

2010 IEEE/RSJ International Conference on Intelligent Robots and Systems

(IROS 2010)

**Taipei, Taiwan
18 – 22 October 2010**

Pages 1-890



**IEEE Catalog Number: CFP10IRO-PRT
ISBN: 978-1-4244-6674-0**

TABLE OF CONTENTS

SELECTION AND RECOGNITION OF LANDMARKS USING TERRAIN SPATIOGRAMS	1
<i>Damian Lyons</i>	
ROBUST ONLINE MAP MERGING SYSTEM USING LASER SCAN MATCHING AND OMNIDIRECTIONAL VISION	7
<i>F. Tungadi, W. Lui, L. Kleeman, R. Jarvis</i>	
ONLINE ROAD SURFACE ANALYSIS USING LASER REMISSION VALUE IN URBAN ENVIRONMENTS	15
<i>Teppeï Saitoh, Yoji Kuroda</i>	
EFFICIENT SPARSE POSE ADJUSTMENT FOR 2D MAPPING	22
<i>Kurt Konolige, Giorgio Grisetti, Benson Limketkai, Wolfram Burgard, Rainer Kuemmerle, Regis Vincent</i>	
OBSERVATION PLANNING FOR ENVIRONMENT INFORMATION SUMMARIZATION WITH DEADLINES	30
<i>Hiroaki Masuzawa, Jun Miura</i>	
ACTIVE SENSING FOR RANGE-ONLY MAPPING USING MULTIPLE HYPOTHESIS	37
<i>Luis Merino, Fernando Caballero, Anibal Ollero</i>	
PARTS ASSEMBLY BY THROWING MANIPULATION WITH A ONE-JOINT ARM	43
<i>Hideyuki Miyashita, Tasuku Yamawaki, Masahito Yashima</i>	
MOTION PLANNING FOR DYNAMIC KNOTTING OF A FLEXIBLE ROPE WITH A HIGH-SPEED ROBOT ARM	49
<i>Yuji Yamakawa, Akio Namiki, Masatoshi Ishikawa</i>	
COLLECTING AN OBJECT BY CASTING MANIPULATION	55
<i>Hitoshi Arisumi, Kazuhito Yokoi</i>	
COMPARATIVE ANALYSIS OF THE REPEATABILITY PERFORMANCE OF A SERIAL AND PARALLEL ROBOT	63
<i>Rolland Michel Assoumou Nzie, Jean-François Brethe, Eric Vasselín, Dimitri Lefebvre</i>	
MOTION-PLANNING METHOD WITH ACTIVE BODY-ENVIRONMENT CONTACT FOR HAND-ARM SYSTEM INCLUDING PASSIVE JOINTS	69
<i>Taisuke Sugaiwa, Masanori Nezumiya, Hiroyasu Iwata, Shigeki Sugano</i>	
STRUCTURED UNSUPERVISED KERNEL REGRESSION FOR CLOSED-LOOP MOTION CONTROL	75
<i>Jan Steffen, Erhan Oztop, Helge Joachim Ritter</i>	
A VISION-BASED BOUNDARY FOLLOWING FRAMEWORK FOR AERIAL VEHICLES	81
<i>Anqi Xu, Gregory Dudek</i>	
VISION-BASED DETECTION AND TRACKING OF AERIAL TARGETS FOR UAV COLLISION AVOIDANCE	87
<i>Luis Mejias, Scott McNamara, John Lai, Jason Ford</i>	
ROBUST VISUAL LOCK-ON AND SIMULTANEOUS LOCALIZATION FOR AN UNMANNED AERIAL VEHICLE	93
<i>Jihong Min, Yekeun Jeong, In So Kweon</i>	
DESIGN AND VALIDATION OF A SYSTEM FOR TARGETED OBSERVATIONS OF TORNADIC SUPERCELLS USING UNMANNED AIRCRAFT	101
<i>Jack Elston, Brian Argrow, Adam Houston, Eric W. Frew</i>	
AUTONOMOUS AIRBORNE WILDLIFE TRACKING USING RADIO SIGNAL STRENGTH	107
<i>Ali Haydar Goktogan, Salah Sukkarieh, Raphael Speck</i>	
OPTIMAL GEOMETRICAL PATH IN 3D WITH CURVATURE CONSTRAINT	113
<i>Sikha Hota, Debasish Ghose</i>	
FEEDBACK MOTION PLANNING APPROACH FOR NONLINEAR CONTROL USING GAIN SCHEDULED RRTS	119
<i>Guilherme Jorge Maeda, Surya Singh, Hugh Durrant-Whyte</i>	
EXTENDING RAPIDLY-EXPLORING RANDOM TREES FOR ASYMPTOTICALLY OPTIMAL ANYTIME MOTION PLANNING	127
<i>Yasin Abbasi-Yadkori, Joseph Modayil, Csaba Szepesvari</i>	
MOTION CONTROL OF AN AUTONOMOUS VEHICLE BASED ON WHEELED INVERTED PENDULUM USING NEURAL-ADAPTIVE IMPLICIT CONTROL	133
<i>Zhijun Li, Yang Li, Chenguang Yang, Nan Ding</i>	
VISUAL ODOMETRY AND CONTROL FOR AN OMNIDIRECTIONAL MOBILE ROBOT WITH A DOWNWARD-FACING CAMERA	139
<i>Marc Killpack, Travis Deyle, Cressel Anderson, Charlie Kemp</i>	
DYNAMICS AND MOTION CONTROL OF A TWO PENDULUMS DRIVEN SPHERICAL ROBOT	147
<i>Bo Zhao, Mantian Li, Haitao Yu, Haiyan Hu, Lining Sun</i>	
NAVIGATION IN INDOOR ENVIRONMENT BY AN AUTONOMOUS UNICYCLE ROBOT WITH WIDE-TYPE WHEEL	154
<i>Junpei Okumura, Toshinobu Takei, Takashi Tsubouchi</i>	
FULL-BODY JOINT TRAJECTORY GENERATION USING AN EVOLUTIONARY CENTRAL PATTERN GENERATOR FOR STABLE BIPEDAL WALKING	160
<i>Chang-Soo Park, Young-Dae Hong, Jong-Hwan Kim</i>	

WALK-TO-BRACHIATE TRANSFER OF MULTI-LOCOMOTION ROBOT WITH ERROR RECOVERY	166
<i>Zhiguo Lu, Tadayoshi Aoyama, Kosuke Sekiyama, Yasuhisa Hasegawa, Toshio Fukuda</i>	
PROPOSAL OF AUGMENTED LINEAR INVERTED PENDULUM MODEL FOR BIPEDAL GAIT PLANNING	172
<i>Van Huan Dau, Chee Meng Chew, Jim A. N. Poo</i>	
CONTROLLING HUMANOID ROBOTS IN TOPOLOGY COORDINATES	178
<i>Edmond Ho, Taku Komura, Subramanian Ramamoorthy, Sethu Vijayakumar</i>	
INTEGRATION OF VISION AND CENTRAL PATTERN GENERATOR BASED LOCOMOTION FOR PATH PLANNING OF A NONHOLONOMIC CRAWLING HUMANOID ROBOT	183
<i>Sebastien Gay, Sarah Degallier, Ugo Pattacini, Auke Ijspeert, Jose Santos-Victor</i>	
WALKING WITHOUT THINKING ABOUT IT	190
<i>Andrei Herdt, Nicolas Perrin, Pierre-Brice Wieber</i>	
ACCURATE AND STABLE MOBILE ROBOT PATH TRACKING: AN INTEGRATED SOLUTION FOR OFF-ROAD AND HIGH SPEED CONTEXT	196
<i>R. Lenain, E. Lucet, C. Grand, B. Thuilot, F. Amar</i>	
USING SIMULATION TO PREDICT MULTI-ROBOT PERFORMANCE ON COVERAGE TASKS	202
<i>Shameka Dawson, Briana Wellman, Monica Anderson</i>	
CIRCLE FITTING BASED POSITION MEASUREMENT SYSTEM USING LASER RANGE FINDER IN CONSTRUCTION FIELDS	209
<i>Hajime Tamura, Takeshi Sasaki, Hideki Hashimoto, Fumihiko Inoue</i>	
DAYTIME WATER DETECTION BASED ON COLOR VARIATION	215
<i>Arturo Rankin, Larry Matthies</i>	
DEVELOPMENT OF A PRACTICAL POWER TRANSMISSION LINE INSPECTION ROBOT BASED ON A NOVEL LINE WALKING MECHANISM	222
<i>Ludan Wang, Fei Liu, Shaoqiang Xu, Zhen Wang, Sheng Cheng, Jianwei Zhang</i>	
HUMANITARIAN DEMINING ROBOT GRYPHON: NEW VISION TECHNIQUES AND OPTIMIZATION METHODS	228
<i>Alex Masuo Kaneko, Marco Marino, Edwardo F. Fukushima</i>	
ITERATIVE LEARNING CONTROL FOR A REDUNDANT MUSCULOSKELETAL ARM: ACQUISITION OF ADEQUATE INTERNAL FORCE	234
<i>Kenji Tahara, Hitoshi Kino</i>	
LEARNING NULLSPACE POLICIES	241
<i>Christopher Charles Towell, Matthew Howard, Sethu Vijayakumar</i>	
LEARNING-BASED CONTROL STRATEGY FOR SAFE HUMAN-ROBOT INTERACTION EXPLOITING TASK AND ROBOT REDUNDANCIES	249
<i>Sylvain Calinon, Irene Sardellitti, Darwin G. Caldwell</i>	
ROBOT LEARNING BY DEMONSTRATION WITH LOCAL GAUSSIAN PROCESS REGRESSION	255
<i>M. Schneider, W. Ertel</i>	
INCREMENTAL LEARNING OF SUBTASKS FROM UNSEGMENTED DEMONSTRATION	261
<i>Daniel Grollman, Odest Chadwicke Jenkins</i>	
INCREMENTAL LOCAL ONLINE GAUSSIAN MIXTURE REGRESSION FOR IMITATION LEARNING OF MULTIPLE TASKS	267
<i>Thomas Cederborg, Ming Li, Adrien Baranes, Pierre-Yves Oudeyer</i>	
DISTANCE ESTIMATION METHOD WITH SNAPSHOT LANDMARK IMAGES IN THE ROBOTIC HOMING NAVIGATION	275
<i>Seung-Eun Yu, Daeun Kim</i>	
IMPROVED UPDATING OF EUCLIDEAN DISTANCE MAPS AND VORONOI DIAGRAMS	281
<i>Boris Lau, Christoph Sprunk, Wolfram Burgard</i>	
AN APPLICATION OF KULLBACK-LEIBLER DIVERGENCE TO ACTIVE SLAM AND EXPLORATION WITH PARTICLE FILTERS	287
<i>Luca Carlone, Jingjing Du, Miguel Efrain Kaouk Ng, Basilio Bona, Marina Indri</i>	
A KYNO-DYNAMIC METRIC TO PLAN STABLE PATHS OVER UNEVEN TERRAIN	294
<i>Jaime Valls Miro, Gautier Dumonteil, Christoph Beck, Gamini Dissanayake</i>	
PATH PLANNING WITH VARIABLE-FIDELITY TERRAIN ASSESSMENT	300
<i>Braden Stenning, Timothy Barfoot</i>	
PASSIVITY-BASED MODEL PREDICTIVE CONTROL FOR MOBILE ROBOT NAVIGATION PLANNING IN ROUGH TERRAINS	307
<i>Adnan Tahirovic, Gianantonio Magnani</i>	
IMPLEMENTATION OF AN AUTOMATIC SCANNING AND DETECTION ALGORITHM FOR THE CAROTID ARTERY BY AN ASSISTED-ROBOTIC MEASUREMENT SYSTEM	313
<i>R. Nakadate, J. Solis, A. Takamishi, E. Minagawa, M. Sugawara</i>	
TOWARDS AN ASSISTIVE ROBOT THAT AUTONOMOUSLY PERFORMS BED BATHS FOR PATIENT HYGIENE	319
<i>Chih-Hung King, Tiffany Chen, Advait Jain, Charlie Kemp</i>	
AUTOMATIC FOCUSING AND ROBOTIC SCANNING MECHANISM FOR PRECISION LASER ABLATION IN NEUROSURGERY	325
<i>Hongen Liao, Masafumi Noguchi, Yoshihiro Muragaki, Hiroshi Iseki, Etsuko Kobayashi, Ichiro Sakuma</i>	

DEVELOPMENT OF PATIENT SCENARIO GENERATION WHICH CAN REPRODUCE CHARACTERISTICS OF THE PATIENT FOR SIMULATING REAL-WORLD CONDITIONS OF TASK FOR AIRWAY MANAGEMENT TRAINING SYSTEM WKA-3	331
<i>Yohan Noh, Akihiro Shimomura, Kei Sato, Masanao Segawa, Hiroyuki Ishii, Jorge Solis, Atsuo Takanishi, Kazuyuki Hatake</i>	
DEVELOPMENT OF THE AIRWAY MANAGEMENT TRAINING SYSTEM WKA-3 : INTEGRATION OF EVALUATION MODULE TO PROVIDE ASSESSMENT OF CLINICAL COMPETENCE AND FEEDBACK MODULE TO REPRODUCE DIFFERENT CASES OF AIRWAY DIFFICULTIES	337
<i>Yohan Noh, Kei Sato, Akihiro Shimomura, Masanao Segawa, Hiroyuki Ishii, Jorge Solis, Atsuo Takanishi, Kazuyuki Hatake</i>	
CONCEPTUAL DESIGN OF AN ENERGY EFFICIENT TRANSFEMORAL PROSTHESIS	343
<i>Ramazan Unal, Raffaella Carloni, Edsko E. G. Hekman, Stefano Stramigioli, Bart Koopman</i>	
STATIC BALANCE FOR RESCUE ROBOT NAVIGATION : LOSING BALANCE ON PURPOSE WITHIN RANDOM STEP ENVIRONMENT	349
<i>Evgeni Magid, Takashi Tsubouchi, Eiji Koyanagi, Tomoaki Yoshida</i>	
SHARED AUTONOMY SYSTEM FOR TRACKED VEHICLES TO TRAVERSE ROUGH TERRAIN BASED ON CONTINUOUS THREE-DIMENSIONAL TERRAIN SCANNING	357
<i>Yoshito Okada, Keiji Nagatani, Kazuya Yoshida, Tomoaki Yoshida, Eiji Koyanagi</i>	
IMPROVEMENT OF REMOTE OPERABILITY FOR THE ARM-EQUIPPED TRACKED VEHICLE HELIOS IX	363
<i>Koji Ueda, Michele Guarnieri, Ryuichi Hodoshima, Edwardo F. Fukushima, Shigeo Hirose</i>	
DEVELOPMENT OF MOTION MODEL AND POSITION CORRECTION METHOD USING TERRAIN INFORMATION FOR TRACKED VEHICLES WITH SUB-TRACKS	370
<i>K. Sakurada, E. Takeuchi, K. Ohno, S. Tadokoro</i>	
DESIGN AND IMPLEMENTATION OF USER FRIENDLY REMOTE CONTROLLERS FOR RESCUE ROBOTS IN FIRE SITES	377
<i>Young-Duk Kim, Jeong Ho Kang, Duk Han Sun, Jeon-Il Moon, Ryuh Youngsun, Jinung An</i>	
TOWARDS AN UNDERSTANDING OF THE IMPACT OF AUTONOMOUS PATH PLANNING ON VICTIM SEARCH IN USAR	383
<i>Paul Scerri, Prasanna Velagapudi, Katia Sycara, Huadong Wang, Shih Yi James Chien, Michael Lewis</i>	
A COMPACT JUMPING ROBOT UTILIZING SNAP-THROUGH BUCKLING WITH BEND AND TWIST	389
<i>Atsushi Yamada, Hiroshi Mameda, Hiromi Mochiyama, Hideo Fujimoto</i>	
STABILITY AND ADAPTABILITY OF PASSIVE CREEPING OF A SNAKE-LIKE ROBOT	395
<i>Z. Wang, S. Ma, B. Li, Y. Wang</i>	
HEAD-NAVIGATED LOCOMOTION OF A SNAKE-LIKE ROBOT FOR ITS AUTONOMOUS OBSTACLE AVOIDANCE	401
<i>Xiaodong Wu, Shugen Ma</i>	
DESIGN AND CONTROL OF THERMAL SMA BASED SMALL CRAWLING ROBOT MIMICKING C.ELEGANS	407
<i>H. Yuk, J. Shin, S. Jo</i>	
LOOP FORMING SNAKE-LIKE ROBOT ACM-R7 AND ITS SERPENOID OVAL CONTROL	413
<i>Taro Ohashi, Hiroya Yamada, Shigeo Hirose</i>	
STEERING OF PEDAL WAVE OF A SNAKE-LIKE ROBOT BY SUPERPOSITION OF CURVATURES	419
<i>Hiroya Yamada, Shigeo Hirose</i>	
A STUDY ON DISTANCE ESTIMATION IN BINAURAL SOUND LOCALIZATION	425
<i>T. Rodemann</i>	
MOTION PLANNING BASED ON SIMULTANEOUS PERTURBATION STOCHASTIC APPROXIMATION FOR MOBILE AUDITORY ROBOTS	431
<i>Makoto Kumon, Keiichiro Fukushima, Sadaaki Kunimatsu, Mitsuaki Ishitobi</i>	
MAP-GENERATION AND IDENTIFICATION OF MULTIPLE SOUND SOURCES FROM ROBOT IN MOTION	437
<i>Yoko Sasaki, Simon Thompson, Masahito Kaneyoshi, Satoshi Kagami</i>	
SPEECH SIGNAL ENHANCEMENT UNDER MULTIPLE INTERFERENCES USING TRANSFER FUNCTION RATIO BEAMFORMER	444
<i>Jwu-Sheng Hu, Chiahsing Yang</i>	
EXPLOITING HARMONIC STRUCTURES TO IMPROVE SEPARATING SIMULTANEOUS SPEECH IN UNDER-DETERMINED CONDITIONS	450
<i>Yasuharu Hirasawa, Toru Takahashi, Kazunori Komatani, Tetsuya Ogata, Hiroshi G. Okuno</i>	
SOUND SOURCE SEPARATION BY USING MATCHED BEAMFORMING AND TIME-FREQUENCY MASKING	458
<i>J. Beh, T. Lee, D. Han, H. Ko</i>	
A METHODOLOGY FOR JOINT STIFFNESS IDENTIFICATION OF SERIAL ROBOTS	464
<i>C. Dumas, S. Caro, M. Cherif, S. Garnier, B. Furet</i>	
HIGH SPEED ELECTRO-HYDRAULIC ACTUATOR FOR A SCARA TYPE ROBOTIC ARM	470
<i>Migara Liyanage, Nicholas Krouglicof, Raymond G. Gosine</i>	
ON-LINE HUMAN MOTION TRANSITION AND CONTROL FOR HUMANOID UPPER BODY MANIPULATION	477
<i>Sung Yul Shin, Changhwan Kim</i>	
UTILIZING COMPLIANCE TO MANIPULATE DOORS WITH UNMODELED CONSTRAINTS	483
<i>Chad C. Kessens, Joseph Rice, Daniel Smith, Stephen Biggs, Richard Garcia</i>	
ROBOTIZED ASSEMBLY OF A WIRE HARNESS IN CAR PRODUCTION LINE	490
<i>Xin Jiang, Kyongmo Koo, Kohei Kikuchi, Atsushi Konno, Masaru Uchiyama</i>	

