , pp. 409-415.	
Kinugawa, Jun	Tohoku Univ.
Tanaka, Yasufumi	Tohoku Univ.
Kawaai, Yuta	Tohoku Univ.
Sugahara, Yusuke	Tohoku Univ.
Kosuge, Kazuhiro	Tohoku Univ.
08:50-09:10	TA3.2
<i>A Cooperative Industrial Partner Robot for Handling Heavy Parts</i> , pp. 416-421.	
Lee, Song Gi	Tohoku Univ.
Jiang, Xin	Tohoku Univ.
Abe, Koyu	Tohoku Univ.
Abiko, Satoko	Tohoku Univ.
Konno, Atsushi	Tohoku Univ.
Uchiyama, Masaru	Tohoku Univ.
09:10-09:30	TA3.3
<i>Predictive Robotic Contour Following Using Laser-Camera-Triangulation</i> , pp. 422-427.	
Koch, Heiko	Univ. of Applied Sciences Darmstadt
König, Alexander	Univ. of Applied Sciences Darmstadt
Kleinmann, Karl	Univ. of Applied Sciences Darmstadt
Weigl-Seitz, Alexandra	Univ. of Applied Sciences Darmstadt
Suchý, Jozef	Chemnitz Univ. of Tech.
09:30-09:50	TA3.4
<i>Simulation of the Stopping Behavior of Industrial Robots Using a Complementarity-Based Approach</i> , pp. 428-433.	
Dietz, Thomas	Fraunhofer Inst. for Manufacturing Engineering and Automatio
Verl, Alexander	Fraunhofer Inst. for Manufacturing Engineering and Automatio

09:50-10:10	TA3.5
<i>Efficient Solutions for Programming and Safe Monitoring of an Industrial Robot Via a Virtual Cell</i> , pp. 434-439.	
Abrate, Fabrizio	Istituto Superiore Mario Boella
Indri, Marina	Pol. di Torino
Lazzero, Ivan	Pol. di Torino
Bottero, Aldo	Comau S.p.A.

TA4	Room D
Biomechatronics (Regular Session)	

Chair: Yoshimi, Takashi	Shibaura Inst. of Tech.
Co-Chair: Cserey, György	HAS - PPCU - SU Neurobionics Res. Group

08:30-08:50	TA4.1
<i>Kinematic Modeling for Artificial Flagellum of a Bacterium Based on Electroactive Polymer Actuators</i> , pp. 440-445.	
Mutlu, Rahim	Univ. of Wollongong
Alici, Gursel	Univ. of Wollongong
Li, Weihua	Univ. of Wollongong

08:50-09:10	TA4.2
<i>Design of a Biomechatronic Hand (BMT-H) Actuated by the Flexor-Extensor Mechanism</i> , pp. 446-450.	
Sárkány, Norbert	Pázmány Péter Catholic Univ. Faculty of Information Tech.
Cserey, György	HAS - PPCU - SU Neurobionics Res. Group
Tar, Ákos	Pázmány Péter Catholic Univ. Faculty of Information Tech.
Veres, József	Pázmány Péter Catholic Univ. Faculty of Information Tech.

09:10-09:30	TA4.3
<i>Biologically Inspired Posture Control for a Dexterous Robotic Hand</i> , pp. 451-456.	
Kent, Benjamin	Univ. of Akron
Engeberg, Erik Daniel	Univ. of Akron

09:30-09:50	TA4.4
<i>Flexible Artificial Muscle by Bundle of McKibben Fiber Actuators</i> , pp. 457-462.	
Wakimoto, Shuichi	Okayama Univ.
Suzumori, Koichi	Okayama Univ.
Takeda, Jungo	Okayama Univ.

09:50-10:10	TA4.5
<i>Problems and Requirements for a Chameleon-Like Service Robot in Space Station</i> , pp. 463-468.	
Li, Hui	Beijing Inst. of Tech.
Ceccarelli, Marco	LARM, Univ. of Cassino
Huang, Qiang	Beijing Inst. of Tech.
Carbone, Giuseppe	LARM, Univ. of Cassino

TB1	Room A
Actuator Design (Regular Session)	

Chair: Schramm, Dieter	Univ. Duisburg-Essen
Co-Chair: Koganezawa, Koichi	Tokai Univ.

10:30-10:50	TB1.1
<i>Design of an Optimal Low-Cost Platform for Actuating a Driving Simulator</i> , pp. 469-474.	
Pacurari, Ioan Radu	Tech. Univ. of Cluj-Napoca
Hesse, Benjamin	Univ. of Duisburg-Essen
Schramm, Dieter	Univ. Duisburg-Essen

10:50-11:10	TB1.2
<i>Novel Self-Sensing Actuated Joint for Robotic Hands</i> , pp. 475-480.	
Martin, Javier	CEA, LIST, Interactive Robotics Lab.
Huard, Benoît	CEA, LIST, Interactive Robotics Lab.
Robert, Mathieu	CEA, LIST, Interactive Robotics Lab.
Grossard, Mathieu	CEA, LIST, Interactive Robotics Lab.

11:10-11:30		TB1.3
<i>Development of Artificial Finger Using the Double Planetary Gear System</i> , pp. 481-486.		
Kunugi, Nozomi		Tokai Univ.
Koganezawa, Koichi		Tokai Univ.
Niikura, Ryo		Tokai Univ.
11:30-11:50		TB1.4
<i>Analytical and Experimental Investigation on the Force and Torque of a Reaction Sphere for Satellite Attitude Control</i> , pp. 487-492.		
Rossini, Leopoldo	Swiss Center for Electronics and Microtechnology	
Chételat, Olivier	Swiss Center for Electronics and Microtechnology	
Onillon, Emmanuel	Swiss Center for Electronics and Microtechnology	
Perriard, Yves	Ec. Pol. Fédérale de Lausanne	
11:50-12:10		TB1.5
<i>MRF Based Clutch with Integrated Electrical Drive</i> , pp. 493-498.		
Gueth, Dirk	Ostwestfalen-Lippe Univ. of Applied Sciences	
Cording, Dennis	Ostwestfalen-Lippe Univ. of Applied Sciences	
Maas, Juergen	Ostwestfalen-Lippe Univ. of Applied Sciences	
12:10-12:30		TB1.6
<i>A Robust Sliding Mode Control of a Hybrid Hydraulic Piezo Actuator for Camless Internal Combustion Engines</i> , pp. 499-504.		
Mercorelli, Paolo	Ostfalia Univ. of Applied Sciences	
Werner, Nils	Ostfalia Univ. of Applied Sciences	
Becker, Udo	Ostfalia Univ. of Applied Sciences	
Harndorf, Horst	Univ. of Rostock	
TB2		Room B
Micro/Nano Positioning (Regular Session)		
Chair: Fuchiwaki, Ohmi		Yokohama National Univ. (YNU)
Co-Chair: Chang, Ming-Han		National Taiwan Univ.
10:30-10:50		TB2.1
<i>MIMO Variable Structure Control of a Precision Stage Using PMLSM Drives</i> , pp. 505-509.		
Yen, Jia Yush		National Taiwan Univ.
Kuo, Fu-Tsun		National Taiwan Univ.
Lee, Ming-Chan		National Taiwan Univ.
Chang, Ming-Han		National Taiwan Univ.
10:50-11:10		TB2.2
<i>Experimental Comparison of Online Parameter Identification Schemes for a Nanopositioning Stage with Variable Mass</i> , pp. 510-517.		
Eielsen, Arnfinn Aas	Norwegian Univ. of Science and Tech.	
Polóni, Tomáš	Slovak Univ. of Tech.	
Johansen, Tor Arne	Norwegian Univ. of Science and Tech.	
Gravdahl, Jan Tommy	Norwegian Univ. of Science and Tech.	
11:10-11:30		TB2.3
<i>Development of a 2DOF Micromanipulation System with IPMC Actuators</i> , pp. 518-523.		
McDaid, Andrew		The Univ. of Auckland
Aw, Kean C.		The Univ. of Auckland
Xie, Shane		Univ. of Auckland
Haemmerle, Enrico		The Univ. of Auckland
11:30-11:50		TB2.4
<i>Study of Positioning Accuracy for Miniature 3-DOF Inchworm Mechanism for Accurate & Flexible Microscopic Processing</i> , pp. 524-529.		
Fuchiwaki, Ohmi		Yokohama National Univ. (YNU)
Omura, Suguru		Yokohama National Univ.
Arafuka, Kazushi		Yokohama National Univ. (YNU)
Yatsurugi, Manabu	Department of mechanical Engineerign, YokohamaNationalUniversity	

11:50-12:10	TB2.5
<i>Modeling of a Dual Actuator System and Its Control Algorithm Preventing Saturation of Fine Actuator</i> , pp. 530-535.	
Kim, Duckjune	KITECH
Nam, Kyung-Tae	Kitech
Ji, Sang Hoon	Korea Inst. of Industrial Tech.
Lee, Sang Moo	KITECH

TB3	Room C
Human-Centered Systems (Regular Session)	

Chair: Hashimoto, Hideki	Univ. of Tokyo
Co-Chair: Korondi, Peter	Budapest Univ. of Tech. and Ec.

10:30-10:50	TB3.1
<i>Implementation of Robot Behaviors Based on Ethological Approach for Monitoring Support System in Intelligent Space</i> , pp. 536-541.	
Niitsuma, Mihoko	Chuo Univ.
Beppu, Wataru	Chuo Univ.
Ichikawa, Takuya	Chuo Univ.
Kovács, Szilveszter	Univ. of Miskolc
Korondi, Peter	Budapest Univ. of Tech. and Ec.
Hashimoto, Hideki	Univ. of Tokyo

10:50-11:10	TB3.2
<i>EthoPhone, Human-Dog Interaction Inspired Affective Computing for Smartphone</i> , pp. 536-541.	
Kifor, Tamas	MTA SZTAKI
Gott Dank, Tibor	MTA SZTAKI
Szabó, Csanád	Computer and Automation Res. Inst.
Róka, András	MTA SZTAKI
Korondi, Bruno	Budapest Univ. of Tech. and Ec.
Korondi, Peter	Budapest Univ. of Tech. and Ec.

11:10-11:30	TB3.3
<i>An Investigation of Tactile Illusion Toward Tactile Displays Using Psychophysical Experiments</i> , pp. 548-553.	
Rajaei, Nader	Nagoya Univ. Graduate School of Information Science
Kawabe, Yuji	Nagoya Univ. Graduate School of Information Science
Ohka, Masahiro	Nagoya Univ.
Miyaoka, Tetsu	Shizuoka Inst. of Science and Tech. Faculty of Comprehension

11:30-11:50	TB3.4
<i>Tacit Knowledge Extraction of Skillful Operation from Expert Engineers</i> , pp. 554-559.	
Yoshida, Ikuyo	Advanced Inst. of Industrial Tech.
Hashimoto, Hiroshi	Advanced Inst. of Industrial Tech.

11:50-12:10	TB3.5
<i>Development of a Handshake Request Motion Model Based on Analysis of Handshake Motion between Humans</i> , pp. 560-565.	
Jindai, Mitsuru	Okayama Prefectural Univ.
Watanabe, Tomio	Okayama Prefectural Univ.