MODEL BASED DEFORMABLE OBJECT MANIPULATION USING LINEAR ROBUST OUTPUT REGULATION	496
<i>Richard Fanson, Alexandru Patriciu</i>	
DESIGN AND MOTION ANALYSIS OF TETRAHEDRAL ROLLING ROBOT	502
<i>Lige Zhang, Shusheng Bi, Yueri Cai</i>	
AUTOMATIC SCALABLE SIZE SELECTION FOR THE SHAPE OF A DISTRIBUTED ROBOTIC COLLECTIVE	508
<i>Michael Rubenstein, Wei-Min Shen</i>	
AUTOMATIC GAIT GENERATION IN MODULAR ROBOTS: "TO OSCILLATE OR TO ROTATE; THAT IS THE QUESTION"	514
<i>Soha Pouya, Jesse Van Den Kieboom, Alexander Sproewitz, Auke Ijspeert</i>	
LAYERING ALGORITHM FOR COLLISION-FREE TRAVERSAL USING HEXAGONAL SELF-RECONFIGURABLE METAMORPHIC ROBOTS	521
<i>Plamen Ivanov, Jennifer Walter</i>	
A MODULAR ROBOT SYSTEM DESIGN AND CONTROL MOTION MODES FOR LOCOMOTION AND MANIPULATION TASKS	529
<i>Jose Baca, Manuel Ferre, Rafael Aracil, Alexandre Campos</i>	
A CUBOCTAHEDRON MODULE FOR A RECONFIGURABLE ROBOT	535
<i>Shuguang Li, Jianping Yuan, Franz Nigl, Hod Lipson</i>	
BUILDING EFFICIENT TOPOLOGICAL MAPS FOR MOBILE ROBOT LOCALIZATION: AN EVALUATION STUDY ON COLD BENCHMARKING DATABASE	542
<i>S. Rady, A. Wagner, E. Badreddin</i>	
A HULL CENSUS TRANSFORM FOR SCENE CHANGE DETECTION AND RECOGNITION TOWARDS TOPOLOGICAL MAP BUILDING	548
<i>Min Liang Wang, Huei-Yung Lin</i>	
A DISTRIBUTED TRANSFERABLE BELIEF MODEL FOR COLLABORATIVE TOPOLOGICAL MAP-BUILDING IN MULTI-ROBOT SYSTEMS	554
<i>Cristina Carletti, Maurizio Di Rocco, Andrea Gasparri, Giovanni Ulivi</i>	
USING A STRING TO MAP THE WORLD	561
<i>Hui Wang, Michael Jenkin, Patrick Dymond</i>	
LATTICE OCCUPIED VOXEL LISTS FOR REPRESENTATION OF SPATIAL OCCUPANCY	567
<i>Julian Ryde, Michael Bruenig</i>	
A DISTRIBUTED MAXIMUM LIKELIHOOD ALGORITHM FOR MULTI-ROBOT MAPPING	573
<i>Dario Lodi Rizzi, Stefano Caselli</i>	
CLASS-SPECIFIC GRASPING OF 3D OBJECTS FROM A SINGLE 2D IMAGE	579
<i>Han-Pang Chiu, Huan Liu, Leslie Kaelbling, Tomas Lozano-Perez</i>	
ON THE EFFICIENT COMPUTATION OF INDEPENDENT CONTACT REGIONS FOR FORCE CLOSURE GRASPS	586
<i>Robert Krug, Dimitar Nikolaev Dimitrov, Krzysztof Andrzej Charusta, Boyko Iliev</i>	
STUDY OF THE RELATIONSHIP BETWEEN THE STRAIN AND STRAIN RATE FOR VISCOELASTIC CONTACT INTERFACE IN ROBOTIC GRASPING	592
<i>Chia-Hung Tsai, Jun Nishiyama, Imin Kao, Mitsuru Higashimori, Makoto Kaneko</i>	
MANIPULABILITY MEASURES TAKING NECESSARY JOINT TORQUES FOR GRASPING INTO CONSIDERATION	598
<i>T. Watanabe</i>	
EVALUATION OF GRASPS FOR 3D OBJECTS WITH PHYSICAL INTERPRETATIONS USING OBJECT WRENCH SPACE	604
<i>Hyunhwan Jeong, Joono Cheong</i>	
SIMPLIFIED HUMAN HAND MODELS BASED ON GRASPING ANALYSIS	610
<i>Salvador Cobos Guzman, Manuel Ferre, Rafael Aracil</i>	
ACTIVE MODEL BASED PREDICTIVE CONTROL FOR UNMANNED HELICOPTER IN FULL FLIGHT ENVELOPE	616
<i>D. Song, J. Qi, J. Han, G. Liu</i>	
DESIGN AND CALIBRATION OF SINGLE-CAMERA CATADIOPTRIC OMNISTERO SYSTEM FOR MINIATURE AERIAL VEHICLES (MAVS)	622
<i>Ling Guo, Igor Labutov, Jizhong Xiao</i>	
VISION-BASED ALTITUDE, POSITION AND SPEED REGULATION OF A QUADROTOR ROTORCRAFT	628
<i>Eduardo Rondon, Luis-Rodolfo Garcia-Carrillo, Isabelle Fantoni</i>	
FLIGHT FORMATION OF MULTIPLE MINI ROTORCRAFT BASED ON NESTED SATURATIONS	634
<i>Jose Alfredo Guerrero Mata, Rogelio Lozano</i>	
3D TRAJECTORY CONTROL FOR QUADROPTER	640
<i>Tim Puls, Andreas Hein</i>	
UAV ALTITUDE ESTIMATION BY MIXED STEREOSCOPIC VISION	646
<i>D. Eynard, P. Vasseur, C. Demonceaux, V. Fremont</i>	
AN OPTIMAL SOLUTION TO THE LINEAR SEARCH PROBLEM FOR A ROBOT WITH DYNAMICS	652
<i>I. De Pablo, A. Becker, T. Bretl</i>	
POSITION AND ORIENTATION CONTROL OF ROBOT MANIPULATORS USING DUAL QUATERNION FEEDBACK	658
<i>Hoang Lan Pham, Veronique Perdereau, Bruno Vilhena Adorno, Philippe Fraisse</i>	

PASSIVITY-BASED CONTROLLERS FOR PERIODIC MOTIONS OF MULTI-JOINT ROBOTS WITH IMPACT PHENOMENA	664
<i>Mitsunori Uemura, Sadao Kawamura</i>	
BASIS-MOTION TORQUE COMPOSITION APPROACH: GENERATION OF MOTIONS WITH DIFFERENT VELOCITY PROFILES AMONG JOINTS	670
<i>Masahiro Sekimoto, Sadao Kawamura, Tomoya Ishitsubo</i>	
CONSTRAINTS COMPLIANT CONTROL: CONSTRAINTS COMPATIBILITY AND THE DISPLACED CONFIGURATION APPROACH	677
<i>Sebastien Rubrecht, Vincent Padois, Philippe Bidaud, Michel De Broissia</i>	
AN APPROACH TO POSTURE CONTROL OF FREE-FALLING TWIN BODIES USING DIFFERENTIAL FLATNESS	685
<i>Sunil Agrawal, Chengkun Zhang</i>	
AIMING FOR MULTIBODY DYNAMICS ON STABLE HUMANOID MOTION WITH SPECIAL EUCLIDEANS GROUPS	691
<i>M. Arbulu, C. Balaguer, C. Monge, S. Martinez, A. Jardon</i>	
GENERATION OF DYNAMIC MOTIONS UNDER CONTINUOUS CONSTRAINTS: EFFICIENT COMPUTATION USING B-SPLINES AND TAYLOR POLYNOMIALS	698
<i>Sebastien Lengagne, Paul Mathieu, Abderrahmane Kheddar, Eiichi Yoshida</i>	
CLOSED-FORM INVERSE KINEMATIC JOINT SOLUTION FOR HUMANOID ROBOTS	704
<i>Muhammad A. Ali, Hyungju Andy Park, C. S. George Lee</i>	
CONSTRAINED RESOLVED ACCELERATION CONTROL FOR HUMANOIDS	710
<i>Behzad Dariush, Ghassan Bin Hammam, David Orin</i>	
OPTIMIZATION OF IMPACT MOTIONS FOR HUMANOID ROBOTS CONSIDERING MULTIBODY DYNAMICS AND STABILITY	718
<i>Tepei Tsujita, Atsushi Konno, Masaru Uchiyama</i>	
CONTROL-AWARE MAPPING OF HUMAN MOTION DATA WITH STEPPING FOR HUMANOID ROBOTS	726
<i>Katsu Yamane, Jessica Hodgins</i>	
VISUAL SEGMENTATION OF LAWN GRASS FOR A MOBILE ROBOTIC LAWNMOWER	734
<i>Alexander Schepelmann, Richard Hudson, Francis Merat, Roger D. Quinn</i>	
INTELLIGENT ROAD SIGN DETECTION USING 3D SCENE GEOMETRY	740
<i>Jeffrey Schlosser, Mike Montemerlo, Kenneth Salisbury</i>	
ONSUM: A SYSTEM FOR GENERATING ONLINE NAVIGATION SUMMARIES	746
<i>Yogesh Girdhar, Gregory Dudek</i>	
AN ORIGINAL APPROACH FOR AUTOMATIC PLANE EXTRACTION BY OMNIDIRECTIONAL VISION	752
<i>J. Bazin, P. Laffont, I. Kweon, C. Demonceaux, P. Vasseur</i>	
SWARM-BASED VISUAL SALIENCY FOR TRAIL DETECTION	759
<i>Pedro Santana, Nelson Alves, Luis Correia, Jose Barata</i>	
AN ADAPTIVE OUTDOOR TERRAIN CLASSIFICATION METHODOLOGY USING MONOCULAR CAMERA	766
<i>Chetan Jakkoju, Madhava Krishna, C. V. Jawahar</i>	
ADAPTIVE REAL-TIME VIDEO-TRACKING FOR ARBITRARY OBJECTS	772
<i>Dominik Alexander Klein, Dirk Schulz, Simone Frintrop, Armin Cremers</i>	
INTERPRETATION OF FUZZY VOICE COMMANDS FOR ROBOTS BASED ON VOCAL CUES GUIDED BY USER'S WILLINGNESS	778
<i>Buddhika Prabhath Jayasekara Anandasetti Gamaethiralalaya, Keigo Watanabe, Kazuo Kiguchi, Kiyotaka Izumi</i>	
PROGRAMMING BY DEMONSTRATION OF PROBABILISTIC DECISION MAKING ON A MULTI-MODAL SERVICE ROBOT	784
<i>Sven R. Schmidt-Rohr, Martin Lösch, Rainer Jäkel, Rüdiger Dillmann</i>	
A PROBABILISTIC APPROACH TO LEARNING A VISUALLY GROUNDED LANGUAGE MODEL THROUGH HUMAN-ROBOT INTERACTION	790
<i>Haris Dindo, Daniele Zambuto</i>	
UNFREEZING THE ROBOT: NAVIGATION IN DENSE, INTERACTING CROWDS	797
<i>Peter Trautman, Andreas Krause</i>	
FLOOR SEGMENTATION OF OMNIDIRECTIONAL IMAGES FOR MOBILE ROBOT VISUAL NAVIGATION	804
<i>Luis Felipe Posada, Krishna Kumar Narayanan, Frank Hoffmann, Torsten Bertram</i>	
GENERALIZED HOUGH TRANSFORM AND CONFORMAL GEOMETRIC ALGEBRA TO DETECT LINES AND PLANES FOR BUILDING 3D MAPS AND ROBOT NAVIGATION	810
<i>Eduardo-Jose Bayro-Corrochano, Miguel Bernal-Marin</i>	
CAN'T TAKE MY EYE OFF YOU: ATTENTION-DRIVEN MONOCULAR OBSTACLE DETECTION AND 3D MAPPING	816
<i>Erik Einhorn, Christof Schroeter, Horst-Michael Gross</i>	
MONOCULAR EGO-MOTION ESTIMATION WITH A COMPACT OMNIDIRECTIONAL CAMERA	822
<i>Wolfgang Stuerzl, Darius Burschka, Michael Suppa</i>	
TRAIL FOLLOWING WITH OMNIDIRECTIONAL VISION	829
<i>Christopher Rasmussen, Yan Lu, Mehmet Kocamaz</i>	
IMAGE-BASED SEGMENTATION OF INDOOR CORRIDOR FLOORS FOR A MOBILE ROBOT	837
<i>Yinxiao Li, Stan Birchfield</i>	

ASYNCHRONOUS FORCE AND VISUAL FEEDBACK IN TELEOPERATIVE LAPAROSCOPIC SURGICAL SYSTEM	844
<i>Kazushi Onda, Takayuki Osa, Naohiko Sugita, Makoto Hashizume, Mamoru Mitsuishi</i>	
ROBOTOL : FROM DESIGN TO EVALUATION OF A ROBOT FOR MIDDLE EAR SURGERY	850
<i>Mathieu Miroir, Yann Nguyen, Jerome Szweczyk, Stephane Mazalaigue, Evelyne Ferrary, Olivier Sterkers, Alexis Bozorg Grayeli</i>	
MASTER-SLAVE ROBOTIC SYSTEM FOR 3 DIMENSIONAL NEEDLE STEERING	857
<i>Hyo-Jeong Cha, Jaeheon Chung, Byung-Ju Yi, Whee Kuk Kim</i>	
STIFFNESS CONTROL OF A CONTINUUM MANIPULATOR IN CONTACT WITH A SOFT ENVIRONMENT	863
<i>Mohsen Mahvash, Pierre Dupont</i>	
MICA - A NEW GENERATION OF VERSATILE INSTRUMENTS IN ROBOTIC SURGERY	871
<i>Sophie Charlotte Franziska Thielmann, Ulrich Seibold, Robert Haslinger, Georg Passig, Thomas Bahls, Stefan Joerg, Mathias Nickl, Alexander Nothhelfer, Ulrich Hagn, Gerd Hirzinger</i>	
THREE-DIMENSIONAL VISUALIZATION OF PHOTOELASTIC STRESS ANALYSIS FOR CATHETER INSERTION ROBOT	879
<i>Motoki Matsushima, Carlos Rafael Tercero Villagran, Seiichi Ikeda, Toshio Fukuda, Makoto Negoro</i>	
A MAGNETIC TYPE TACTILE SENSOR BY GMR ELEMENTS AND INDUCTORS	885
<i>Masanori Goka, Hiroyuki Nakamoto, Satoru Takenawa</i>	
ACQUISITION OF TACTILE INFORMATION BY VISION-BASED TACTILE SENSOR FOR DEXTEROUS HANDLING OF ROBOT HANDS	891
<i>Yuji Ito, Youngwoo Kim, Chikara Nagai, Goro Obinata</i>	
THE DLR TOUCH SENSOR I: A FLEXIBLE TACTILE SENSOR FOR ROBOTIC HANDS BASED ON A CROSSED-WIRE APPROACH	897
<i>M. Stohmayr, H. Saal, A. Potdar, P. Smagt</i>	
ARTIFICIAL RIDGED SKIN FOR SLIPPAGE SPEED DETECTION IN PROSTHETIC HAND APPLICATIONS	904
<i>Dana Damian, Harold Roberto Martinez Salazar, Konstantinos Dermitzakis, Alejandro Hernandez Arieta, Rolf Pfeifer</i>	
TACTILE SENSOR ARRAY USING PRISMATIC-TIP OPTICAL FIBERS FOR DEXTEROUS ROBOTIC HANDS	910
<i>Asghar Ataollahi, Panagiotis Polygerinos, Pinyo Puangmali, Lakmal Seneviratne, Kaspar Althoefer</i>	
ACTIVE ESTIMATION OF OBJECT DYNAMICS PARAMETERS WITH TACTILE SENSORS	916
<i>Hannes Philipp Saal, Jo-Anne Ting, Sethu Vijayakumar</i>	
FUZZY LOGIC PID BASED CONTROL DESIGN FOR A BIOMIMETIC UNDERWATER VEHICLE WITH TWO UNDULATING LONG-FINS	922
<i>Liu-Ji Shang, Shuo Wang, Min Tan</i>	
STUDY AND IMPLEMENTATION OF STATION-HOLDING PERFORMANCE ON A FISH ROBOT IN ADVERSE UNSTEADY FLOW	928
<i>Chunlin Zhou, K. H. Low</i>	
KINEMATIC MODELING FRAMEWORK FOR BIOMIMETIC UNDULATORY FIN MOTION BASED ON COUPLED NONLINEAR OSCILLATORS	934
<i>Chunlin Zhou, K. H. Low</i>	
DEVELOPMENT OF FLEXIBLE UNDERWATER ROBOT WITH CAUDAL FIN PROPULSION	940
<i>Jun Shintake, Aiguo Ming, Makoto Shimojo</i>	
CLOSED-LOOP PRECISE TURNING CONTROL FOR A BCF-MODE ROBOTIC FISH	946
<i>Zongshuai Su, Junzhi Yu, Min Tan, Jianwei Zhang</i>	
A NOVEL METHOD FOR SIMULTANEOUS MEASUREMENT OF INTERNAL AND EXTERNAL HYDRODYNAMIC FORCE OF SELF-PROPELLED ROBOTIC FISH	952
<i>Wen Li</i>	
AN EASILY-CONFIGURABLE ROBOT AUDITION SYSTEM USING HISTOGRAM-BASED RECURSIVE LEVEL ESTIMATION	958
<i>H. Nakajima, G. Ince, K. Nakadai, Y. Hasegawa</i>	
AN IMPROVEMENT IN AUTOMATIC SPEECH RECOGNITION USING SOFT MISSING FEATURE MASKS FOR ROBOT AUDITION	964
<i>Toru Takahashi, Kazuhiro Nakadai, Kazumori Komatani, Tetsuya Ogata, Hiroshi G. Okuno</i>	
IMPROVEMENT OF SPEECH RECOGNITION PERFORMANCE FOR SPOKEN-ORIENTED ROBOT DIALOG SYSTEM USING END-FIRE ARRAY	970
<i>Hiroshi Sawada, Jani Even, Hiroshi Saruwatari, Kiyohiro Shikano, Tomoya Takatani</i>	
SOUND SOURCE SEPARATION AND AUTOMATIC SPEECH RECOGNITION FOR MOVING SOURCES	976
<i>Kazuhiro Nakadai, Hirofumi Nakajima, Gokhan Ince, Yuji Hasegawa</i>	
MULTI-TALKER SPEECH RECOGNITION UNDER EGO-MOTION NOISE USING MISSING FEATURE THEORY	982
<i>Gokhan Ince, Kazuhiro Nakadai, Tobias Rodemann, Hiroshi Tsujino, Jun-Ichi Imura</i>	
TWO-LAYERED AUDIO-VISUAL SPEECH RECOGNITION FOR ROBOTS IN NOISY ENVIRONMENTS	988
<i>Takami Yoshida, Kazuhiro Nakadai, Hiroshi G. Okuno</i>	
IMPLEMENTING A REACTIVE SEMANTICS USING OPENRTM-AIST	994
<i>G. Biggs, B. Macdonald</i>	
A PLATFORM FOR NETWORKED ROBOTICS	1000
<i>Eleri Cardozo, Eliane G. Guimaraes, Lucio Agostinho Rocha, Ricardo Silva Souza, Fernando Paolieri Neto, Fernando Pinho</i>	
EFFICIENT COMMUNICATION IN AUTONOMOUS ROBOT SOFTWARE	1006
<i>Dirk Thomas, Oskar Von Stryk</i>	