TB4	Room D
Identification and Estimation (Regular Session)	

Chair: Blazevic, Pierre	Lab. d'Ingénierie des Systèmes de Versailles
Co-Chair: Buss, Martin	Tech. Univ. München

10:30-10:50	TB4.1
<i>Hybrid Latent Nestling Method: A Fault Diagnosis Case Study in the Wind Turbine Subsets</i> , pp. 566-571.	
Rodríguez, Urrego, Leonardo	Univ. Pol. de Valencia
García, Moreno, Emilio	Univ. Pol. de Valencia
Morant, Anglada, Francisco	Univ. Pol. de Valencia
Correcher, Salvador, Antonio	Univ. Pol. de Valencia

Quiles, Cucarella, Eduardo	Univ. Pol. de Valencia
10:50-11:10	TB4.2
<i>A Split-Horizon Scheme for On-Line Friction Parameter Estimation</i> , pp. 572-575.	
Boegli, Max	K.U.Leuven
De Laet, Tinne	Katholieke Univ. Leuven
De Schutter, Joris	Katholieke Univ. Leuven
Swevers, Jan	Katholieke Univ. Leuven
11:10-11:30	TB4.3
<i>Design of Experiments for Calibration of Planar Anthropomorphic Manipulators</i> , pp. 576-581.	
Klimchik, Alexandr	Ec. des Mines de Nantes
Wu, Yier	Ec. des Mines de Nantes
Caro, Stéphane	CNRS
Pashkevich, Anatol	Ec. des Mines de Nantes
11:30-11:50	TB4.4
<i>In Situ Non-Invasive Identification of Thermal Resistances for Small DC Motor</i> , pp. 582-587.	
Urukalo, Djordje	Univ. of Versailles
Blazevic, Pierre	Lab. d'Ingénierie des Systèmes de Versailles
11:50-12:10	TB4.5
<i>Velocity Observer Based Controller Design for Second Order Systems, with Application to Constrained Robotic Systems</i> , pp. 588-593.	
Homayounzade, Mohamadreza	Isfahan Univ. of Tech.
Keshmiri, Mehdi	Isfahan Univ. of Tech.
12:10-12:30	TB4.6
<i>A Transitive Algorithm for Self-Calibration of Two-Dimensional Ultra-Precision Stages</i> , pp. 594-598.	
Zhu, Yu	Tsinghua Univ.
Hu, Chuxiong	Tsinghua Univ.
Hu, Jinchun	Tsinghua Univ.
Chen, Zheng	Zhejiang Univ.
TC1	Room A
Actuators (Regular Session)	
Chair: Takasaki, Masaya	Saitama Univ.
Co-Chair: Hung, Shao-Kang	National Chiao Tung Univ.
15:30-15:50	TC1.1
<i>Running Performance Evaluation of Inchworm Drive and Vibration Drive for Active Scope Camera</i> , pp. 599-604.	
Ishikura, Michihisa	Tohoku Univ.
Wakana, Kazuhito	Tohoku Univ.
Takeuchi, Eijiro	Tohoku Univ.
Konyo, Masashi	Tohoku Univ.
Tadokoro, Satoshi	Tohoku Univ.
15:50-16:10	TC1.2
<i>The Design and Characteristic Research of a Dual-Mode Inertia Motor</i> , pp. 605-610.	
Cheng, Chiao-Hua	National Chiao Tung Univ.
Hung, Shao-Kang	National Chiao Tung Univ.
16:10-16:30	TC1.3
<i>Position and Force Control of a Robotic Finger with Twisted Strings Actuation</i> , pp. 611-616.	
Sonoda, Takashi	Fukuoka Industry, Science & Tech. Foundation
Godler, Ivan	Univ. of Kitakyushu
16:30-16:50	TC1.4
<i>Grasp Planning Based on Dynamics Shaping</i> , pp. 617-622.	
Yamawaki, Tasuku	National Defense Acad. of Japan
Yashima, Masahito	National Defense Acad. of Japan

16:50-17:10	TC1.5
<i>Modified Transducer for Multimode Ultrasonic Motor</i> , pp. 623-628.	
Takasaki, Masaya	Saitama Univ.
Takano, Hiroki	Saitama Univ.
Ji, HongXu	Saitama Univ.
Mizuno, Takeshi	Saitama Univ.

17:10-17:30	TC1.6
<i>Analysis of Parameter Effects on Thrust Force and Optimum Driving Frequency in an Electrostatic Induction Dielectric Sheet Conveyor</i> , pp. 629-633.	
Modabberifar, Mehdi	Arak Univ.
Ghods, Mojtaba	Tarbiat Modares Univ.
Dehdari, Saeid	TUGA

TC2	Room B
Scanning Probe Microscopy (Regular Session)	
Chair: Wang, Zhidong	Chiba Inst. of Tech.
Co-Chair: Yong, Yuen Kuan	The Univ. of Newcastle

15:30-15:50	TC2.1
<i>Passive Piezoelectric Shunt Control of an Atomic Force Microscope Microcantilever</i> , pp. 634-639.	
Fairbairn, Matthew	The Univ. of Newcastle, Australia
Moheimani, Reza	Univ. of Newcastle
Fleming, Andrew J.	Univ. of Newcastle

15:50-16:10	TC2.2
<i>Two Axis Image-Based Measurement and Control for Scanning Probe Microscopes</i> , pp. 640-645.	
Clayton, Garrett	Villanova Univ.
McManus, Brian	Villanova Univ.

16:10-16:30	TC2.3
<i>Analog Control of a High-Speed Atomic Force Microscope Scanner</i> , pp. 646-651.	
Yong, Yuen Kuan	The Univ. of Newcastle
Bhikkaji, Bharath	Indian Inst. of Tech. Madras
Moheimani, Reza	Univ. of Newcastle

16:30-16:50	TC2.4
<i>Cantilever-Based Mass Sensor Using High Order Resonances for Liquid Environment</i> , pp. 652-655.	
Liao, Hsien-Shun	National Taiwan Univ.
Huang, Kuang-Yuh	National Taiwan University
Chang, Chia-Seng	Inst. of Physics, Acad. Sinica, Nankang, Taipei, Taiwan

16:50-17:10	TC2.5
<i>A Non-Raster Scan Method for High-Speed SPM</i> , pp. 656-659.	
Yong, Yuen Kuan	The Univ. of Newcastle
Moheimani, Reza	Univ. of Newcastle
Petersen, Ian	The Univ. of New South Wales at ADFA, Canberra, ACT 2600, A

TC3	Room C
Human-Oriented Design and Control (Regular Session)	
Chair: Chen, I-Ming	Nanyang Tech. Univ.
Co-Chair: Kato, Norihiko	Mie Univ.

15:30-15:50	TC3.1
<i>Stiffness and Viscous Coefficient Characteristics for Ergonomics Chair Design</i> , pp. 661-666.	
Ahmad `Athif, Mohd Faudzi	Univ. Teknologi Malaysia
Suzumori, Koichi	Okayama Univ.

15:50-16:10	TC3.2
<i>Semi-Autonomous Initial Monitoring for Context-Aware Task Planning</i> , pp. 667-672.	
Heyer, Torsten	Univ. of Bremen, Inst. of Automation

Gräser, Axel	Univ. of Bremen
16:10-16:30	TC3.3
<i>Walking Assistance by Functional Clothes with Highly Elastic Fabric</i> , pp. 673-676.	
Shizukai, Akio	Electro-Communications Univ.
Tatsuya, Seki	Electro-Communications Univ.
Ryu, Kato	Electro-Communications Univ.
Soichiro, Morishita	Tokyo Univ.
Tatsuhiko, Nakamura	Tokyo Univ.
Hiroshi, Yokoi	Electro-Communications Univ.
16:30-16:50	TC3.4
<i>Instruction of Arm Motion for Calligraphy Using Vibrotactile Stimulations</i> , pp. 677-682.	
Tsuda, Naoaki	Wakayama National Coll. of Tech.
Kato, Norihiko	Mie Univ.
Nomura, Yoshihiko	Mie Univ.
16:50-17:10	TC3.5
<i>Strategies in Vibrotactile Feedback for Improved Upper Arm Posture Mapping and Replication Using Inertia Sensors</i> , pp. 683-688.	
Causo, Albert	Nanyang Tech. Univ.
Ding, Zhongqiang	Nanyang Tech. Univ.
Yeo, Song Huat	Nanyang Tech. Univ.
Chen, I-Ming	Nanyang Tech. Univ.
17:10-17:30	TC3.6
<i>Adaptive Behavior of an Electromechanical Arm Robot in a Case of Physical Interaction with a Human Being</i> , pp. 689-694.	
Melnyk, Artem	Donetsk National Tech. Univ.
Henaff, Patrick	CNRS UMR 8051, ENSEA, Cergy-Pontoise Univ.
Razakarivony, Sebastien	ETIS, UMR 8051CNRS-UCP-ENSEA, Cergy-Pontoise Univ.
Borysenko, Volodymyr	Donetsk National Tech. Univ.
Gaussier, Philippe	CNRS UMR 8051, ENSEA, Cergy-Pontoise Univ.
TC4	Room D
Control Applications in Mechatronics (Regular Session)	
Chair: Huang, Han-Pang	National Taiwan Univ.
Co-Chair: Petrovic, Ivan	Univ. of Zagreb
15:30-15:50	TC4.1
<i>Trajectory Generation and H_∞ Robust Control for Inertially Stabilized System</i> , pp. 695-700.	
Hong, Seongil	Agency for Defense Development
Cho, Ki Dae	Agency for Defense Development
Park, Chul Hyo	Doosan Corp.
Kang, Woo Sung	Doosan Corp.
15:50-16:10	TC4.2
<i>Learning-Based Controller for Robotic Manipulators with Grey Learning Rate</i> , pp. 701-706.	
Huang, Han-Pang	National Taiwan Univ.
Lin, Shin-Wei	National Taiwan Univ.
Yan, Jiu-Lou	National Taiwan Univ.
16:10-16:30	TC4.3
<i>Optimal Notch Filter for Active Magnetic Bearing Controllers</i> , pp. 707-711.	
Yoo, Seong-yeol	Chungnam National Univ.
Lee, Wook Ryun	Koera Electric Power Res. Inst.
Bae, Yong-Chae	Korea Electric Power Res. Inst.
Noh, Myounggyu D.	Chungnam National Univ.
16:30-16:50	TC4.4
<i>Explicit Model Predictive Control for Trajectory Tracking with Mobile Robots</i> , pp. 712-717.	
Maurovic, Ivan	Univ. of Zagreb
Baotic, Mato	Univ. of Zagreb

Petrovic, Ivan

Univ. of Zagreb

16:50-17:10

TC4.5

Adaptive Hybrid Suppression Control Using Piezoelectric Patches on Flexible Solar Panels, pp. 718-723.

Zarafshan, Payam

K. N. Toosi Univ. of Tech.

Moosavian, S. Ali A.

K. N. Toosi Univ. of Tech.

17:10-17:30

TC4.6

Sliding Mode Control of a Torpedo's Shape Autonomous Underwater Vehicle (AUV) Considering Sensors and Actuators Time Delay, ~~pp. 724-730~~

Ahmadi, Mohhamad Saleh

Isfahan Univ. of Tech.

Hajkarami, Hamid

Isfahan Univ. of Tech.