CRAM - A COGNITIVE ROBOT ABSTRACT MACHINE FOR EVERYDAY MANIPULATION IN HUMAN ENVIRONMENTS	1012
<i>Michael Beetz, Lorenz Mösenlechner, Moritz Tenorth</i>	
GLOBAL METHODOLOGY IN CONTROL ARCHITECTURE TO IMPROVE MOBILE ROBOT RELIABILITY	1018
<i>Bastien Durand, Karen Godary-Dejean, Lionel Lapiere, Didier Crestani</i>	
COMPARING TEMPORALLY AWARE MOBILE ROBOT CONTROLLERS BUILT WITH SUN'S JAVA REAL-TIME SYSTEM, OROCOS'S REAL-TIME TOOLKIT AND PLAYER	1024
<i>Andrew McKenzie, Daniel Gay, Rahul Nori, Trey Davis, Monica Anderson</i>	
FLOOR SENSING SYSTEM USING LASER RANGE FINDER AND MIRROR FOR LOCALIZING DAILY LIFE COMMODITIES	1030
<i>Yasunobu Nohara, Tsutomu Hasegawa, Kouji Murakami</i>	
ACTIVE PERCEPTION AND SCENE MODELING BY PLANNING WITH PROBABILISTIC 6D OBJECT POSES	1036
<i>Robert Eidenberger, Josef Scharinger</i>	
OWN BODY PERCEPTION BASED ON VISUOMOTOR CORRELATION	1044
<i>Ryo Saegusa, Giorgio Metta, Giulio Sandini</i>	
PERSONAL NAVIGATION VIA SHOE MOUNTED INERTIAL MEASUREMENT UNITS	1052
<i>O. Babek, M. Suster, S. Rajgopal, M. Fu, X. Huang, M. Cavusoglu, D. Young, M. Mehregany, A. Van Den Bogert, C. Mastrangelo</i>	
A PASSIVE SOLUTION TO THE SENSOR SYNCHRONIZATION PROBLEM	1059
<i>Edwin Olson</i>	
COMBINING PERCEPTION AND KNOWLEDGE PROCESSING FOR EVERYDAY MANIPULATION	1065
<i>Dejan Pangercic, Moritz Tenorth, Dominik Jain, Michael Beetz</i>	
ATTITUDE ESTIMATION AND CONTROL OF A QUADROPTER	1072
<i>Frank Hoffmann, Niklas Goddemeier, Torsten Bertram</i>	
NONLINEAR FEEDFORWARD CONTROL FOR WIND DISTURBANCE REJECTION ON AUTONOMOUS HELICOPTER	1078
<i>Morten Bisgaard, Anders La Cour-Harbo, Kumeresan A. Danapalasingam</i>	
3D MODEL-BASED TRACKING FOR UAV POSITION CONTROL	1084
<i>Celine Teuliere, Laurent Eck, Eric Marchand, Nicolas Guenard</i>	
CONTROL PERFORMANCE SIMULATION IN THE DESIGN OF A FLAPPING WING MAV	1090
<i>Lindsey Hines, Veaceslav Arabagi, Metin Sitti</i>	
A DISASTER INVARIANT FEATURE FOR LOCALIZATION	1096
<i>Behdad Soleimani, Mohammad Hassan Zokaei Ashtiani, Behrouz Haji Soleimani, Hadi Moradi</i>	
UNDERWATER ROBOT WITH A BUOYANCY CONTROL SYSTEM BASED ON THE SPERMACEI OIL HYPOTHESIS - DEVELOPMENT OF THE DEPTH CONTROL SYSTEM -	1102
<i>T. Inoue, K. Shibusawa, A. Nagano</i>	
ON INTERNAL MODELS FOR REPRESENTING TACTILE INFORMATION	1108
<i>Giorgio Cannata, Simone Denei, Fulvio Mastrogiovanni</i>	
EVOLUTION OF ARTIFICIAL MUSCLE-BASED ROBOTIC LOCOMOTION IN PHYSX	1114
<i>Kyrre Glette, Mats Hovin</i>	
PLAYER/STAGE SIMULATION OF OLFACTORY EXPERIMENTS	1120
<i>Goncalo Cabrita, Pedro Sousa, Lino Marques</i>	
ROBOTS-TOWARDS DECENTRALIZED RECONFIGURATION WITH SELF-RECONFIGURING MODULAR ROBOTIC METAMODULES	1126
<i>Alexander Sproewitz, Philippe Laprade, Stephane Bonardi, Mikael Mayer, Rico Moeckel, Pierre-Andre Mudry, Auke Ijspeert</i>	
CHARACTERIZATION OF LATTICE MODULAR ROBOTS BY DISCRETE DISPLACEMENT GROUPS	1133
<i>Nicolas Brener, Faiz Ben Amar, Philippe Bidaud</i>	
MAKING SHAPES FROM MODULES BY MAGNIFICATION	1140
<i>Byoungkwon An, Daniela Rus</i>	
ELECTRONIC IMAGE STABILIZATION USING OPTICAL FLOW WITH INERTIAL NAVIGATION	1146
<i>Michael Smith, Gilbert Peterson, Alexander Boxerbaum, Roger D. Quinn</i>	
LOW COST SYNCHRONIZED STEREO ACQUISITION SYSTEM FOR SINGLE PORT CAMERA CONTROLLERS	1154
<i>Bennet Fischer, Hamid Reza Moballeghe, Raul Rojas</i>	
WIDE-BASELINE IMAGE MATCHING BASED ON COPLANAR LINE INTERSECTIONS	1157
<i>Hyunwoo Kim, Sukhan Lee</i>	
ATTENTION BASED ACTIVE 3D POINT CLOUD SEGMENTATION	1165
<i>Matthew Johnson-Roberson, Jeannette Bohg, Mårten Björkman, Danica Kragic</i>	
A NEURO-DYNAMIC OBJECT RECOGNITION ARCHITECTURE ENHANCED BY FOVEAL VISION AND A GAZE CONTROL MECHANISM	1171
<i>Christian Faubel, Stephan Klaus Ulrich Zibner</i>	
CAMERA AUTO-EXPOSING AND AUTO-FOCUSING FOR EDGE-RELATED APPLICATIONS USING A PARTICLE FILTER	1177
<i>Thuy Tuong Nguyen, Jae Wook Jeon</i>	
SELF-SUPERVISED LEARNING METHOD FOR UNSTRUCTURED ROAD DETECTION USING FUZZY SUPPORT VECTOR MACHINES	1183
<i>Shengyan Zhou, Karl Iagnemma</i>	

AN EXTENDED NORMALIZED CUTS METHOD FOR REAL-TIME PLANAR FEATURE EXTRACTION FROM NOISY RANGE IMAGES	1190
<i>Cang Ye, Guruprasad M. Hegde, Gary Anderson</i>	
STRATEGIES FOR AUTONOMOUS ROBOT TO INSPECT PAVEMENT DISTRESSES.....	1196
<i>Yuan-Hsu Tseng, Shih-Chung Kang, Yung-Shun Su, Cheng-Hao Lee, Jia-Ruey Chang</i>	
NONHOLONOMIC AND STRATIFIED ROBOTIC MANIPULATION SUPPLEMENTED WITH FUZZY CONTROL: THEORY AND EXPERIMENT	1202
<i>Bill Goodwine, Neil Petroff</i>	
PROPOSITION AND DEVELOPMENT OF A ROBOT MANIPULATOR FOR HUMANITARIAN DEMINING	1209
<i>Dinesh Anton Lakmal Silva</i>	
LARGE-SCALE TERRAIN MODELING FROM MULTIPLE SENSORS WITH DEPENDENT GAUSSIAN PROCESSES.....	1215
<i>S. Vasudevan, F. Ramos, E. Nettleton, H. Durrant-Whyte</i>	
AUTONOMOUS NAVIGATION OF MOBILE ROBOT BASED ON DGPS/INS SENSOR FUSION BY EKF IN SEMI-OUTDOOR STRUCTURED ENVIRONMENT.....	1222
<i>Heesung Chae, Christiad Christiad, Sunglok Choi, Wonpil Yu, Jaeil Cho</i>	
CONTACT-REACTIVE GRASPING OF OBJECTS WITH PARTIAL SHAPE INFORMATION	1228
<i>Kaijen Hsiao, Sachin Chitta, Matei Ciocarlie, Edward Gil Jones</i>	
ROBUST HAPTIC RECOGNITION BY ANTHROPOMORPHIC BIONIC HAND THROUGH DYNAMIC INTERACTION	1236
<i>Koh Hosoda, Tomoki Iwase</i>	
STEERING OF A 3D BIPEDAL ROBOT WITH AN UNDERACTUATED ANKLE.....	1242
<i>Christine Chevallereau, J. W Grizzle, Ching Long Shih</i>	
DYNAMIC BALANCE FORCE CONTROL FOR COMPLIANT HUMANOID ROBOTS	1248
<i>Benjamin Stephens, Christopher Atkeson</i>	
AN AUTO-ADAPTABLE ALGORITHM TO GENERATE HUMAN-LIKE LOCOMOTION FOR DIFFERENT HUMANOID ROBOTS BASED ON MOTION CAPTURE DATA	1256
<i>Luc Boutin, Antoine Eon, Said Zeghloul, Patrick Lacouture</i>	
IMITATING OBJECT MOVEMENT SKILLS WITH ROBOTS - A TASK-LEVEL APPROACH EXPLOITING GENERALIZATION AND INVARIANCE	1262
<i>Michael Gienger, Manuel Mühlig, Jochen J. Steil</i>	
SIMULTANEOUS LEARNING OF SPATIAL VISUAL ATTENTION AND PHYSICAL ACTIONS	1270
<i>A. Borji, M. Ahmadabadi, B. Araabi</i>	
LEARNING STYLISTIC DYNAMIC MOVEMENT PRIMITIVES FROM MULTIPLE DEMONSTRATIONS	1277
<i>Takamitsu Matsubara, Sang-Ho Hyon, Jun Morimoto</i>	
ROBOT LEARNING OF EVERYDAY OBJECT MANIPULATIONS VIA HUMAN DEMONSTRATION.....	1284
<i>Hao Dang, Peter Allen</i>	
APPROXIMATE OPTIMAL CONTROL FOR REACHING AND TRAJECTORY PLANNING IN A HUMANOID ROBOT	1290
<i>Serena Ivaldi, Matteo Fumagalli, Francesco Nori, Marco Baglietto, Giorgio Metta, Giulio Sandini</i>	
PSEUDO-REFERENCE FOR MOTION TRANSFER BASED ON AUTONOMOUS CONTROL SYSTEM WITH AN ORBIT ATTRACTOR.....	1297
<i>Masafumi Okada, Masaaki Watanabe</i>	
ON STABILITY REGION ANALYSIS FOR A CLASS OF HUMAN LEARNING CONTROLLERS	1303
<i>Y. Ou, H. Qian, X. Wu, Y. Xu</i>	
HAPTIC BASED OPTIMIZED PATH PLANNING APPROACH TO VIRTUAL MAINTENANCE ASSEMBLY / DISASSEMBLY (MAD).....	1310
<i>Hassan Syed, Jungwon Yoon</i>	
A VISUAL EXPLORATION ALGORITHM USING SEMANTIC CUES THAT CONSTRUCTS IMAGE BASED HYBRID MAPS.....	1316
<i>Aravindhan Krishnan, Madhava Krishna</i>	
TUMOR CE IMAGE CLASSIFICATION USING SVM-BASED FEATURE SELECTION.....	1322
<i>Baopu Li, Max Q.-H. Meng</i>	
TRAJECTORY TRACKING AND POINT STABILIZATION OF NOHOLONOMIC MOBILE ROBOT	1328
<i>Z. Cao, Y. Zhao, S. Wang</i>	
DESIGN AND BASIC EXPERIMENTS OF A TRANSFORMABLE WHEEL-TRACK ROBOT WITH SELF-ADAPTIVE MOBILE MECHANISM.....	1334
<i>Z. Li, S. Ma, B. Li, M. Wang, Y. Wang</i>	
RECONFIGURABLE ROBOTS WITH HETEROGENEOUS DRIVE MECHANISMS: THE KINEMATICS OF THE HETEROGENEOUS DIFFERENTIAL DRIVE	1340
<i>Richard Voyles, Roy Godzdanter</i>	
SEARCH AND TRACK POWER CHARGE DOCKING STATION BASED ON SOUND SOURCE FOR AUTONOMOUS MOBILE ROBOT APPLICATIONS.....	1347
<i>Ren Luo, Chien-Hao Huang, Chun-Yen Huang</i>	
DETECTING REPEATED PATTERNS USING PARTLY LOCALITY SENSITIVE HASHING	1353
<i>Koichi Ogawara, Yasufumi Tanabe, Ryo Kurazume, Tsutomu Hasegawa</i>	
GENETIC ALGORITHMS BASED METHOD FOR TIME OPTIMIZATION IN ROBOTIZED SITE.....	1359
<i>Khelifa Baizid, Ryad Chellali, Ali Yousnadj, Amal Meddahi, Toufik Bentaleb</i>	