Technical Program for Wednesday July 6, 2011

WA1		Room A
Novel Actuators (Regular Session)		
Chair: Fujisawa, Kazuya		Okayama Univ.
Co-Chair: Zeidis, Igor		TU Ilmenau, Germany
08:30-08:50		WA1.1
<i>Vibration-Driven Mobile Robots Based on Magneto-Sensitive Elastomers</i> , pp. 730-735.		
Zimmermann, Klaus		TU Ilmenau, Germany
Böhm, Valter		TU Ilmenau, Germany
Zeidis, Igor		TU Ilmenau, Germany
08:50-09:10		WA1.2
<i>A Low-Profile Micro Ultrasonic Motor for NMR Sample Spinning in High Magnetic Field</i> , pp. 736-741.		
Kanda, Takefumi		Okayama Univ.
Maeda, Hiraku		Okayama Univ.
Suzumori, Koichi		Okayama Univ.
Fujisawa, Kazuya		Okayama Univ.
09:10-09:30		WA1.3
<i>Position Control of Pneumatic Actuators with PLC</i> , pp. 742-747.		
Sarosi, Jozsef		Faculty of Engineering, Univ. of Szeged
09:30-09:50		WA1.4
<i>Development of a Peristaltic Pump Based on Bowel Peristalsis</i> , pp. 748-753.		
Hirayama, Yoshihiro		Chuo Univ.
Suzuki, Kazuyuki		Chuo Univ.
Nakamura, Taro		Chuo Univ.
09:50-10:10		WA1.5
<i>Safety and Handling Concept for Assistive Robotic Devices with Pneumatic Rotary Soft-Actuators</i> , pp. 754-759.		
Baiden, David		FWBI Res. Company & IAT, Univ. of Bremen
Wilkening, André		FWBI Res. Company & IAT, Univ. of Bremen
Ivlev, Oleg		FWBI Res. Company & Univ. of Bremen
10:10-10:30		WA1.6
<i>Impact of the Trajectory Generation Strategy on the Driveline Efficiency of a Multi-Axial Robot</i> , pp. 760-765.		
Kalenda, Numbi		FMTC
Symens, Wim		FMTC
WA2		Room B
Path Planning and Navigation (I) (Regular Session)		
Chair: Sugano, Shigeki		Waseda Univ.
Co-Chair: Lantos, Bela		Budapest Univ. of Tech. and Ec.
08:30-08:50		WA2.1
<i>Rapid Approximation for Optimal Paths in Phase Space</i> , pp. 766-771.		
Kim, Chyon Hae		Honda Res. Inst. Co., Ltd.
Tsujino, Hiroshi		Honda Res. Inst. Co., Ltd.
Sugano, Shigeki		Waseda Univ.
08:50-09:10		WA2.2
<i>A New Approach to Onboard Mission Replanning Using Orthogonal Arrays</i> , pp. 772-777.		
Fukushima, Yosuke		Japan Aerospace Exploration Agency
Mita, Makoto		Japan Aerospace Exploration Agency
09:10-09:30		WA2.3
<i>Aided Carrier Phase Differential GPS for Attitude Determination</i> , pp. 778-783.		
Kis, Laszlo		Budapest Univ. of Tech. and Ec.
Lantos, Bela		Budapest Univ. of Tech. and Ec.

09:30-09:50		WA2.4
<i>Dynamic Efficient Collision Checking Method of Robot Arm Paths in Configuration Space</i> , pp. 784-789.		
Fragkopoulos, Christos		Univ.
Gräser, Axel		Univ. of Bremen
09:50-10:10		WA2.5
<i>Path Planning for a Four Wheel Driven Electric Vehicle</i> , pp. 790-795.		
Schmidt, Stephan		Otto-von-Guericke Univ. Magdeburg
10:10-10:30		WA2.6
<i>In-Plane Path Planning for Biped Robots Based on Bezier Curve</i> , pp. 796-801.		
Hashemi, Ehsan		Islamic Azad Univ. Qazvin branch
Ghaffari Jadidi, Maani		Islamic Azad Univ. Qazvin branch
Shah Mohammadi, Mohammad Reza		Islamic Azad Univ. Qazvin branch
Karimi, Mehdi		Bu Ali Sina Univ. Engineering Faculty
WA3		Room C
Motion Control (Regular Session)		
Chair: Yao, Bin		Purdue Univ.
Co-Chair: Iwasaki, Makoto		Nagoya Inst. of Tech.
08:30-08:50		WA3.1
<i>Adaptive Robust Precision Motion Control of Linear Motors with Electromagnetic Nonlinearity Compensation</i> , pp. 802-807.		
Chen, Zheng		Zhejiang Univ.
Yao, Bin		Purdue Univ.
Wang, Qingfeng		Zhejiang Univ.
08:50-09:10		WA3.2
<i>Position Control of a Permanent Magnet Stepper Motor by MISO Backstepping in Semi-Strict Feedback Form</i> , pp. 808-813.		
Shin, Donghoon		Hanyang Univ.
Kim, Wonhee		Hanyang Univ. Seoul, Korea
Chung, Chung Choo		Hanyang Univ.
09:10-09:30		WA3.3
<i>A Comparative Case Study of Position Control Solutions for a Mechatronics Application</i> , pp. 814-819.		
Dragos, Claudia-Adina		Pol. Univ. of Timisoara
Preitl, Stefan		Pol. Univ. of Timisoara
Precup, Radu-Emil		Pol. Univ. of Timisoara
Petriu, Emil M.		Univ. of Ottawa
Stinean, Alexandra-Iulia		Pol. Univ. of Timisoara, Romania
09:30-09:50		WA3.4
<i>Online Controller Optimization for Piezoelectric Hybrid Micropositioning Systems</i> , pp. 820-825.		
Juhász, László		Ostwestfalen-Lippe Univ. of Applied Sciences
Maas, Juergen		Ostwestfalen-Lippe Univ. of Applied Sciences
09:50-10:10		WA3.5
<i>High Precision Positioning of Table Drive Systems Using Strain Feedback</i> , pp. 826-831.		
Seki, Kenta		Nagoya Inst. of Tech.
Iwasaki, Makoto		Nagoya Inst. of Tech.
10:10-10:30		WA3.6
<i>Sensorless Speed Tracking Control of PMSG Applied in Hydraulic Power Regeneration</i> , pp. 832-837.		
Wang, Tao		Zhejiang Univ.
Wang, Qingfeng		Zhejiang Univ.
Chen, Zheng		Zhejiang Univ.