SYSTEM INTEGRATION OF A DAILY ASSISTIVE ROBOT AND ITS APPLICATION TO TIDYING AND CLEANING ROOMS	1365
<i>Kimitoshi Yamazaki, Ryohei Ueda, Shunichi Nozawa, Yuto Mori, Toshiaki Maki, Naotaka Hatao, Kei Okada, Masayuki Inaba</i>	
EFFICIENT PULLING MOTION OF A TWO-LINK ROBOT ARM NEAR SINGULAR CONFIGURATION	1372
<i>Takateru Urakubo, Tomoaki Mashimo, Takeo Kanade</i>	
APPLICATIONS OF POTENTIAL FIELDS AND CONFORMAL GEOMETRIC ALGEBRA FOR HUMANOID MANIPULATION MANEUVERING	1378
<i>Eduardo-Jose Bayro-Corrochano, Oscar Carbajal-Espinosa, Alexander Loukianov</i>	
DEVELOPMENT OF A LOW BACKLASH CROWN REDUCER	1384
<i>Hiroyuki Sasaki, Tomoya Masuyama, Takayuki Takahashi</i>	
A COOPERATIVE APPROACH FOR MULTI-ROBOT AREA EXPLORATION	1390
<i>J. Yuan, Y. Huang, T. Tao, F. Sun</i>	
VISUAL ROUTE NAVIGATION USING AN ADAPTIVE EXTENSION OF RAPIDLY-EXPLORING RANDOM TREES	1396
<i>H. Lee, S. Lee, D. Kim, B. Lee</i>	
TRAJECTORY TRACKING USING ENVIRONMENTAL MAGNETIC FIELD FOR OUTDOOR AUTONOMOUS MOBILE ROBOTS	1402
<i>R. Rahok, Y. Shikanai, K. Ozaki</i>	
MINIMUM UNCERTAINTY ROBOT PATH PLANNING USING A POMDP APPROACH	1408
<i>S. Candido, S. Hutchinson</i>	
A SENSOR PLATFORM FOR OUTDOOR NAVIGATION USING GYRO-ASSISTED ODOMETRY AND ROUNDLY-SWINGING 3D LASER SCANNER	1414
<i>Tomoaki Yoshida, Kiyoshi Irie, Eiji Koyanagi, Masahiro Tomono</i>	
PATH PLANNING OF A MOBILE ROBOT FOR AVOIDING MOVING OBSTACLES WITH IMPROVED VELOCITY CONTROL BY USING THE HYDRODYNAMIC POTENTIAL	1421
<i>Seiji Sugiyama, Jyun Yamada, Tsuneo Yoshikawa</i>	
COMPUTING NAVIGATIONAL ROUTES IN INHOMOGENEOUS ENVIRONMENTS USING BVP PATH PLANNER	1427
<i>Edson Prestes, Marco Idiart</i>	
NAVIGATION AMONG MOVABLE OBSTACLES IN UNKNOWN ENVIRONMENTS	1433
<i>Hai-Ning Wu, Martin Levihn, Mike Stilman</i>	
TILJ, A GENERIC TRAJECTORY GENERATION TOOL FOR MOTION PLANNING AND CONTROL	1439
<i>Vivien Delsart, Thierry Fraichard</i>	
FEASIBLE RRT-BASED PATH PLANNING USING SEVENTH ORDER BÉZIER CURVES	1445
<i>Armando Alves Neto, Douglas Guimarães Macharet, Mario F. Montenegro Campos</i>	
SEMANTIC MAP PARTITIONING IN INDOOR ENVIRONMENTS USING REGIONAL ANALYSIS	1451
<i>Carlos Nieto-Granda, John G. Rogers III, Alexander J B Trevor, Henrik Iskov Christensen</i>	
SEGMENTATION AND CLASSIFICATION OF RANGE IMAGE FROM AN INTELLIGENT VEHICLE IN URBAN ENVIRONMENT	1457
<i>Xiaolong Zhu, Huijing Zhao, Yiming Liu, Yipu Zhao, Hongbin Zha</i>	
MULTI-FREQUENCY PHASE UNWRAPPING FOR TIME-OF-FLIGHT CAMERAS	1463
<i>David Droeschel, Dirk Holz, Sven Behnke</i>	
AN ARTICULATED REHABILITATION ROBOT FOR UPPER LIMB PHYSIOTHERAPY AND TRAINING	1470
<i>Bing-Chuen Tsai, Wei-Wen Wang, Li-Chun Hsu, Li-Chen Fu, Jin-Shin Lai</i>	
IMPROVING VIDEO COMMUNICATION FOR ELDERLY OR DISABLED BY COORDINATION OF ROBOT'S ACTIVE LISTENING BEHAVIORS AND MEDIA CONTROLS	1476
<i>T. Yonezawa, Y. Koyama, H. Yamazoe, S. Abe, K. Mase</i>	
PITCH EXTRACTION IN HUMAN-ROBOT INTERACTION	1482
<i>M. Heckman, F. Joublin, K. Nakadai</i>	
COMPACT SELF-CONTAINED NAVIGATION SYSTEM WITH MEMS INERTIAL SENSOR AND OPTICAL NAVIGATION SENSOR FOR 3-D PIPELINE MAPPING	1488
<i>D. Hyun, M. Jegal, H. Yang</i>	
RANGE SENSING, LOCALIZATION, AND ERROR ELIMINATION OF TWO-WHEELED MOBILE ROBOTS	1494
<i>Feng-Li Lian, Kuan-Chieh Tseng</i>	
ON THE INITIALIZATION OF STATISTICAL OPTIMUM FILTERS WITH APPLICATION TO MOTION ESTIMATION	1500
<i>Laurent Kneip, Davide Scaramuzza, Roland Siegwart</i>	
INDOOR HUMAN LOCALIZATION AND TRACKING USING WIRELESS PYROELECTRIC SENSORY FUSION SYSTEM	1507
<i>Ren Luo, Ogst Chen, Cheng Wei Lin</i>	
MULTI-MODAL SENSOR FUSION ALGORITHM FOR UBIQUITOUS INFRASTRUCTURE-FREE LOCALIZATION IN VISION-IMPAIRED ENVIRONMENTS	1513
<i>Taragay Oskiper, Han-Pang Chiu, Zhiwei Zhu, Supun Samarasekera, Rakesh Kumar</i>	
SPACE DIMENSION PERCEPTION FROM THE MULTIMODAL SENSORIMOTOR FLOW OF A NAIVE ROBOTIC AGENT	1520
<i>Alban Laflaquière, Sylvain Argentieri, Bruno Gas, Eduardo Castillo-Castaneda</i>	
OUTDOOR 3D MAP GENERATION BASED ON PLANAR FEATURE FOR AUTONOMOUS VEHICLE NAVIGATION IN URBAN ENVIRONMENT	1526
<i>Satoshi Kagami, Ryo Hanai, Naotaka Hatao, Masayuki Inaba</i>	

HYBRID ELEVATION MAPS: 3D SURFACE MODELS FOR SEGMENTATION	1532
<i>Bertrand Douillard, James Patrick Underwood, Narek Melkumyan, Surya Singh, Shrihari Vasudevan, Christopher Joseph Brunner, Alastair James Quadros</i>	
NOVEL ROBOTIC 3D SURFACE MAPPING USING RANGE AND VISION FUSION	1539
<i>Blair Howarth, Jayantha Katupitiya, Jose Guivant, Andrew Szewc</i>	
VIEW PLANNING AND 3D MAP BUILDING BY A MOBILE ROBOT EQUIPPED WITH TWO RANGE SENSORS	1545
<i>Atsushi Yamashita, Shinya Iwashina, Toru Kaneko</i>	
NON-RIGID REGISTRATION AND RECTIFICATION OF 3D LASER SCANS	1546
<i>Jan Elseberg, Dorit Borrmann, Andreas Nuechter, Kai Lingemann</i>	
MULTI-VOLUME OCCUPANCY GRIDS: AN EFFICIENT PROBABILISTIC 3D MAPPING MODEL FOR MICRO AERIAL VEHICLES	1553
<i>Ivan Dryanovski, William Morris, Jizhong Xiao</i>	
PROBABILISTIC REPRESENTATION OF 3D OBJECT SHAPE BY IN-HAND EXPLORATION	1560
<i>Diego Faria, Ricardo Martins, Jorge Lobo, Jorge Dias</i>	
REPRESENTATIONS FOR OBJECT GRASPING AND LEARNING FROM EXPERIENCE	1566
<i>Óscar Jesús Rubio Martín, Kai Huebner, Danica Kragic</i>	
OBJECT RECOGNITION USING VISUO-AFFORDANCE MAPS	1572
<i>Arjan Gijsberts, Tatiana Tommasi, Giorgio Metta, Barbara Caputo</i>	
LEARNING TASK CONSTRAINTS FOR ROBOT GRASPING USING GRAPHICAL MODELS	1579
<i>Dan Song, Kai Huebner, Ville Kyrki, Danica Kragic</i>	
LEARNING PROBABILISTIC DISCRIMINATIVE MODELS OF GRASP AFFORDANCES UNDER LIMITED SUPERVISION	1586
<i>Ayşe Erkan, Oliver Kroemer, Renaud Detry, Yasemin Altun, Justus Piater, Jan Peters</i>	
UNIONS OF BALLS FOR SHAPE APPROXIMATION IN ROBOT GRASPING	1592
<i>Markus Przybylski, Tamim Asfour, Rüdiger Dillmann</i>	
THE LANDING PROBLEM OF A VTOL UNMANNED AERIAL VEHICLE ON A MOVING PLATFORM USING OPTICAL FLOW	1600
<i>Bruno Herisse, Tarek Hamel, Robert Mahony, Francois-Xavier Russotto</i>	
NONLINEAR AND ROBUST CONTROL STRATEGY TO STABILIZE IN REAL TIME A PVTOL AIRCRAFT EXPOSED TO CROSSWIND	1606
<i>Laura Elena Munoz Hernandez, Omar Jacobo Santos Sanchez, Pedro Castillo</i>	
AGILE TURNAROUND USING POST-STALL MANEUVERS FOR TAIL-SITTER VTOL UAVS	1612
<i>Takaaki Matsumoto, Atsushi Konno, Ren Suzuki, Atsushi Oosedo, Kenta Go, Masaru Uchiyama</i>	
TELEOPERATION OF A TAIL-SITTER VTOL UAV	1618
<i>Ren Suzuki, Takaaki Matsumoto, Atsushi Konno, Yuta Hoshino, Kenta Go, Atsushi Oosedo, Masaru Uchiyama</i>	
DEVELOPMENT OF FLAPPING ROBOTS USING PIEZOELECTRIC FIBER COMPOSITES - PERFORMANCE ENHANCEMENT BY UNIQUE STRUCTURE AND DRIVE CONTROL -	1624
<i>Kentaro Minagawa, Yuichi Fukushima, Aiguo Ming, Makoto Shimojo</i>	
ENERGETICS OF FLAPPING-WING ROBOTIC INSECTS: TOWARDS AUTONOMOUS HOVERING FLIGHT	1630
<i>Michael Karpelson, John Peter Whitney, Gu-Yeon Wei, Robert Wood</i>	
MULTI-LOOP MODEL BASED PARALLEL CONTROL SYSTEMS	1638
<i>Rafal Osypiuk</i>	
ROBOT TASK SPACE PID TYPE REGULATION WITH PRESCRIBED PERFORMANCE GUARANTIES	1644
<i>Zoe Doulgeri, Leonidas Droukas</i>	
MOTION CONTROL WITH SLOW AND RAPID ADAPTATION FOR SMOOTH REACHING MOVEMENT UNDER EXTERNAL FORCE DISTURBANCE	1650
<i>Fumi Seto, Tomomichi Sugihara</i>	
ANALYTIC COLLISION ANTICIPATION TECHNOLOGY CONSIDERING AGENTS' FUTURE BEHAVIOR	1656
<i>J. Choi, G. Eoh, J. Kim, Y. Yoon, J. Park, B. Lee</i>	
SIMPLE MODELS IN TRAJECTORY PLANNING OF HUMAN-LIKE REACHING MOVEMENTS	1662
<i>Mikhail Svinin, Motoji Yamamoto, Igor Goncharenko</i>	
AN EXPERIMENTAL EVALUATION OF A NOVEL MINIMUM-JERK CARTESIAN CONTROLLER FOR HUMANOID ROBOTS	1668
<i>Ugo Pattacini, Francesco Nori, Lorenzo Natale, Giorgio Metta, Giulio Sandini</i>	
INTUITIVE AND FLEXIBLE USER INTERFACE FOR CREATING WHOLE BODY MOTIONS OF BIPED HUMANOID ROBOTS	1675
<i>Shin'Ichiro Nakaoka, Shuuji Kajita, Kazuhiro Yokoi</i>	
NAVIGATION FRAMEWORK FOR HUMANOID ROBOTS INTEGRATING GAZE CONTROL AND MODIFIED-UNIVECTOR FIELD METHOD TO AVOID DYNAMIC OBSTACLES	1683
<i>Jeong-Ki Yoo, Jong-Hwan Kim</i>	
HUMANOID ROBOT LOCALIZATION IN COMPLEX INDOOR ENVIRONMENTS	1690
<i>Armin Hornung, Kai M. Wurm, Maren Bennewitz</i>	
WORKING WITH MOVABLE OBSTACLES USING ON-LINE ENVIRONMENT PERCEPTION RECONSTRUCTION USING ACTIVE SENSING AND COLOR RANGE SENSOR	1696
<i>Yohei Kakiuchi, Ryohei Ueda, Kazuya Kobayashi, Kei Okada, Masayuki Inaba</i>	
THINNING AND SMOOTHING OF RANDOMLY-SAMPLED SUPPORT TRANSITIONS TOWARD PRACTICAL MOTION PLANNING FOR HUMANOID ROBOTS	1702
<i>Toshiya Nishi, Tomomichi Sugihara</i>	

PREDICTION OF ACTION OUTCOMES USING AN OBJECT MODEL	1708
<i>Federico Ruiz, Gordon Cheng, Michael Beetz</i>	
STEREO VISION BASED SWING ANGLE SENSOR FOR MINING ROPE SHOVEL	1714
<i>Li-Heng Lin, Peter Lawrence, Robert Hall</i>	
DETECTION OF MOVING OBJECTS BY STATISTICAL MOTION ANALYSIS	1722
<i>Chunrong Yuan, Isabell Schwab, Fabian Recktenwald, Hanspeter Mallot</i>	
RIGID AND NON-RIGID CLASSIFICATION USING INTERACTIVE PERCEPTION	1728
<i>Bryan Willimon, Stan Birchfield, Ian Walker</i>	
ON-LINE OBJECT SEGMENTATION THROUGH HUMAN-ROBOT INTERACTION	1734
<i>SooHwan Kim, Sung-Kee Park, Dong Hwan Kim</i>	
VISION BASED VICTIM DETECTION FROM UNMANNED AERIAL VEHICLES	1740
<i>Mykhaylo Andriluka, Paul Schmitzspan, Johannes Meyer, Stefan Kohlbrecher, Karen Petersen, Oskar Von Stryk, Stefan Roth, Bernt Schiele</i>	
SIFT-CLOUD-MODEL FOR OBJECT DETECTION AND POSE ESTIMATION WITH GPGPU ACCELERATION	1748
<i>Takahiro Nakada, Satoshi Kagami, Hiroshi Mizoguchi</i>	
EMERGENT IMITATIVE BEHAVIOR ON A ROBOTIC ARM BASED ON VISUO-MOTOR ASSOCIATIVE MEMORIES	1754
<i>Antoine De Rengervé, Sofiane Boucenna, Pierre Andry, Philippe Gaussier</i>	
EMERGENCE OF BIPEDAL WALKING THROUGH BODY/ENVIRONMENT INTERACTIONS	1760
<i>Shingo Shimoda, Yuki Yoshihara, Hidenori Kimura</i>	
INTRINSICALLY MOTIVATED GOAL EXPLORATION FOR ACTIVE MOTOR LEARNING IN ROBOTS: A CASE STUDY	1766
<i>Adrien Baranes, Pierre-Yves Oudeyer</i>	
ACTIVE LEARNING OF CONFIDENCE MEASURE FUNCTION IN ROBOT LANGUAGE ACQUISITION FRAMEWORK	1774
<i>Komei Sugiura, Naoto Iwahashi, Hideki Kashioka, Satoshi Nakamura</i>	
WHAT DO YOU EXPECT FROM A ROBOT THAT TELLS YOUR FUTURE? THE CRYSTAL BALL	1780
<i>Wataru Takano, Hiroataka Imagawa, Dana Kulic, Yoshihiko Nakamura</i>	
HOMEOKINETIC PROPORTIONAL CONTROL OF MYOELECTRIC PROSTHESES	1786
<i>Frank Hesse, J. Michael Herrmann</i>	
EFFECTS OF INCREASING AUTONOMY ON TELE-OPERATION PERFORMANCE	1792
<i>Barry O'Brien, Ethan Stump, Cynthia Pierce</i>	
MOBILE ROBOT NAVIGATION WITH REACTIVE FREE SPACE ESTIMATION	1799
<i>T. Lee, G. Eoh, J. Kim, B. Lee</i>	
CLOSEST GAP BASED (CG) REACTIVE OBSTACLE AVOIDANCE NAVIGATION FOR HIGHLY CLUTTERED ENVIRONMENTS	1805
<i>Muhammad Mujahed, Dirk Fischer, Bärbel Mertsching, Hussein Jaddu</i>	
HUMAN-CENTERED ROBOT NAVIGATION TOWARD A HARMONIOUSLY COEXISTING MULTI-HUMAN AND MULTI-ROBOT ENVIRONMENT	1813
<i>Chi Pang Lam, Chen Tun Chou, Li-Chen Fu, Chih-Fu Chang</i>	
COLLISION AVOIDANCE METHOD FOR MOBILE ROBOT CONSIDERING MOTION AND PERSONAL SPACES OF EVACUEES	1819
<i>Takeshi Ohki, Keiji Nagatani, Kazuya Yoshida</i>	
MULTI-ROBOT NAVIGATION WITH LIMITED COMMUNICATION - DETERMINISTIC VS GAME-THEORETIC NETWORKS	1825
<i>Haluk Bayram, Isil Bozma</i>	
SURGICAL CASE IDENTIFICATION FOR AN IMAGE-GUIDED INTERVENTIONAL SYSTEM	1831
<i>Tamas Haidegger, Peter Kazanzides, Balázs Benyó, Levente Kovács, Zoltan Benyo</i>	
FRAMEWORK OF AUTOMATIC ROBOT SURGERY SYSTEM USING VISUAL SERVOING	1837
<i>Takayuki Osa, Christoph Staub, Alois Knoll</i>	
AUTO-GUIDED MOVEMENTS ON MINIMALLY INVASIVE SURGERY FOR SURGEON ASSISTANCE	1843
<i>Enrique Bauzano, Victor Muñoz, Isabel Garcia-Morales</i>	
ROBOT ASSISTED INTERNAL MAMMARY ARTERY DETECTION FOR CORONARY REVASCULARISATION SURGERY	1849
<i>Florian Alexander Fröhlich, Georg Passig, Adrian Vazquez, Gerd Hirzinger</i>	
ADAPTIVE FORCE FEEDBACK CONTROL FOR 3D COMPENSATION OF PHYSIOLOGICAL MOTION IN BEATING HEART SURGERY	1856
<i>Zeineb Zarrouk, Ahmed Chemori, Philippe Poignet</i>	
RELIABLE ESTIMATION OF HEART SURFACE MOTION UNDER STOCHASTIC AND UNKNOWN BUT BOUNDED SYSTEMATIC UNCERTAINTIES	1862
<i>Evgeniya Bogatyrenko, Benjamin Noack, Uwe D. Hanebeck</i>	
EXPLOITING PROXIMAL F/T MEASUREMENTS FOR THE ICUB ACTIVE COMPLIANCE	1870
<i>Matteo Fumagalli, Francesco Nori, Marco Ranzazzo, Lorenzo Natale, Giorgio Metta, Giulio Sandini</i>	
LEARNING THE ELASTICITY PARAMETERS OF DEFORMABLE OBJECTS WITH A MANIPULATION ROBOT	1877
<i>Barbara Frank, Ruediger Schmedding, Cyrill Stachniss, Matthias Teschner, Wolfram Burgard</i>	
A TACTILE SENSING FOR ESTIMATING THE POSITION AND ORIENTATION OF A JOINT-AXIS OF A LINKED OBJECT	1884
<i>Kazuya Matsuo, Kouji Murakami, Katsuya Niwaki, Tsutomu Hasegawa, Kenji Tahara, Ryo Kurazume</i>	

FAULT TOLERANCE MEASUREMENT USING A SIX-AXIS FORCE/TORQUE SENSING SYSTEM WITH REDUNDANCY	1890
<i>Toshiaki Tsuji, Ryosuke Hanyu</i>	
EMPIRICAL BASED OPTIMAL DESIGN OF ACTIVE STROBE IMAGER	1896
<i>Kohei Funai, Kouji Mizoue, Mitsuru Higashimori, Kenjiro Tadakuma, Makoto Kaneko</i>	
MARKOV RANDOM FIELD-BASED CLUSTERING OF VIBRATION DATA	1902
<i>Philippe Komma, Andreas Zell</i>	
ANTAGONISTICALLY ACTUATED COMPLIANT JOINT: TORQUE AND STIFFNESS CONTROL	1909
<i>Irene Sardellitti, Gianluca Palli, Nikolaos Tsagarakis, Darwin G. Caldwell</i>	
HYSTERESIS IN GAIT TRANSITION INDUCED BY CHANGING WAIST JOINT STIFFNESS OF A QUADRUPED ROBOT DRIVEN BY NONLINEAR OSCILLATORS WITH PHASE RESETTING	1915
<i>S. Aoi, T. Yamashita, A. Ichikawa, K. Tsuchiya</i>	
A BIOMIMETIC APPROACH TO ROBOT TABLE TENNIS	1921
<i>Katharina Muelling, Jens Kober, Jan Peters</i>	
AN ADAPTIVE SWITCHING BEHAVIOR BETWEEN LEVY AND BROWNIAN RANDOM SEARCH IN A MOBILE ROBOT BASED ON BIOLOGICAL FLUCTUATION	1927
<i>Surya G. Nurzaman, Yoshio Matsumoto, Yutaka Nakamura, Kazumichi Shirai, Satoshi Koizumi, Hiroshi Ishiguro</i>	
ALLOSTATIC CONTROL FOR ROBOT BEHAVIOUR REGULATION: AN EXTENSION TO PATH PLANNING	1935
<i>Marti Sanchez Fibla, Ulysess Bernardet, Paul Verschure</i>	
IMPLEMENTATION OF AN OVERBLOWING CORRECTION CONTROLLER AND THE PROPOSAL OF A QUANTITATIVE ASSESSMENT OF THE SOUND'S PITCH FOR THE ANTHROPOMORPHIC SAXOPHONIST ROBOT WAS-2	1943
<i>J. Solis, K. Petersen, T. Yamamoto, M. Takeuchi, S. Ishikawa, A. Takanishi, K. Hashimoto</i>	
SPEEDUP AND PERFORMANCE IMPROVEMENT OF ICA-BASED ROBOT AUDITION BY PARALLEL AND RESAMPLING-BASED BLOCK-WISE PROCESSING	1949
<i>Ryu Takeda, Kazuhiro Nakadaï, Toru Takahashi, Kazunori Komatani, Tetsuya Ogata, Hiroshi G. Okuno</i>	
HUMAN-ROBOT ENSEMBLE BETWEEN ROBOT THEREMINST AND HUMAN PERCUSSIONIST USING COUPLED OSCILLATOR MODEL	1957
<i>Takeshi Mizumoto, Takuma Otsuka, Kazuhiro Nakadaï, Toru Takahashi, Kazunori Komatani, Tetsuya Ogata, Hiroshi G. Okuno</i>	
ROBOT MUSICAL ACCOMPANIMENT: INTEGRATING AUDIO AND VISUAL CUES FOR REAL-TIME SYNCHRONIZATION WITH A HUMAN FLUTIST	1964
<i>Angelica Lim, Takeshi Mizumoto, Louis-Kenzo Cahier, Takuma Otsuka, Toru Takahashi, Kazunori Komatani, Tetsuya Ogata, Hiroshi G. Okuno</i>	
DETECTION OF ACOUSTIC PATTERNS BY STOCHASTIC MATCHED FILTERING	1970
<i>Julien Bonnal, Patrick Danès, Marc Renaud</i>	
INFORMATION-THEORETIC DETECTION OF BROADBAND SOURCES IN A COHERENT BEAMSPACE MUSIC SCHEME	1976
<i>Patrick Danès, Julien Bonnal</i>	
SOUND INTERVAL DETECTION OF MULTIPLE SOURCES BASED ON SOUND DIRECTIVITY	1982
<i>Carlos Toshinori Ishi, Dong Liang, Hiroshi Ishiguro, Norihiro Hagita</i>	
LTLMOP: EXPERIMENTING WITH LANGUAGE, TEMPORAL LOGIC AND ROBOT CONTROL	1988
<i>Cameron Finucane, Gangyuan Jing, Hadas Kress-Gazit</i>	
DERIVING CONCURRENT CONTROL SOFTWARE FROM BEHAVIORAL SPECIFICATIONS	1994
<i>Ganesh Ramanathan, Benjamin Morandi, Scott West, Sebastian Nanz, Bertrand Meyer</i>	
CONTROLLING REDUNDANT ROBOT ARM-TRUNK SYSTEMS FOR HUMAN-LIKE REACHING MOTION	2000
<i>Tapomayukh Bhattacharjee, Yonghwan Oh, Ji-Hun Bae, Sang-Rok Oh</i>	
FORMAL DESIGN OF A PROVABLY SAFE ROBOTIC ROUNDABOUT SYSTEM	2006
<i>Jeffrey Duperret, Michael Hafner, Domitilla Del Vecchio</i>	
INCREMENTAL ADAPTIVE INTEGRATION OF LAYERS OF A HYBRID CONTROL ARCHITECTURE	2012
<i>Matthew Powers, Tucker Balch</i>	
DISTRIBUTED CONTROL ARCHITECTURE FOR SMART SURFACES	2018
<i>Kahina Boutoustous, Guillaume J. Laurent, Eugen Dedu, Laetitia Matignon, Julien Bourgeois, Nadine Le Fort-Piat</i>	
INTEGRATING IMU AND LANDMARK SENSORS FOR 3D SLAM AND THE OBSERVABILITY ANALYSIS	2025
<i>Farhad Aghili</i>	
SEGMENTATION OF DENSE RANGE INFORMATION IN COMPLEX URBAN SCENES	2033
<i>Jonathan R. Schoenberg, Aaron Nathan, Mark Campbell</i>	
SUB-METER INDOOR LOCALIZATION IN UNMODIFIED ENVIRONMENTS WITH INEXPENSIVE SENSORS	2039
<i>Morgan Quigley, David Michael Stavens, Adam Coates, Sebastian Thrun</i>	
PROBABILISTIC RULE SET JOINT STATE UPDATE AS APPROXIMATION TO THE FULL JOINT STATE ESTIMATION APPLIED TO MULTI OBJECT SCENE ANALYSIS	2047
<i>Thilo Grundmann, Michael Fiebert, Wolfram Burgard</i>	
EMBEDDING RANGE INFORMATION ON OMNIDIRECTIONAL IMAGES THROUGH LASER RANGE FINDER	2053
<i>Eval Bladimir Bacca Cortes, El Mustapha Mouaddib, Xavier Cufi</i>	
ENRICHED INDOOR ENVIRONMENT MAP BUILDING USING MULTI-SENSOR BASED FUSION APPROACH	2059
<i>R. Luo, C. Lai, C. Hsiao</i>	

TOWARDS A CONSISTENT SLAM ALGORITHM USING B-SPLINES TO REPRESENT ENVIRONMENTS.....	2065
<i>Minjie Liu, Shoudong Huang, Gamin Dissanayake, Sarath Kodagoda</i>	
KEYFRAME DETECTION FOR APPEARANCE-BASED VISUAL SLAM	2071
<i>Hong Zhang, Bo Li, Dan Yang</i>	
SLAM WITH EXPECTATION MAXIMIZATION FOR MOVEABLE OBJECT TRACKING.....	2077
<i>John G. Rogers III, Alexander J B Trevor, Carlos Nieto-Granda, Henrik Iskov Christensen</i>	
SOF-SLAM: SEGMENTS-ON-FLOOR-BASED MONOCULAR SLAM.....	2083
<i>Guoxuan Zhang, Il Hong Suh</i>	
LEARNING TO CLOSE THE LOOP FROM 3D POINT CLOUDS	2089
<i>K. Granstrom, T. Schon</i>	
DERIVATION OF OPTIMAL ROBUST GRASPING STRATEGY UNDER INITIAL OBJECT POSE ERRORS	2096
<i>Hiroki Dobashi, Akio Noda, Yasuyoshi Yokokohji, Hikaru Nagano, Tatsuya Nagatani, Haruhisa Okuda</i>	
SPATIO-TEMPORAL MODELING OF GRASPING ACTIONS	2103
<i>Javier Romero, Thomas Feix, Hedvig Kjellstrom, Danica Kragic</i>	
PICKING UP AN INDICATED OBJECT IN A COMPLEX ENVIRONMENT	2109
<i>Kazuyuki Nagata, Takashi Miyasaka, Dragomir Nenchev, Natsuki Yamanobe, Kenichi Maruyama, Satoshi Kawabata, Yoshihiro Kawai</i>	
PEOPLE HELPING ROBOTS HELPING PEOPLE: CROWDSOURCING FOR GRASPING NOVEL OBJECTS	2117
<i>Alexander Sorokin, Dmitry Berenson, Siddhartha Srinivasa, Martial Hebert</i>	
PUSH-GRASPING WITH DEXTEROUS HANDS: MECHANICS AND A METHOD.....	2123
<i>Mehmet Remzi Dogar, Siddhartha Srinivasa</i>	
GRAPH-BASED SEGMENTATION FOR COLORED LASER POINT CLOUDS	2131
<i>J. Strom, A. Richardson, E. Olson</i>	
UNSUPERVISED LEARNING OF COMPACT 3D MODELS BASED ON THE DETECTION OF RECURRENT STRUCTURES	2137
<i>Michael Ruhnke, Bastian Steder, Giorgio Grisetti, Wolfram Burgard</i>	
IMPROVING DEPTH MEASUREMENT OF TEXTURED SURFACE BY A BOUNDARY ESTIMATOR FOR STRUCTURED LIGHT PATTERNS.....	2143
<i>Lam Quang Bui, Sukhan Lee</i>	
AUTOMATED SAFETY INSPECTION OF GRADE CROSSINGS	2149
<i>Pradeep Ranganathan, Edwin Olson</i>	
FAST 3D RECOGNITION AND POSE USING THE VIEWPOINT FEATURE HISTOGRAM.....	2155
<i>Radu Bogdan Rusu, Gary Bradski, Thibaux Romain, John Hsu</i>	
DEVELOPMENT OF A CHILD-ORIENTED SOCIAL ROBOT FOR SAFE AND INTERACTIVE PHYSICAL INTERACTION	2163
<i>Xiaoning Ma, Francis Quek</i>	
KINETOSTATIC DANGER FIELD - A NOVEL SAFETY ASSESSMENT FOR HUMAN-ROBOT INTERACTION	2169
<i>Bakir Lacevic, Paolo Rocco</i>	
SAFETY PROVISIONS FOR HUMAN/ROBOT INTERACTIONS USING STOCHASTIC DISCRETE ABSTRACTIONS.....	2175
<i>Ruslan Asaula, Daniele Fontanelli, Luigi Palopoli</i>	
NEW INSIGHTS CONCERNING INTRINSIC JOINT ELASTICITY FOR SAFETY	2181
<i>Sami Haddadin, Alin Albu-Schaffer, Oliver Eiberger, Gerd Hirzinger</i>	
A STUDY ON DYNAMICAL ROLE DIVISION IN A CRANK-ROTATION TASK FROM THE VIEW POINT OF KINETICS AND MUSCLE ACTIVITY ANALYSIS	2188
<i>Hang Pham, Ryohei Ueha, Hiroaki Hirai, Fumio Miyazaki</i>	
WATER/AIR PERFORMANCE ANALYSIS OF A FLUIDIC MUSCLE	2194
<i>M. Focchi, E. Guglielmino, C. Semini, A. Pariggiani, N. Tsagarakis, B. Vanderborght, D. Caldwell</i>	
THE DESIGN OF AN ANTHROPOMORPHIC DEXTEROUS HUMANOID FOOT.....	2200
<i>S. Davis, D. Caldwell</i>	
A STUDY OF FUNCTION OF FOOT'S MEDIAL LONGITUDINAL ARCH USING BIPED HUMANOID ROBOT	2206
<i>Kenji Hashimoto, Yuki Takezaki, Kentaro Hattori, Hideki Kondo, Takamichi Takashima, Hun-Ok Lim, Atsuo Takanishi</i>	
A TACTILE SENSOR FOR THE FINGERTIPS OF THE HUMANOID ROBOT ICUB	2212
<i>Alexander Schmitz, Marco Maggiali, Lorenzo Natale, Bruno Bonino, Giorgio Metta</i>	
ADAPTIVE MULTI-DIMENSIONAL COMPLIANCE CONTROL OF A HUMANOID ROBOTIC ARM WITH ANTI-WINDUP COMPENSATION.....	2218
<i>Said Ghani Khan, Guido Herrmann, Tony Pipe, Chris Melhuish</i>	
SERVICE LEVEL DIFFERENTIATION IN MULTI-ROBOTS CONTROL.....	2224
<i>Ying Xu, Tinglong Dai, Katia Sycara, Michael Lewis</i>	
BECOMING ACTION-AWARE THROUGH REASONING ABOUT LOGGED PLAN EXECUTION TRACES.....	2231
<i>Lorenz Mosenlechner, Nikolaus Demmel, Michael Beetz</i>	
CONTINGENCY PLANNING OVER PROBABILISTIC HYBRID OBSTACLE PREDICTIONS FOR AUTONOMOUS ROAD VEHICLES.....	2237
<i>Jason Hardy, Mark Campbell</i>	
EFFICIENT NEAREST-NEIGHBOR COMPUTATION FOR GPU-BASED MOTION PLANNING.....	2243
<i>Jia Pan, Christian Lauterbach, Dinesh Manocha</i>	

ESTIMATION OF OPERATIONAL INTENTIONS UTILIZING SELF-ORGANIZING MAP WITH BAYES FILTERING	2249
<i>Satoshi Suzuki, Fumio Harashima</i>	
TEMPORAL SCALING OF LEG MOTION FOR SOUND FEEDBACK SYSTEM OF A DANCING HUMANOID ROBOT	2256
<i>Takahiro Okamoto, Takaaki Shiratori, Shunsuke Kudoh, Katsushi Ikeuchi</i>	
DETECTING DANCE MOTION STRUCTURE USING BODY COMPONENTS AND TURNING MOTIONS	2264
<i>Bjoern Rennhak, Takaaki Shiratori, Shunsuke Kudoh, Phongtharin Vinayavekhin, Katsushi Ikeuchi</i>	
DESIGNING REACTIVE EMOTION GENERATION MODEL FOR INTERACTIVE ROBOTS	2270
<i>Hyoungh-Rock Kim, Seongyong Koo, Dong-Soo Kwon</i>	
FULL-BODY GESTURE RECOGNITION USING INERTIAL SENSORS FOR PLAYFUL INTERACTION WITH SMALL HUMANOID ROBOT	2276
<i>Martin D. Cooney, Christian Becker-Asano, Takayuki Kanda, Aris Alissandrakis, Hiroshi Ishiguro</i>	
IMPLEMENTATION OF A MUSICAL PERFORMANCE INTERACTION SYSTEM FOR THE WASEDA FLUTIST ROBOT: COMBINING VISUAL AND ACOUSTIC SENSOR INPUT BASED ON SEQUENTIAL BAYESIAN FILTERING	2283
<i>Klaus Petersen, Jorge Solis, Atsuo Takanishi</i>	
FORWARD KINEMATICS OF REDUNDANTLY ACTUATED, TENDON-BASED ROBOTS	2289
<i>Joachim V. Zitzewitz, Georg Rauter, Heike Vallery, Andre Morger, Robert Riener</i>	
FORWARD KINEMATIC ANALYSIS OF A PLANAR CABLE DRIVEN REDUNDANT PARALLEL MANIPULATOR USING FORCE SENSORS	2295
<i>Reza Ofjadeh, Mohammad M. Aref, Hamid Taghirad</i>	
AN EXPERIMENTAL COMPARISON OF STATE OBSERVERS FOR THE CONTROL OF A PARALLEL MANIPULATOR WITHOUT VELOCITY MEASUREMENTS	2301
<i>Guilherme Sartori Natal, Ahmed Chemori, François Pierrot, Olivier Company</i>	
GEOMETRIC PROPERTIES OF ZERO-TORSION PARALLEL KINEMATICS MACHINES	2307
<i>Yuanqing Wu, Zexiang Li, Jinbo Shi</i>	
ON CONTACT MODELS FOR ASSEMBLY TASKS: EXPERIMENTAL INVESTIGATION BEYOND THE PEG-IN-HOLE PROBLEM ON THE EXAMPLE OF FORCE-TORQUE MAPS	2313
<i>F. Dietrich, D. Buchholz, F. Wobbe, F. Sowinski, A. Raatz, W. Schumacher, F. Wahl</i>	
TWO-DIMENSIONAL NEEDLE STEERING WITH A "PROGRAMMABLE BEVEL" INSPIRED BY NATURE: MODELING PRELIMINARIES	2319
<i>Seong Young Ko, Brian L. Davies, Ferdinando Rodriguez Y Baena</i>	
QUASISTATIC MODELING OF CONCENTRIC TUBE ROBOTS WITH EXTERNAL LOADS	2325
<i>Jesse Lock, Genevieve Laing, Mohsen Mahvash, Pierre Dupont</i>	
TRAJECTORY PLANNING WITH TASK CONSTRAINTS IN DENSELY FILLED ENVIRONMENTS	2333
<i>Bogdan Mihai Maris, Debora Botturi, Paolo Fiorini</i>	
IMAGE-BASED FLEXIBLE ENDOSCOPE STEERING	2339
<i>Rob Reilink, Stefano Stramigioli, Sarthak Misra</i>	
CONTROL OF A MULTIPLE SECTIONS FLEXIBLE ENDOSCOPIC SYSTEM	2345
<i>Berengere Bardou, Philippe Zanne, Florent Nageotte, Michel De Mathelin</i>	
A NEW CONTACTLESS CONVEYOR SYSTEM FOR HANDLING CLEAN AND DELICATE PRODUCTS USING INDUCED AIR FLOWS	2351
<i>Anne Delettre, Guillaume J. Laurent, Nadine Le Fort-Piat</i>	
FABRICATION AND ANALYSIS OF DIELECTRIC-ELASTOMER MINIMUM-ENERGY STRUCTURES FOR HIGHLY-DEFORMABLE SOFT ROBOTIC SYSTEMS	2357
<i>Michael Petralia, Robert Wood</i>	
A NEW MECHANICAL STRUCTURE FOR ADJUSTABLE STIFFNESS DEVICES WITH LIGHTWEIGHT AND SMALL SIZE	2364
<i>Mitsunori Uemura, Sadao Kawamura</i>	
ANALYSIS OF TASK FEASIBILITY FOR A HOME ROBOT USING PRISMATIC JOINTS	2370
<i>Tomoaki Mashimo, Rosen Diankov, Takateru Urakubo, Takeo Kanade</i>	
PARALLEL FORWARD DYNAMICS: A GEOMETRIC APPROACH	2377
<i>Julio Zamora-Esquivel, Eduardo-Jose Bayro-Corrochano</i>	
BIOLOGICAL SYSTEM MODELS REPRODUCING SNAKES' MUSCULOSKELETAL SYSTEM	2383
<i>Kousuke Inoue, Kaita Nakamura, Masatoshi Suzuki, Yoshikazu Mori, Yasuhiro Fukuoka, Naoji Shiroma</i>	
CONSTRUCTION OF THE BRAIN-MACHINE HYBRID SYSTEM TO ANALYZE ADAPTIVE BEHAVIOR OF SILKWORM MOTH	2389
<i>Atsushi Takashima, Ryo Minegishi, Daisuke Kurabayashi, Ryohei Kanzaki</i>	
NEURAL NETWORK ESTIMATION OF LAL/VPC RESIONS OF SILKMOTH USING GENETIC ALGORITHM	2395
<i>Ryosuke Chiba, Sunao Hashimoto, Tomoki Kazawa, Ryohei Kanzaki, Jun Ora</i>	
A SOFT-BODIED FLUID-DRIVEN AMOEBOID ROBOT INSPIRED BY PLASMODIUM OF TRUE SLIME MOLD	2401
<i>Takuya Umedachi, Koichi Takeda, Toshiyuki Nakagaki, Ryo Kobayashi, Akio Ishiguro</i>	
DUAL STRUCTURE OF MOBILIGENCE --IMPLICIT CONTROL AND EXPLICIT CONTROL	2407
<i>Koichi Osuka, Akio Ishiguro, Xin-Zhi Zheng, Yasuhiro Sugimoto, Dai Owaki</i>	
STATE DEPENDENT CONTROL OF A ROBOTIC MANIPULATOR USED FOR NUCLEAR DECOMMISSIONING ACTIVITIES	2413
<i>C. James Taylor, Arun Chotai, Robertson David</i>	