WA4	Room D
Machine Vision (Regular Session)	
Chair: Alarcon Herrera, Jose Luis	Univ. of Windsor
Co-Chair: Kinugawa, Jun	Tohoku Univ.
08:30-08:50	WA4.1
<i>Sensor Planning for Range Cameras Via a Coverage Strength Model</i> , pp. 838-843.	
Alarcon Herrera, Jose Luis	Univ. of Windsor
Mavrinac, Aaron	Univ. of Windsor
Chen, Xiang	Univ. of Windsor
08:50-09:10	WA4.2
<i>Conceptual Design and Analysis of an On-Line Opto-Mechatronic Measuring System Based on Pattern Projection</i> , pp. 844-849.	
Drust, Manuel	Fraunhofer Inst. of Manufacturing Engineering and Automation
Verl, Alexander	Fraunhofer Inst. of Manufacturing Engineering and Automation
09:10-09:30	WA4.3
<i>Visual Servoing Control of Video Tracking System for Tracking a Flying Target</i> , pp. 850-855.	
Wang, Tingting	Jaingnan Univ.
Liu, Guodong	Jiangnan Univ.
Xie, Wenfang	Concordia Univ.
09:30-09:50	WA4.4
<i>Effect of Text Orientation to OCR Error and Anti-Skew of Text Using Projective Transform Technique</i> , pp. 856-861.	
Jirasuwankul, Nirudh	Faculty of Engineering, King Mongkut's Inst. of Technology La
09:50-10:10	WA4.5
<i>Appearance-Based Monocular Visual Odometry for Ground Vehicles</i> , pp. 862-867.	
Yu, Yang	Beihang Univ.
Pradalier, Cedric	ETH Zurich
Zong, Guanghua	Beihang Univ.
10:10-10:30	WA4.6
<i>Depth Estimation from Monocular Vision Using Image Edge Complexity</i> , pp. 868-873.	
Haris, Sallehuddin Mohamed	Univ. Kebangsaan Malaysia
Nuawi, Mohd Zaki	Univ. Kebangsaan Malaysia
Zakaria, Muhammad Khalid	Univ. Kebangsaan Malaysia
WB1	Room A
Robotic Locomotion (Regular Session)	
Chair: Luo, Ren	National Taiwan Univ.
Co-Chair: Nakamura, Taro	Chuo Univ.
11:00-11:20	WB1.1
<i>Fault Diagnosis and System Status Monitoring for a Six-Legged Walking Robot</i> , pp. 874-879.	
Roennau, Arne	FZI Forschungszentrum Informatik
Heppner, Georg	Forschungszentrum Informatik
Kerscher, Thilo	FZI Forschungszentrum Informatik
Dillmann, Rüdiger	KIT Karlsruher Inst. für Tech.
11:20-11:40	WB1.2
<i>Experimental Study on ON-OFF Control Systems for Flexible Quadruped Locomotion Robot</i> , pp. 880-885.	
Nishida, Mami	Kanto Gakuin Univ.
11:40-12:00	WB1.3
<i>Towards Active Actuated Natural Walking Humanoid Robot Legs</i> , pp. 886-891.	
Luo, Ren	National Taiwan Univ.
Chen, Chwan-Hsen	Yuan Ze Univ.
Pu, Yi-Hao	National Taiwan Univ.
Chang, Jia Rong	Yuan Ze Univ. Taoyuan, Taiwan

12:00-12:20	WB1.4
<i>Hopping Robot Based on Free Vibration of an Elastic Curved Beam</i> , pp. 892-897.	
Reis, Murat	ETH - Zurich
Iida, Fumiya	ETH Zurich
12:20-12:40	WB1.5
<i>Quantification of the Benefits of a Compliant Foil for Underwater Flapping Wing Propulsion</i> , pp. 898-903.	
Lock, Richard J.	Univ. of Bristol
Peiris, B. H. Pasindu M.	Univ. of Bristol
Bates, Simon	Univ. of Bristol
Burgess, Stuart C.	Univ. of Bristol
Vaidyanathan, Ravi	Imperial Coll. London
12:40-13:00	WB1.6
<i>Development of Multistage Type Endoscopic Robot Based on Peristaltic Crawling for Inspecting the Small Intestine</i> , pp. 904-909.	
Adachi, Kazunori	Chuo Univ.
Yokojima, Masato	Chuo Univ.
Hidaka, Yuya	Chuo Univ.
Nakamura, Taro	Chuo Univ.
WB2	Room B
Path Planning and Navigation (II) (Regular Session)	
Chair: Chugo, Daisuke	Kwansei Gakuin Univ.
Co-Chair: Kuroda, Yoji	Meiji Univ.
11:00-11:20	WB2.1
<i>Edge Detection Using Structured Laser Pattern and Vision for Mobile Robot Navigation</i> , pp. 910-915.	
Xie, Yang	Georgia Inst. of Tech.
Wang, Wei	Huazhong Univ. of Science & Tech.
Guo, Jiajie	Georgia Inst. of Tech.
Lee, Kok-Meng	Georgia Inst. of Tech.
11:20-11:40	WB2.2
<i>A Comparative Study on Active SLAM and Autonomous Exploration with Particle Filters</i> , pp. 916-923.	
Du, Jingjing	Pol. di torino
Carlone, Luca	Pol. di Torino
Kaouk Ng, Miguel Efrain	Pol. di Torino
Bona, Basilio	Pol. di Torino
Indri, Marina	Pol. di Torino
11:40-12:00	WB2.3
<i>Camera-Based Localization for Indoor Service Robots Using Pictographs</i> , pp. 924-929.	
Hirose, Kei	Kwansei Gakuin Univ.
Chugo, Daisuke	Kwansei Gakuin Univ.
Yokota, Sho	Setsunan Univ.
Takase, Kunikatsu	Univ. of Electro-communications
12:00-12:20	WB2.4
<i>Mobile Robot Localization Using Place Recognition in Outdoor Environments with Similar Scenes</i> , pp. 930-935.	
Mitsuhashi, Masahito	Meiji Univ.
Kuroda, Yoji	Meiji Univ.
12:20-12:40	WB2.5
<i>Avoiding Deadlocks of Mobile Robots in Narrow Passages of Environments Populated with Moving Obstacles</i> , pp. 936-941.	
Dakulovic, Marija	Univ. of Zagreb
Dimitrijevic, Borko	Univ. of Zagreb
Petrovic, Ivan	Univ. of Zagreb