ROBUST 3D SCAN SEGMENTATION FOR TELEOPERATION TASKS IN AREAS CONTAMINATED BY RADIATION	2419
<i>Arne Roennau, Grischa Liebel, Thomas Schamm, Thilo Kerscher, Rüdiger Dillmann</i>	
HYBRID DATA FUSION FOR 3D LOCALIZATION UNDER HEAVY DISTURBANCES	2425
<i>Pedro Henrique De Rodrigues Quemel E Assis Santana, Geovany Araujo Borges, J. Y. Ishihara</i>	
TETRABOT: RESONANCE BASED LOCOMOTION FOR HARSH ENVIRONMENTS	2431
<i>Jonas Neubert, Jonathan Stockton, Benjamin Blechman, Hod Lipson</i>	
DESIGN AND COMPATIBILITY OF A HIGH-PERFORMANCE ACTUATION SYSTEM FOR FMRI-BASED NEUROSCIENCE STUDIES	2437
<i>Masayuki Hara, Julio Duenas, Tobias Kober, Dominique Chapuis, Olivier Lamercy, Hannes Bleuler, Roger Gassert</i>	
TARGET ACQUISITION IN RESOURCE CONSTRAINED STATIONARY CAMERA SYSTEMS	2443
<i>A. Veluchamy, M. Anderson</i>	
REAL-TIME MOVING OBJECT RECOGNITION AND TRACKING USING COMPUTATION OFFLOADING	2449
<i>Yamini Nimmagadda, Karthik Kumar, Yung-Hsiang Lu, C. S. George Lee</i>	
A NOVEL APPROACH FOR OBJECT EXTRACTION FROM VIDEO SEQUENCES BASED ON CONTINUOUS BACKGROUND/FOREGROUND CLASSIFICATION	2456
<i>Thiago Craesmeier Bellardi, Jorge Rios-Martinez, Alejandro Vasquez, Christian Laugier</i>	
MIXING DIFFERENTIAL INCLUSIONS WITH MARKOV DECISION PROCESSES	2462
<i>Nelson Goncalves, Joao Sequeira</i>	
MULTIPLE-PERSON TRACKING DEVOTED TO DISTRIBUTED MULTI SMART CAMERA NETWORKS	2469
<i>Iker Zuriarrain, Jose Ignacio Aizpurua, Frederic Lerasle, Nestor Arana</i>	
ENERGY-EFFICIENT GAIT PATTERN GENERATION OF THE POWERED ROBOTIC EXOSKELETON USING DME	2475
<i>Wan-Soo Kim, Seunghoon Lee, Min-Sung Kang, Jungsoo Han, Chang-Soo Han</i>	
INVESTIGATION OF REDUCING FATIGUE AND MUSCULOSKELETAL DISORDER WITH PASSIVE ACTUATORS	2481
<i>Marc Carmichael, Dikai Liu, Kenneth John Waldron</i>	
HUMAN FORCE AMPLIFICATION WITH INDUSTRIAL ROBOT : STUDY OF DYNAMIC LIMITATIONS	2487
<i>Xavier Lamy, Frédéric Colledani, Franck Geffard, Yvan Measson, Guillaume Morel</i>	
EVOLVING AGGRESSIVE BIOMECHANICAL MODELS WITH GENETIC PROGRAMMING	2495
<i>Theodoros Theodoridis</i>	
ASYNCHRONOUS VISUAL INFORMATION SHARING SYSTEM WITH IMAGE STABILIZATION	2501
<i>Naoji Shiroma, Eimei Oyama</i>	
PLAYING PYLOS WITH AN AUTONOMOUS ROBOT	2507
<i>O. Aichholzer, D. Detassis, T. Hackl, G. Steinbauer, J. Thonhauser</i>	
MIXED REALITY FOR UNMANNED AERIAL VEHICLE OPERATIONS IN NEAR EARTH ENVIRONMENTS	2509
<i>James Hing, Paul Y. Oh</i>	
A BALL-THROWING ROBOT WITH VISUAL FEEDBACK	2511
<i>Jwu-Sheng Hu, Ming-Chih Chien, Yung-Jung Chang, Shyh-Haur Su, Chen-Yu Kai</i>	
A ROBOTIC BALL CATCHER WITH EMBEDDED VISUAL SERVO PROCESSOR	2513
<i>Jwu-Sheng Hu, Ming-Chih Chien, Yung-Jung Chang, Nelson Yen-Chung Chang, Shyh-Haur Su, Jwu-Jiun Yang, Chen-Yu Kai</i>	
TELEOPERATION OF AZIMUT-3, AN OMNIDIRECTIONAL NON-HOLONOMIC PLATFORM WITH STEERABLE WHEELS	2515
<i>François Ferland, Lionel Clavier, Julien Frémy, Dominic Létourneau, Francois Michaud, Michel Lauria</i>	
FORCE-CONTROLLED MOTION OF A MOBILE PLATFORM	2517
<i>Julien Frémy, François Ferland, Lionel Clavier, Dominic Létourneau, Francois Michaud, Michel Lauria</i>	
USING A DUAL DIFFERENTIAL RHEOLOGICAL ACTUATOR AS A HIGH-PERFORMANCE HAPTIC INTERFACE	2519
<i>Benoit Heintz, Philippe Fauteux, Dominic Létourneau, Francois Michaud, Michel Lauria</i>	
EMPIRICAL EVALUATION OF A PRACTICAL INDOOR MOBILE ROBOT NAVIGATION METHOD USING HYBRID MAPS	2521
<i>Ali Gürçan Özkil, Zhun Fan, Jizhong Xiao, Kristensen Jens, Steen Dawids, Kim Hardam Christensen, Henrik Aanaes</i>	
ROBOTIC JERBOA: A COMPACT BIPEDAL KICK-AND-SLIDE ROBOT POWERED BY UNIDIRECTIONAL IMPULSE FORCE GENERATORS	2523
<i>Takashi Tsuda, Hiromi Mochiyama, Hideo Fujimoto</i>	
ACROBAN THE HUMANOID: COMPLIANCE FOR STABILIZATION AND HUMAN INTERACTION	2525
<i>Olivier Ly, Pierre-Yves Oudeyer</i>	
MULTI-FINGERED ROBOTIC HAND EMPLOYING STRINGS TRANSMISSION NAMED "TWIST DRIVE" VIDEO CONTRIBUTION	2527
<i>Takashi Sonoda, Ivan Godler</i>	
NOVEL AIR BLOWING CONTROL FOR BALANCING A UNICYCLE ROBOT	2529
<i>Jong Hyun Lee, Hye Jung Shin, Seungjun Lee, Seul Jung</i>	
AIRPORT SNOW SHOVELING	2531
<i>Martin Saska, Vojtech Vonasek, Tomas Krajník</i>	
R&D PHASES OF A MOBILE ROBOT PROTOTYPE APPLIED TO UNDERGROUND DISTRIBUTION LINES	2533
<i>Jean-Francois Allan, Stephane Reiher, Ghislain Lambert, Samuel Lavoie</i>	
ACTUATION MECHANISMS FOR BIOLOGICALLY INSPIRED EVERTING TOROIDAL ROBOTS	2535
<i>Viktor Orekhov, Dennis Hong, Mark Yim</i>	

A HARDWARE-IN-THE-LOOP TESTING FACILITY FOR UAV SENSOR SUITES AND CONTROL ALGORITHMS	2537
<i>Keith Sevcik, Paul Y. Oh</i>	
3 KNOWN LANDMARKS ARE ENOUGH FOR SOLVING PLANAR BEARING SLAM AND FULLY RECONSTRUCT UNKNOWN INPUTS	2539
<i>Felipe Belo, Paolo Salaris, Antonio Bicchi</i>	
SCAN-BASED SLAM WITH TRAJECTORY CORRECTION IN UNDERWATER ENVIRONMENTS	2546
<i>Antoni Burguera, Gabriel A. Oliver, Yolanda Gonzalez</i>	
SELECTIVE SUBMAP JOINING FOR UNDERWATER LARGE SCALE 6-DOF SLAM	2552
<i>J. Aulinas, X. Llado, J. Salvi, Y. Petillot</i>	
MULTI-LEVEL SUBMAP BASED SLAM USING NESTED DISSECTION	2558
<i>Kai Ni, Frank Dellaert</i>	
SUBGRAPH-PRECONDITIONED CONJUGATE GRADIENTS FOR LARGE SCALE SLAM	2566
<i>Frank Dellaert, Justin Carlson, Viorela Ila, Kai Ni, Charles Thorpe</i>	
HUMAN-LIKE REFLEXES FOR ROBOTIC MANIPULATION USING LEAKY INTEGRATE-AND-FIRE NEURONS	2572
<i>Christian Bauer, Giulio Milighetti, Wenjie Yan, Ralf Mikut</i>	
GRASPING NOVEL OBJECTS WITH DEPTH SEGMENTATION	2578
<i>Deepak Rao, Quoc Le, Thanathorn Phoka, Morgan Quigley, Attawith Sudsang, Andrew Ng</i>	
ROBOTIC GRASPING OF UNMODELED OBJECTS USING TIME-OF-FLIGHT RANGE DATA AND FINGER TORQUE INFORMATION	2586
<i>Alexis Maldonado, Ulrich Klank, Michael Beetz</i>	
KINEMATICALLY OPTIMAL CATCHING A FLYING BALL WITH A HAND-ARM-SYSTEM	2592
<i>Berthold Baeuml, Thomas Wimboeck, Gerd Hirzinger</i>	
DEVELOPMENT OF A LIGHT DUTY ARM WITH AN ACTIVE-FINGERTIP GRIPPER FOR HANDLING DISCOID OBJECTS	2600
<i>G. Endo, H. Yamada, S. Hirose</i>	
MOVING OBJECTS DETECTION AND CLASSIFICATION BASED ON TRAJECTORIES OF LRF SCAN DATA ON A GRID MAP	2606
<i>Taketoshi Mori, Takahiro Sato, Hiroshi Noguchi, Masamichi Shimosaka, Rui Fukui, Tomomasa Sato</i>	
ROBOTIZED INSPECTION SYSTEM OF THE EXTERNAL AIRCRAFT FUSELAGE BASED ON ULTRASOUNDS	2612
<i>José I. Sanz, Manuel Ferre, Alvaro Espada, Matias Collar, Jose Fernández</i>	
MICRO/NANO DISPLACEMENT SENSOR FOR PIEZOELECTRIC ACTUATOR WITH MULTI-STAGE EXPANSION MECHANISM	2618
<i>Yong Yu, Bo Song, Renbing Chen, Yunjian Ge</i>	
LASER-CAMERA DATA DISCREPANCIES AND RELIABLE PERCEPTION IN OUTDOOR ROBOTICS	2625
<i>Thierry Peynot, Abdallah Kassir</i>	
CHANGE DETECTION IN 3D ENVIRONMENTS BASED ON GAUSSIAN MIXTURE MODEL AND ROBUST STRUCTURAL MATCHING FOR AUTONOMOUS ROBOTIC APPLICATIONS	2633
<i>Pedro Nunez Trujillo, Paulo Drews Jr, Antonio Bandera, Rui Rocha, Mario F. Montenegro Campos, Jorge Dias</i>	
DESIGN OF A VARIABLE IMPEDANCE DIFFERENTIAL ACTUATOR FOR WEARABLE ROBOTICS APPLICATIONS	2639
<i>Nevio Luigi Tagliamonte, Fabrizio Sergi, Giorgio Carpino, Dino Accoto, Eugenio Guglielmelli</i>	
PERFORMANCE EVALUATIONS OF HAND AND FOREARM SUPPORT SYSTEM	2645
<i>Yasuhisa Hasegawa, Kosuke Watanabe, Yoshiyuki Sankai</i>	
MINIMAL FORCE JUMP WITHIN HUMAN AND ASSISTIVE ROBOT COOPERATION	2651
<i>Hamid Abdi, Saeid Nahavandi, Mehdi Tale Masouleh</i>	
BENCHMARK TOOLS FOR EVALUATING AGVS AT INDUSTRIAL ENVIRONMENTS	2657
<i>Hector Yuste, Leopoldo Armesto, Josep Tornero</i>	
NATURAL-LANGUAGE COMMAND OF AN AUTONOMOUS MICRO-AIR VEHICLE	2663
<i>Albert S. Huang, Stefanie Tellex, Abraham Bachrach, Thomas Kollar, Deb Roy, Nicholas Roy</i>	
CONSTRAINED GEODESIC TRAJECTORY GENERATION ON LEARNT SKILL MANIFOLDS	2670
<i>Ioannis Havoutis, Subramanian Ramamoorthy</i>	
IMITATION LEARNING OF GLOBALLY STABLE NON-LINEAR POINT-TO-POINT ROBOT MOTIONS USING NONLINEAR PROGRAMMING	2676
<i>S. Khansari-Zadeh, A. Billard</i>	
A FULL-BODY MOTION CONTROL METHOD FOR A HUMANOID ROBOT BASED ON ON-LINE ESTIMATION OF THE OPERATIONAL FORCE OF AN OBJECT WITH AN UNKNOWN WEIGHT	2684
<i>Shunichi Nozawa, Ryohei Ueda, Yohei Kakiuchi, Kei Okada, Masayuki Inaba</i>	
ONLINE FOOTPRINT IMITATION OF A HUMANOID ROBOT BY WALKING MOTION PARAMETERIZATION	2692
<i>Sung-Kyun Kim, Seokmin Hong, Doik Kim, Yonghwan Oh, Bum Jae You, Sang-Rok Oh</i>	
CONSTRUCTING OF OPTIMAL DATABASE STRUCTURE BY IMITATION LEARNING BASED ON EVOLUTIONARY ALGORITHM	2698
<i>Ga-Ram Park, Changhwan Kim</i>	
HIGH-SPEED STROBOSCOPE FOR SPECULAR REFLECTION REMOVAL OF DC ILLUMINATION	2704
<i>T. Tsuji</i>	
CLOTHES HANDLING USING VISUAL RECOGNITION IN COOPERATION WITH ACTIONS	2710
<i>Yasuyo Kita, Ee Sian Neo, Toshio Ueshiba, Nobuyuki Kita</i>	