12:40-13:00	WB2.6
<i>Time-Optimal Trajectory Planning Along Predefined Path for Mobile Robots with Velocity and Acceleration Constraints</i> , pp. 942-947.	
Brezak, Misel	Univ. of Zagreb
Petrovic, Ivan	Univ. of Zagreb

WB3	Room C
Robot Dynamics and Control (Regular Session)	

Chair: Yoshikawa, Tsuneo	Ritsumeikan Univ.
Co-Chair: Liu, Guangjun	Ryerson Univ.

11:00-11:20	WB3.1
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<i>Generalized Predictive Control of an Anthropomorphic Robot Arm for Trajectory Tracking</i> , pp. 948-953.	
Makarov, Maria	CEA LIST - Interactive Robotics Lab. / SUPELEC Systems Sci
Grossard, Mathieu	CEA LIST - Interactive Robotic Lab.
Rodriguez-Ayerbe, Pedro	SUPELEC Systems Sciences (E3S)
Dumur, Didier	SUPELEC Systems Sciences (E3S)

11:20-11:40	WB3.2
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<i>Development of a Compact Wrist with Multiple Working Modes</i> , pp. 954-959.	
Zhang, Hongwei	Ryerson Univ.
Liu, Yugang	Ryerson Univ.
Liu, Guangjun	Ryerson Univ.

11:40-12:00	WB3.3
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<i>Jenga Game by a Manipulator with Multiarticulated Fingers</i> , pp. 960-965.	
Yoshikawa, Tsuneo	Ritsumeikan Univ.
Shinoda, Hirohito	Ritsumeikan Univ.
Sugiyama, Seiji	Ritsumeikan Univ.
Koeda, Masanao	Osaka Electro-Communication Univ.

12:00-12:20	WB3.4
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<i>Modeling and Control of a Planar Continuum Robot</i> , pp. 966-971.	
Dehghani, Mohammad	K. N. Toosi University of Tech.
Moosavian, S. Ali A.	K. N. Toosi Univ. of Tech.

WB4	Room D
Image Processing (Regular Session)	

Chair: Piros, Sandor	Budapest Univ. of Tech. and Ec.
Co-Chair: Kunii, Yasuharu	Chuo Univ.

11:00-11:20	WB4.1
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<i>Biologically Inspired Informatics; Algorithm for Discrete Data and Quantized Analog Signal Processing</i> , pp. 972-977.	
Piros, Sandor	Budapest Univ. of Tech. and Ec.
Korondi, Peter	Budapest Univ. of Tech. and Ec.

11:20-11:40	WB4.2
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<i>Fast Dynamic Object Extraction Using Stereovision Based on Occupancy Grid Maps and Optical Flow</i> , pp. 978-983.	
Suganuma, Naoki	Kanazawa Univ.
Kubo, Takaaki	Kanazawa Univ.

11:40-12:00	WB4.3
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<i>Measurement Data Supplementation of Shadow Casted Image Processing Methods</i> , pp. 984-989.	
Sato, Tomoya	Chuo Univ.
Kunii, Yasuharu	Chuo Univ.

12:00-12:20	WB4.4
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<i>Image Processing Framework for Traffic Monitoring</i> , pp. 990-995.	
Major, Peter	Budapest Univ. of Tech. and Ec.

12:20-12:40	WB4.5
<i>An Adaptively Reconfigurable Computing Framework for Intelligent Robotics</i> , pp. 996-1002.	
Hussain1, Moazzam	Pol. di Torino Italy
Din, Ahmad	Pol. di Torino Italy
Violante, Massimo	Pol. di Torino Italy
Bona, Basilio	Pol. di Torino

12:40-13:00	WB4.6
<i>A Fast Image Processing Based Robot Identification Method for Surveyor SRV-1 Robots</i> , pp. 1003-1009.	
Bolla, Kalman	Kecskemert Coll.
Istenes, Zoltán	Eötvös Loránd Univ. Faculty of Informatics
Kovacs, Tamas	Kecskemert Coll.
Fazekas, Gabor	Univ. of Debrecen

WC1	Room A
Neural and Fuzzy Control in Mechatronics (Regular Session)	
Chair: Park, Jong Hyeon	Hanyang Univ.
Co-Chair: Matusko, Jadranko	Faculty of Electrical Engineering and Computing

15:30-15:50	WC1.1
<i>Tensor Product Based Control of the Single Pendulum Gantry Process with Stable Neural Network Based Friction Compensation</i> , pp. 1010-1015.	
Matusko, Jadranko	Faculty of Electrical Engineering and Computing
Lesic, Vinko	Faculty of electrical engineering and computing, Zagreb
Kolonic, Fetah	Faculty of electrical engineering and computing, Zagreb
Iles, Sandor	Faculty of electrical engineering and computing, Zagreb

15:50-16:10	WC1.2
<i>Flatness-Based Adaptive Fuzzy Control for Nonlinear Dynamical Systems</i> , pp. 1016-1021.	
Rigatos, Gerasimos	Industrial Systems Inst.