IMPROVING FEATURE BASED OBJECT RECOGNITION IN SERVICE ROBOTICS BY DISPARITY MAP BASED SEGMENTATION.....	2716
<i>Diego Asanza, Bernhard Wirmitzer</i>	
USING THE DISPARITY SPACE TO COMPUTE OCCUPANCY GRIDS FROM STEREO-VISION.....	2721
<i>Mathias Perrollaz, John David Yoder, Anne Spalanzani, Christian Laugier</i>	
AUTOMATIC OBSERVATION FOR 3D RECONSTRUCTION OF UNKNOWN OBJECTS USING VISUAL SERVOING.....	2727
<i>Guillaume Walck, Michel Drouin</i>	
MULTI-FINGERED ROBOTIC HAND EMPLOYING STRINGS TRANSMISSION NAMED ``TWIST DRIVE' '.....	2733
<i>Takashi Sonoda, Ivan Godler</i>	
OPERATING ARTICULATED OBJECTS BASED ON EXPERIENCE.....	2739
<i>Jürgen Sturm, Advait Jain, Cyrill Stachniss, Charlie Kemp, Wolfram Burgard</i>	
LEARNING A PROBABILISTIC SELF-AWARENESS MODEL FOR ROBOTIC SYSTEMS.....	2745
<i>Raphael Golombek, Sebastian Wrede, Marc Hanheide, Martin Heckmann</i>	
LEARNING TO OPEN NEW DOORS.....	2751
<i>Ellen Klingbeil, Ashutosh Saxena, Andrew Ng</i>	
3D ROOM MODELING AND DOORWAY DETECTION FROM INDOOR STEREO IMAGERY USING FEATURE GUIDED PIECEWISE DEPTH DIFFUSION.....	2758
<i>Karthik Mahesh Varadarajan, Markus Vincze</i>	
SINGULARITY-INVARIANT LEG SUBSTITUTIONS IN PENTAPODS.....	2766
<i>Julia Borrás, Federico Thomas</i>	
EXPLICIT DYNAMIC EQUATIONS OF STEWART--GOUGH PLATFORM: A NEWTON--EULER APPROACH.....	2772
<i>Reza Oftadeh, Mohammad M. Aref, Hamid Taghirad</i>	
COMPARISON OF 3-PPR PARALLEL PLANAR MANIPULATORS BASED ON THEIR SENSITIVITY TO JOINT CLEARANCES.....	2778
<i>Nicolas Binaud, Stephane Caro, Shaoping Bai, Philippe Wenger</i>	
A NEW CONCEPT OF SELF-RECONFIGURABLE MOBILE MACHINING CENTERS.....	2784
<i>Hai Yang, Sebastien Krut, François Pierrot, Cédric Baradat</i>	
STACKABLE 4-BAR MECHANISMS AND THEIR ROBOTIC APPLICATIONS.....	2792
<i>Hoyul Lee, Youngjin Choi</i>	
CONTROL ELECTRONICS INTEGRATION TOWARD ENDOSCOPIC CAPSULE ROBOT PERFORMING LEGGED LOCOMOTION AND ILLUMINATION.....	2798
<i>Oscar Alonso, Lluís Freixas, Joan Canals, Ekawahyu Susilo, Angel Dieguez</i>	
ENDOVASCULAR NAVIGATION OF A FERROMAGNETIC MICROROBOT USING MRI-BASED PREDICTIVE CONTROL.....	2804
<i>Karim Belharet, David Folio, Antoine Ferreira</i>	
DEVELOPMENT OF A BROAD-VIEW CAMERA SYSTEM FOR MINIMALLY INVASIVE SURGERY.....	2810
<i>Tomohiro Kawahara, Takeshi Takaki, Idaku Ishii, Masazumi Okajima</i>	
A STUDY ON WIRE-WIRE DRIVEN ABDOMINAL CAVITY MOBILE MICRO ROBOT.....	2816
<i>Chika Hiroki, Satoshi Ohno, Wenwei Yu, Yu Ikemoto</i>	
QUANTITATIVE PALPATION TO IDENTIFY THE MATERIAL PARAMETERS OF TISSUES USING REACTIVE FORCE MEASUREMENT AND FINITE ELEMENT SIMULATION.....	2822
<i>Takeharu Hoshi, Yo Kobayashi, Tomoyuki Miyashita, Masakatsu G. Fujie</i>	
OPTIMIZATION AND DYNAMIC SIMULATION OF A PARALLEL THREE DEGREE-OF-FREEDOM CAMERA ORIENTATION SYSTEM.....	2829
<i>T. Villgratner, H. Ulbrich</i>	
DYNAMICAL ANALYSIS AND IMPROVEMENT OF VELOCITY FOR 3 DOF PRECISE INCHWORM MECHANISM.....	2837
<i>Ohmi Fuchiwaki, Kazushi Arafuka</i>	
SELF-RESCUE MECHANISM FOR SCREW DRIVE IN-PIPE ROBOTS.....	2843
<i>Peng Li, Shugen Ma, Bin Li, Yuechao Wang, Yunhui Liu</i>	
A PIPELINE INSPECTION ROBOT WITH A LINKAGE TYPE MECHANICAL CLUTCH.....	2850
<i>Young-Sik Kwon, Bae Lee, In-Cheol Hwang, Byung-Ju Yi</i>	
DECENTRALIZED CONTROL OF SERPENTINE LOCOMOTION THAT ENABLES WELL-BALANCED COUPLING BETWEEN PHASIC AND TONIC CONTROL.....	2856
<i>Takeshi Kano, Takahide Sato, Ryo Kobayashi, Akio Ishiguro</i>	
UNDERACTUATED CONTROL FOR NONHOLONOMIC MOBILE ROBOTS BY USING DOUBLE INTEGRATOR MODEL AND INVARIANT MANIFOLD THEORY.....	2862
<i>Keigo Watanabe, Takahiro Yamamoto, Kiyotaka Izumi, Shoichi Maeyama</i>	
A SIMPLIFIED MODEL OF PLANAR SNAKE ROBOT LOCOMOTION.....	2868
<i>Pal Liljebäck, Kristin Y. Pettersen, Oyvind Stavdahl, Jan Tommy Gravdahl</i>	
FUNDAMENTAL PROPERTIES OF SNAKE ROBOT LOCOMOTION.....	2876
<i>Pal Liljebäck, Kristin Y. Pettersen, Oyvind Stavdahl, Jan Tommy Gravdahl</i>	
1-DOF SPHERICAL MOBILE ROBOT THAT CAN GENERATE TWO MOTIONS.....	2884
<i>Teppeï Toyozumi, Shogo Yonekura, Akiya Kamimura, Riichiro Tadakuma, Yoichiro Kawaguchi</i>	
BALL DRIBBLING WITH AN UNDERACTUATED CONTINUOUS-TIME CONTROL PHASE: THEORY & EXPERIMENTS.....	2890
<i>Georg Batz, Uwe Mettin, Michael Scheint, Alexander Schmidts, Dirk Wollherr, Anton Shiriaev</i>	

VISION-BASED ROBOTIC TRACKING OF MOVING OBJECT WITH DYNAMIC UNCERTAINTY	2896
<i>H. Wang, Y. Liu, W. Chen</i>	
TARGET TRACKING FOR MOVING ROBOTS USING OBJECT-BASED VISUAL ATTENTION.....	2902
<i>Yuanlong Yu, George K. I. Mann, Raymond G. Gosine</i>	
AN OBJECT-TRACKING ALGORITHM BASED ON PARTICLE FILTERING WITH REGION-BASED LEVEL SET METHOD.....	2908
<i>Xianfeng Fei, Koichi Hashimoto</i>	
MULTIPLE PLANE TRACKING USING UNSCENTED KALMAN FILTER.....	2914
<i>Visesh Chari, C. V. Jawahar</i>	
SENSOR DATA FUSION USING FUZZY CONTROL FOR VOR-BASED VISION TRACKING SYSTEM.....	2920
<i>Hyun-Il Kwon, Jaehong Park, Wonsang Hwang, Jong-Hyeon Kim, Chang-Hun Lee, Muhammad Latif Anjum, Kwang-Soo Kim, Dongil Dan Cho</i>	
ENVIRONMENTAL FIELD ESTIMATION OF MOBILE SENSOR NETWORKS USING SUPPORT VECTOR REGRESSION.....	2926
<i>Bowen Lu, Dongbing Gu, Huosheng Hu</i>	
MOBILE ROBOT TASK ALLOCATION IN HYBRID WIRELESS SENSOR NETWORKS.....	2932
<i>Brian Coltin, Manuela Veloso</i>	
AUTOMATIC CALIBRATION AND SENSOR DISPLACEMENT DETECTION FOR NETWORKS OF LASER RANGE FINDERS.....	2938
<i>Dylan F. Glas, Takahiro Miyashita, Hiroshi Ishiguro, Norihiro Hagita</i>	
DETECTING TIME-RELATED CHANGES IN WIRELESS SENSOR NETWORKS USING SYMBOL COMPRESSION AND PROBABILISTIC SUFFIX TREES.....	2946
<i>Yuanyuan Li, Michael Thomason, Lynne Parker</i>	
COOPERATIVE TARGET LOCALIZATION USING HETEROGENEOUS UNMANNED GROUND AND AERIAL VEHICLES.....	2952
<i>Daniel Pack</i>	
A 3-WAY VALVE-CONTROLLED SPRING ASSISTED ROTARY ACTUATOR.....	2958
<i>Yousheng Yang, Emanuele Guglielmino, Claudio Semini, Jian Dai, Darwin G. Caldwell</i>	
MODELS FOR PUSHING OBJECTS WITH A MOBILE ROBOT USING SINGLE POINT CONTACT.....	2964
<i>Michael Behrens, Shoudong Huang, Gamini Dissanayake</i>	
MODELING OF THE ORIENTATION REPEATABILITY FOR INDUSTRIAL MANIPULATORS.....	2970
<i>Diala Dandash, Jean-François Brethe, Eric Vasselín, Dimitri Lefebvre</i>	
AN ANALYTICAL SOLUTION FOR THE INVERSE KINEMATICS OF A REDUNDANT 7DOF MANIPULATOR WITH LINK OFFSETS.....	2976
<i>G. K. Singh, Jonathan Claassens</i>	
DETERMINING THE ROBOT-TO-ROBOT 3D RELATIVE POSE USING COMBINATIONS OF RANGE AND BEARING MEASUREMENTS: 14 MINIMAL PROBLEMS AND CLOSED-FORM SOLUTIONS TO THREE OF THEM.....	2983
<i>Xun Zhou, Stergios Roumeliotis</i>	
TOWARDS THE EXPLOITATION OF PRIOR INFORMATION IN SLAM.....	2991
<i>Martin Peter Parsley, Simon Justin Julier</i>	
HYBRID HESSIANS FOR FLEXIBLE OPTIMIZATION OF POSE GRAPHS.....	2997
<i>Matthew Koichi Grimes, Dragomir Anguelov, Yann Lecun</i>	
APPEARANCE-BASED SLAM RELYING ON A HYBRID LASER/OMNIDIRECTIONAL SENSOR.....	3005
<i>Gabriela Gallegos, Maxime Meilland, Patrick Rives, Andrew Ian Comport</i>	
HOW FAR IS SLAM FROM A LINEAR LEAST SQUARES PROBLEM?.....	3011
<i>Shoudong Huang, Yingwu Lai, Udo Frese, Gamini Dissanayake</i>	
MONOCULAR GRAPH SLAM WITH COMPLEXITY REDUCTION.....	3017
<i>Ethan Eade, Philip Fong, Mario Enrique Munich</i>	
DDF-SAM: FULLY DISTRIBUTED SLAM USING CONSTRAINED FACTOR GRAPHS.....	3025
<i>Alexander Cunningham, Balamanohar Paluri, Frank Dellaert</i>	
POWER HYDRAULICS - SWITCHED MODE CONTROL OF HYDRAULIC ACTUATION.....	3031
<i>E. Guglielmino, C. Semini, H. Kogler, R. Scheidl, D. Caldwell</i>	
A NEW CONTROL METHOD UTILIZING MULTIPLEX AIR VIBRATION FOR MULTI-DOF PNEUMATIC MECHATRONICS SYSTEMS.....	3037
<i>Yasutaka Nishioka, Koichi Suzumori, Takefumi Kanda, Shuichi Wakimoto</i>	
INVESTIGATION ON PRETENSIONED SHAPE MEMORY ALLOY ACTUATORS FOR FORCE AND DISPLACEMENT SELF-SENSING.....	3043
<i>C. Lan, C. Fan</i>	
STABILITY ANALYSIS OF ROBOT MOTIONS DRIVEN BY MCKIBBEN PNEUMATIC ACTUATOR.....	3049
<i>Y. Sugimoto, K. Naniwa, K. Osuka</i>	
INTELLIGENT CONTROL OF PIEZOELECTRIC MICROPUMP BASED ON MEMS FLOW SENSOR.....	3055
<i>L. Chen, Y. Liu, L. Sun, D. Qu, J. Min</i>	
POSITION CONTROL METHODS OF SPHERICAL ULTRASONIC MOTOR.....	3061
<i>Naoyuki Takesue, Tomohiro Ohara, Ryota Ishibashi, Shigeki Toyama, Masahiko Hoshina, Yoshiyuki Hirai, Naoki Fukaya, Jumpei Arata, Hideo Fujimoto</i>	
ROBUST GAIT CONTROL IN BIOMIMETIC AMPHIBIOUS ROBOT USING CENTRAL PATTERN GENERATOR.....	3067
<i>R. Ding, J. Yu, Q. Yang, M. Tan, J. Zhang</i>	

DEVELOPMENT OF A NOVEL QUADRUPED MOBILE ROBOT FOR BEHAVIOR ANALYSIS OF RATS	3073
<i>Q. Shi, S. Miyagishima, S. Fumino, H. Ishii, A. Takanishi, C. Laschi, B. Mazzolai, V. Mattoli, P. Dario</i>	
BIOMIMETIC SONAR: 3D-LOCALIZATION OF MULTIPLE REFLECTORS.....	3079
<i>F. Schillebeeckx, H. Peremans</i>	
DEVELOPMENT OF A PERISTALTIC PUMP BASED ON BOWEL PERISTALSIS USING FOR ARTIFICIAL RUBBER MUSCLE	3085
<i>Kazuyuki Suzuki, Taro Nakamura</i>	
AN OCTOPUS ANATOMY-INSPIRED ROBOTIC ARM	3091
<i>Emanuele Guglielmino, Nikolaos Tsagarakis, Darwin G. Caldwell</i>	
A BIOMIMETIC HONEYBEE ROBOT FOR THE ANALYSIS OF THE HONEYBEE DANCE COMMUNICATION SYSTEM.....	3097
<i>Tim Landgraf, Michael Oertel, Daniel Rhiel, Raul Rojas</i>	
HUMAN ARM IMPEDANCE: CHARACTERIZATION AND MODELING IN 3D SPACE.....	3103
<i>Panagiotis Artemiadis, Pantelis Katsiaris, Minas Liarokapis, Kostas Kyriakopoulos</i>	
REAL-TIME REACTIVE MOTION GENERATION BASED ON VARIABLE ATTRACTOR DYNAMICS AND SHAPED VELOCITIES.....	3109
<i>Sami Haddadin, Holger Urbanek, Sven Parusel, Darius Burschka, Juergen Rossmann, Alin Albu-Schaffer, Gerd Hirzinger</i>	
WORKSPACE COMPARISONS OF SETUP CONFIGURATIONS FOR HUMAN-ROBOT INTERACTION	3117
<i>F. Zacharias, I. Howard, T. Hulin, G. Hirzinger</i>	
MOTION CONTROL OF PASSIVE HAPTIC DEVICE USING WIRES WITH SERVO BRAKES	3123
<i>Yasuhisa Hirata, Keitaro Suzuki, Kazuhiro Kosuge</i>	
MOTION CONTROL OF PASSIVE MOBILE ROBOT WITH MULTIPLE CASTERS BASED ON FEASIBLE BRAKING FORCE AND MOMENT	3130
<i>Masao Saida, Yasuhisa Hirata, Kazuhiro Kosuge</i>	
IDENTIFICATION AND EXPERIMENTATION OF AN INDUSTRIAL ROBOT OPERATING IN VARYING-IMPEDANCE ENVIRONMENTS	3138
<i>Xavier Lamy, F. Colledani, Per-Olof Gutman</i>	
DYNAMIC OBSTACLE CROSSING BY A BIPED ROBOT, BASED ON CONTROL OF THE PROPULSION ENERGY	3144
<i>P. Doublier, O. Bruneau, F. Ouedzou</i>	
COMBINING SUPPRESSION OF THE DISTURBANCE AND REACTIVE STEPPING FOR RECOVERING BALANCE.....	3150
<i>Mitsuharu Morisawa, Fumio Kanehiro, Kenji Kaneko, Nicolas Mansard, Joan Solà, Eiichi Yoshida, Kazuhito Yokoi, Jean-Paul Laumond</i>	
GROUND REACTION FORCE CONTROL AT EACH FOOT: A MOMENTUM-BASED HUMANOID BALANCE CONTROLLER FOR NON-LEVEL AND NON-STATIONARY GROUND	3157
<i>Sung-Hee Lee, Ambarish Goswami</i>	
3-D BIPED WALKING OVER ROUGH TERRAIN BASED ON THE ASSUMPTION OF POINT-CONTACT.....	3163
<i>Tadayoshi Aoyama, Kosuke Sekiyama, Yasuhisa Hasegawa, Toshio Fukuda</i>	
ADAPTIVE MOTION CONTROL WITH VISUAL FEEDBACK FOR A HUMANOID ROBOT	3169
<i>Heinrich Mellmann, Yuan Xu</i>	
CANCELLING THE SWAY MOTION OF DYNAMIC WALKING IN VISUAL SERVOING.....	3175
<i>Claire Dune, Andrei Herdt, Olivier Stasse, Pierre-Brice Wieber, Kazuhito Yokoi, Eiichi Yoshida</i>	
USING TEXT-SPOTTING TO QUERY THE WORLD.....	3181
<i>I. Posner, P. Corke, P. Newman</i>	
HOUSEHOLD OBJECT MANAGEMENT VIA INTEGRATION OF OBJECT MOVEMENT DETECTION FROM MULTIPLE CAMERAS	3187
<i>Shigeyuki Odashima, Tomomasa Sato, Taketoshi Mori</i>	
A CLOUD COMPUTING APPROACH TO COMPLEX ROBOT VISION TASKS USING SMART CAMERA SYSTEMS.....	3195
<i>Hannes Bistry, Jianwei Zhang</i>	
MONOCULAR DEPTH CUE FUSION FOR IMAGE SEGMENTATION AND GROUPING IN OUTDOOR NAVIGATION.....	3201
<i>W. Zhou, L. Lin, B. Lou, X. Wei</i>	
AN ANALYSIS OF DEPTH ESTIMATION WITHIN INTERACTION RANGE	3207
<i>C. Karaoguz, A. Dankers, T. Rodemann, M. Dunn</i>	
EXPANSION-BASED DEPTH MAP ESTIMATION FOR MULTI-VIEW STEREO	3213
<i>Peng Song, Xiaojun Wu, Yu Michael Wang, Jianhuang Wu</i>	
USING DIMENSIONALITY REDUCTION TO EXPLOIT CONSTRAINTS IN REINFORCEMENT LEARNING.....	3219
<i>Sebastian Bitzer, Matthew Howard, Sethu Vijayakumar</i>	
CONTROL DELAY IN REINFORCEMENT LEARNING FOR REAL-TIME DYNAMIC SYSTEMS: A MEMORYLESS APPROACH	3226
<i>Erik Schuitema, Lucian Busoniù, Robert Babuska, Pieter Jonker</i>	
ROBOT MOTOR SKILL COORDINATION WITH EM-BASED REINFORCEMENT LEARNING	3232
<i>Petar Kormushev, Sylvain Calinon, Darwin G. Caldwell</i>	
THE DESIGN OF LEO: A 2D BIPEDAL WALKING ROBOT FOR ONLINE AUTONOMOUS REINFORCEMENT LEARNING	3238
<i>E. Schuitema, M. Wisse, T. Ramakers, P. Jonker</i>	