16:10-16:30	WC1.3
<i>Low-Cost Fuzzy Control Approaches to a Class of State Feedback-Controlled Servo Systems</i> , pp. 1022-1027.	
Precup, Radu-Emil	Pol. Univ. of Timisoara
Ianc, Paul Andrei	Pol. Univ. of Timisoara, Romania
Petriu, Emil M.	Univ. of Ottawa
Dragos, Claudia-Adina	Pol. Univ. of Timisoara
Preitl, Stefan	Pol. Univ. of Timisoara
Radac, Mircea-Bogdan	Pol. Univ. of Timisoara

16:30-16:50	WC1.4
<i>Sensorless Speed Control of Induction Motors Using Adaptive Neural-Fuzzy Inference System</i> , pp. 1028-1033.	
Moghadasian, Mahmood	Islamic Azad Univ. Abadan Branch, Abadan, Iran
Amiri, Mohamad	Islamic Azad Univ. Abadan Branch, Abadan, Iran

16:50-17:10	WC1.5
<i>Designing a Stable Model-Based Fuzzy Controller for a Novel 6-DOF Parallel Manipulator with Rotary Actuators</i> , pp. 1034-1039.	
Azizan, Hamid	Isfahan Univ. of Tech.
Keshmiri, Mehdi	Isfahan Univ. of Tech.
Jafarinasab, Mohammad	Isfahan Univ. of Tech.

WC2	Room B
Service Robotics (Regular Session)	
Chair: Mizukawa, Makoto	Shibaura Inst. of Tech.
Co-Chair: Hirata, Yasuhisa	Tohoku Univ.

15:30-15:50	WC2.1
<i>"Tsuide Task (Accompanied Task)" Service Framework for User RT-Service Generation System</i> , pp. 1040-1045.	
Ukai, Ken	Shibaura Inst. of Tech.

Yoshimi, Takashi	Shibaura Inst. of Tech.
Mizukawa, Makoto	Shibaura Inst. of Tech.
Ando, Yoshinobu	Shibaura Inst. of Tech.

15:50-16:10 WC2.2

Experimental Evaluation of a Novel Automatic Service Robot Tool Changer, pp. 1046-1051.

Gymothy, David	Budapest Univ. of Tech. and Ec.
Toth, Andras	Budapest Univ. of Tech. and Ec.

16:10-16:30 WC2.3

Semi-Autonomous Color Line-Following Educational Robots: Design and Implementation, pp. 1052-1057.

Makrodimitris, Michail	National Tech. Univ. of Athens
Nikolakakis, Alexandros	National Tech. Univ. of Athens
Papadopoulos, Evangelos	National Tech. Univ. of Athens

16:30-16:50 WC2.4

Alignment and Tracking of Facial Features with Component-Based Active Appearance Models and Optical Flow, pp. 1058-1063.

Luo, Ren	National Taiwan Univ.
Huang, Chun-Yen	National Taiwan Univ.
Lin, Pei-Hsien	National Taiwan Univ.

16:50-17:10 WC2.5

Upper Body Motion Interpolation for Humanoid Robots, pp. 1064-1069.

Heo, Jung Woo	Korea Advanced Inst. of Sci. and Tech.
Oh, Jun Ho	Korea Advanced Inst. of Sci. and Tech.

WC3 Room C

Emerging Applications (Regular Session)

Chair: Lee, Kok-Meng	Georgia Inst. of Tech.
Co-Chair: Bideaux, Eric	INSA-Lyon

15:30-15:50 WC3.1

Consideration of Glare from Daylight in the Control of the Luminous Atmosphere in Buildings, pp. 1070-1075.

Arnal, Etienne	Sherpa-Engineering
Anthierens, Cédric	Inst. Supérieur de Mécanique de Paris
Bideaux, Eric	INSA-Lyon

15:50-16:10 WC3.2

Preliminary Experiments on Robotic Assembly Using a Hybrid-Type Variable Stiffness Actuator, pp. 1076-1080.

Kim, Byeong-Sang	Korea Univ.
Kim, Young-Loul	Korea Univ.
Song, Jae-Bok	Korea Univ.

16:10-16:30 WC3.3

A Musculoskeletal Model for Analyzing Manipulation Deformation of an Automated Poultry-Meat Deboning System, pp. 1081-1086.

Guo, Jiajie	Georgia Inst. of Tech.
Lee, Kok-Meng	Georgia Inst. of Tech.

16:30-16:50 WC3.4

Nonlinear Control Design for Row Guidance System of an Automated Asparagus Harvesting Robot, pp. 1087-1092.

Dong, Fuhong	Otto von Guericke Univ. Magdeburg
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16:50-17:10 WC3.5

A Novel Global Optimal Path Planning and Trajectory Method Based on Adaptive Dijkstra-Immune Approach for Mobile Robot, pp. 1093-1098.

Asadi, Saeid	Univ. of Tabriz
Azimirad, Vahid	Univ. of Tabriz, Center of Excellence in Mechatronics
Eslami, Ali	Univ. of Tabriz
Ghanbari, Ahmad	Univ. of Tabriz, Center of Excellence in Mechatronics