SOCIALLY AUGMENTED HIERARCHICAL REINFORCEMENT LEARNING FOR REDUCING COMPLEXITY IN COOPERATIVE MULTI-AGENT SYSTEMS	3244
<i>Xueqing Sun, Laura Ray, Jerald Kralik, Dongqing Shi</i>	
TRANSFER LEARNING ACROSS HETEROGENEOUS ROBOTS WITH ACTION SEQUENCE MAPPING	3251
<i>Balaji Lakshmanan, Balaraman Ravindran</i>	
DESCRIBING THE ENVIRONMENT USING SEMANTIC LABELLED POLYLINES FROM 2D LASER SCANNED RAW DATA: APPLICATION TO AUTONOMOUS NAVIGATION	3257
<i>Nieves Pavon, Joaquín Ferruz, Anibal Ollero</i>	
PATH PLANNING IN 3D ENVIRONMENTS USING THE NORMAL DISTRIBUTIONS TRANSFORM	3263
<i>T. Stoyanov, M. Magnusson, H. Andreasson, A. Lilienthal</i>	
MOTION PLANNING OF AN AUTONOMOUS MOBILE ROBOT CONSIDERING REGIONS WITH VELOCITY CONSTRAINT	3269
<i>Kiyohiro Goto, Kazuyuki Kon, Fumitoshi Matsuno</i>	
DYNAMIC PATH PLANNING ADOPTING HUMAN NAVIGATION STRATEGIES FOR A DOMESTIC MOBILE ROBOT	3275
<i>Fang Yuan, Lukas Twardon, Marc Hanheide</i>	
A REAL-TIME PATH PLANNER FOR A SMART WHEELCHAIR USING HARMONIC POTENTIALS AND A RUBBER BAND MODEL	3282
<i>Ruizhi Hong, Guilherme Desouza</i>	
OPTIMAL PATH PLANNING UNDER TEMPORAL LOGIC CONSTRAINTS	3288
<i>Stephen L. Smith, Jana Tumova, Calin Belta, Daniela Rus</i>	
LOCAL OPTIMIZATION OF COOPERATIVE ROBOT MOVEMENTS FOR GUIDING AND REGROUPING PEOPLE IN A GUIDING MISSION	3294
<i>Anais Garrell, Alberto Sanfeliu</i>	
A NOVEL STOCHASTIC CLUSTERING AUCTION FOR TASK ALLOCATION IN MULTI-ROBOT TEAMS	3300
<i>Kai Zhang, Emmanuel Collins, Adrian Barbu</i>	
ADAPTIVE CONTROL FOR THE SYNCHRONIZATION OF MULTIPLE ROBOT MANIPULATORS WITH COUPLING TIME-DELAYS	3308
<i>Emmanuel Nuño, Luis Basanez, Romeo Ortega</i>	
COGNITIVE-BASED ADAPTIVE CONTROL FOR COOPERATIVE MULTI-ROBOT COVERAGE	3314
<i>Alessandro Renzaglia, Lefteris Doitsidis, Agostino Martinelli, Elias Kosmatopoulos</i>	
MULTI-ROBOT BOUNDARY TRACKING WITH PHASE AND WORKLOAD BALANCING	3321
<i>Michael Boardman, Kyle Francis, Jeremy Edmonds, Christopher M. Clark</i>	
AN INTEGRATED TESTBED FOR HETEROGENEOUS MOBILE ROBOTS AND OTHER COOPERATING OBJECTS	3327
<i>Adrian Jimenez-Gonzalez, J. R. Martínez-De Dios, Anibal Ollero</i>	
A NOVEL STAIR-CLIMBING WHEELCHAIR WITH TRANSFORMABLE WHEELED FOUR-BAR LINKAGES	3333
<i>Yusuke Sugahara, Naoaki Yonezawa, Kazuhiro Kosuge</i>	
DEVELOPMENT OF TRACK-CHANGEABLE QUADRUPED WALKING ROBOT TITAN X -DESIGN OF LEG DRIVING MECHANISM AND BASIC EXPERIMENT-	3340
<i>Ryuichi Hodoshima, Yasuaki Fukumura, Hisanori Amano, Shigeo Hirose</i>	
DESIGN AND TESTING OF A CONTROLLABLE MINIATURE JUMPING ROBOT	3346
<i>Jianguo Zhao, Ning Xi, Bingtuan Gao, Matt Mutka, Li Xiao</i>	
DEVELOPMENT OF A BALL DRIVE UNIT USING PARTIALLY SLIDING ROLLERS	3352
<i>M. Kumagi</i>	
MECHANICAL DESIGN OF THE WHEEL-LEG HYBRID MOBILE ROBOT TO REALIZE A LARGE WHEEL DIAMETER	3358
<i>Kenjiro Tadakuma, Riichiro Tadakuma, Akira Maruyama, Eric Rohmer, Keiji Nagatani, Kazuya Yoshida, Aiguo Ming, Makoto Shimojo, Mitsuru Higashimori, Makoto Kaneko</i>	
CONNECTED TRACKED ROBOT WITH OFFSET JOINT MECHANISM FOR MULTIPLE CONFIGURATIONS	3366
<i>Kenjiro Tadakuma, Chigusa Ohishi, Akira Maruyama, Riichiro Tadakuma, Keiji Nagatani, Kazuya Yoshida, Aiguo Ming, Makoto Shimojo</i>	
LOCOMOTION TRANSITION SCHEME WITH INSTABILITY EVALUATION USING BAYESIAN NETWORK	3372
<i>Hiroyoshi Sawada, Kosuke Sekiyama, Tadayoshi Aoyama, Yasuhisa Hasegawa, Toshio Fukuda</i>	
STROKE PLANE DEVIATION FOR A MICROROBOTIC FLY	3378
<i>Benjamin Finio, John Peter Whitney, Robert Wood</i>	
A HEXAPOD WALKS OVER IRREGULAR TERRAIN USING A CONTROLLER ADAPTED FROM AN INSECT'S NERVOUS SYSTEM	3386
<i>William Lewinger, Roger D. Quinn</i>	
OMNIDIRECTIONAL LOCOMOTION IN A QUADRUPED ROBOT: A CPG-BASED APPROACH	3392
<i>Vi-tor Matos, Cristina Santos</i>	
BIOMECHANICS STUDY OF HUMAN LOWER LIMB WALKING: IMPLICATION FOR DESIGN OF POWER-ASSISTED ROBOT	3398
<i>Yali Han, Xingsong Wang</i>	
THE DEVELOPMENT OF A BIOLOGICALLY INSPIRED MULTI-MODAL WING MODEL FOR AERIAL-AQUATIC ROBOTS	3404
<i>Richard Lock, Ravi Vaidyanathan, Stuart Burgess</i>	

GOAL-ORIENTED AND MAP-BASED PEOPLE TRACKING USING VIRTUAL FORCE FIELD	3410
<i>Kuo-Shih Tseng, Chih-Wei Tang</i>	
VISUAL TRACKING OF HUMAN HEAD AND ARMS WITH A SINGLE CAMERA	3416
<i>Yi-Ru Chen, Cheng-Ming Huang, Li-Chen Fu</i>	
NONCONTACT POSITION ESTIMATION DEVICE WITH OPTICAL SENSOR AND LASER SOURCES FOR MOBILE ROBOTS TRAVERSING SLIPPERY TERRAINS	3422
<i>Isaku Nagai, Keigo Watanabe, Keiji Nagatani, Kazuya Yoshida</i>	
A STEREO CAMERA BASED FULL BODY HUMAN MOTION CAPTURE SYSTEM USING A PARTITIONED PARTICLE FILTER	3428
<i>Zhenning Li, Dana Kulic</i>	
MOTION ESTIMATION BASED ON PREDATOR/PREY VISION	3435
<i>David Van Der Lijn, Gabriel Lopes, Robert Babuska</i>	
AN ONLINE LEARNING APPROACH TO IN-VIVO TRACKING USING SYNERGISTIC FEATURES	3441
<i>Austin Reiter, Peter Allen</i>	
SYSTEM OF RECOGNIZING HUMAN ACTION BY MINING IN TIME-SERIES MOTION LOGS AND APPLICATIONS	3447
<i>Yihsin Ho, Kota Nakamura, Tomomi Shibano, Eri Sato-Shimokawara, Toru Yamaguchi</i>	
MOTION GENERATION BASED ON RELIABLE PREDICTABILITY USING SELF-ORGANIZED OBJECT FEATURES	3453
<i>Shun Nishide, Tetsuya Ogata, Jun Tani, Toru Takahashi, Kazunori Komatani, Hiroshi G. Okuno</i>	
3D TOPOLOGICAL RECONSTRUCTION BASED ON HOUGH TRANSFORM AND GROWING NEURAL GAS FOR INFORMATIONALLY STRUCTURED SPACE	3459
<i>Naoyuki Kubota, Tsubasa Narita, Beom-Hee Lee</i>	
DEVELOPMENT AND EVOLUTION OF RT ONTOLOGY FOR AUTOMATIC SERVICE GENERATION SYSTEM IN KUKANCHI	3465
<i>Trung L. Ngo, Ken Ukai, Makoto Mizukawa</i>	
INTELLIGENT MEDICINE CASE FOR DOSING MONITORING AND SUPPORT	3471
<i>Takuo Suzuki, Yasushi Nakauchi</i>	
DAILY SUPPORT SYSTEM FOR CARE PREVENTION BY USING INTERACTION MONITORING ROBOT	3477
<i>Tomomi Shibano, Yihsin Ho, Yuri Kono, Yasunari Fujimoto, Toru Yamaguchi</i>	
NATURAL MOTION: EFFICIENT PATH TRACKING WITH ROBOTIC LIMBS	3483
<i>Nenchev Dragomir, Yoichi Handa, Daisuke Sato</i>	
INPUT SHAPING CONTROL TO SUPPRESS SLOSHING ON LIQUID CONTAINER TRANSFER USING MULTI-JOINT ROBOT ARM	3489
<i>Wisnu Aribowo, Takahito Yamashita, Kazuhiko Terashima, Hideo Kitagawa</i>	
INNOVATIVE KINEMATICS AND CONTROL TO IMPROVE ROBOT SPATIAL RESOLUTION	3495
<i>Jean-François Brethe</i>	
OPTIMIZATION OF A 4 DOF TELE-ECHOGRAPHY ROBOT	3501
<i>L. Nouaille, N. Smith-Guerin, G. Poisson, P. Arbeille</i>	
MODELING ANTHROPOMORPHISM IN DYNAMIC HUMAN ARM MOVEMENTS	3507
<i>Pantelis Katsiaris, Panagiotis Artemiadis, Kostas Kyriakopoulos</i>	
GENERATING NATURAL HAND MOTION IN PLAYING A PIANO	3513
<i>Kazuki Yamamoto, Etsuko Ueda, Tsuyoshi Suenaga, Kentaro Takemura, Jun Takamatsu, Tsukasa Ogasawara</i>	
SEMANTIC EVALUATION OF REGION OF INTEREST FOR INTELLIGENT ROBOT	3519
<i>Md. Rokunuzzaman, Kosuke Sekiyama, Toshio Fukuda</i>	
DESIGN AND IMPLICATION OF A BIONIC PECTORAL FIN IMITATING COW-NOSED RAY	3525
<i>Yueri Cai, Shusheng Bi, Lige Zhang</i>	
DESIGN AND IMPLEMENTATION OF AN SMA-ACTUATED JUMPING ROBOT	3530
<i>Thanhtam Ho, Sangyoon Lee</i>	
MODELING AND PROPERTY ESTIMATION OF JAPANESE SWEETS FOR THEIR MANUFACTURING SIMULATION	3536
<i>Z. Wang, S. Hirai</i>	
SOUND SOURCE LOCALIZATION IN REVERBERANT ENVIRONMENT USING VISUAL INFORMATION	3542
<i>B. Lee, J. Choi, D. Kim, M. Kim</i>	
ORO, A KNOWLEDGE MANAGEMENT PLATFORM FOR COGNITIVE ARCHITECTURES IN ROBOTICS	3548
<i>Séverin Lemaignan, Raquel Ros Espinoza, Lorenz Mösenlechner, Rachid Alami, Michael Beetz</i>	
DECENTRALIZED COOPERATIVE SIMULTANEOUS LOCALIZATION AND MAPPING FOR DYNAMIC AND SPARSE ROBOT NETWORKS	3554
<i>Keith Yu Kit Leung, Timothy Barfoot, Hugh H. T. Liu</i>	
DISTRIBUTED MINIMAX FILTER FOR TRACKING AND FLOCKING	3562
<i>D. Gu, H. Hu</i>	
IMITATION LEARNING FOR TASK ALLOCATION	3568
<i>Felix Duvallet, Anthony Stentz</i>	
DYNAMIC STATE FEEDBACK CONTROL OF ROBOTIC FORMATION SYSTEM	3574
<i>Chih-Fu Chang, Li-Chen Fu</i>	
INTEGRAL NESTED SUPER-TWISTING ALGORITHM FOR ROBOTIC MANIPULATORS	3580
<i>L. Gonzalez-Jimenez, A. Loukianov, E. Bayro-Corrochano</i>	
REINTERPRETATION OF FORCE INTEGRAL CONTROL CONSIDERING THE ABILITY OF SYSTEM INPUT	3586
<i>Young Jin Park, Wan Kyun Chung</i>	

GENERATING ROBOT GESTURE USING A VIRTUAL AGENT FRAMEWORK	3592
<i>Maha Salem, Stefan Kopp, Ipke Wachsmuth, Frank Joublin</i>	
REAL-TIME VEHICLE DETECTION IN URBAN TRAFFIC USING ADABOOST	3598
<i>Jong-Min Park, Hyun-Chul Choi, Se-Young Oh</i>	
A MINIMALIST APPROACH TO PATH FOLLOWING AMONG UNKNOWN OBSTACLES	3604
<i>Antonio Sgorbissa, Francesco Capezio, Renato Zaccaria, Alberto Reboria, Matteo Campani</i>	
THE D++ ALGORITHM: REAL-TIME AND COLLISION-FREE PATH-PLANNING FOR MOBILE ROBOT	3611
<i>Pi-Ying Cheng, Pin-Jyun Chen</i>	
CONTROL OF A POWERED PLANAR BIPED WITHOUT ANKLE ACTUATION	3617
<i>R. Ozawa, Y. Kojima</i>	
LIMIT CYCLE BASED WALK OF A POWERED 7DOF 3D BIPED WITH FLAT FEET	3623
<i>Yuzuru Harada, Jun Takahashi, Dragomir Nenchev, Daisuke Sato</i>	
PASSIVELY STABLE HOPPING OF AN ARTICULATED LEG WITH A TENDON-COUPLED ANKLE	3629
<i>Paul Csonka, Alexander Perkins, Kenneth John Waldron</i>	
NONLINEAR MODEL PREDICTIVE RUNNING CONTROL OF KANGAROO ROBOT : A ONE-LEG PLANAR UNDERACTUATED HOPPING ROBOT	3634
<i>Nicolas Carlési, Ahmed Chemori</i>	
DESIGN AND EXPERIMENTAL EVALUATION OF THE HYDRAULICALLY ACTUATED PROTOTYPE LEG OF THE HYQ ROBOT	3640
<i>Claudio Semini, Nikolaos Tsagarakis, Emanuele Guglielmino, Darwin G. Caldwell</i>	
STABLE STACKING FOR THE DISTRIBUTOR'S PALLET PACKING PROBLEM	3646
<i>Martin Johannes Schuster, Richard Bormann, Daniela Steidl, Saul Reynolds-Haertle, Mike Stilman</i>	
MONOCULAR UNDERWATER STEREO - 3D MEASUREMENT USING DIFFERENCE OF APPEARANCE DEPENDING ON OPTICAL PATHS -	3652
<i>Atsushi Yamashita, Yudai Shirane, Toru Kaneko</i>	
NOVEL AND SAFE LINEAR ACTUATOR USING ER GEL	3658
<i>Ken'ichi Koyanagi, Kakinuma Yasuhiro, Hidenobu Anzai, Koji Sakurai, Tomoya Yamaguchi, Toru Oshima</i>	
AN ACTIVE-PASSIVE VARIABLE STIFFNESS ELASTIC ACTUATOR FOR SAFETY ROBOT SYSTEMS	3664
<i>Renjeng Wang, Han-Pang Huang</i>	
STUDY ON WEARABLE SYSTEM FOR DAILY LIFE SUPPORT USING MCKIBBEN PNEUMATIC ARTIFICIAL MUSCLE	3670
<i>Masahiro Iwaki, Yasuhisa Hasegawa, Yoshiyuki Sankai</i>	
VSA-HD: FROM THE ENUMERATION ANALYSIS TO THE PROTOTYPICAL IMPLEMENTATION	3676
<i>Manuel Catalano, Giorgio Grioli, Fabio Bonomo, Riccardo Schiavi, Antonio Bicchi</i>	
OPTIMAL DESIGN AND FABRICATION OF A PIEZOACTUATED FLEXURE XYZ PARALLEL MICROPOSITIONING STAGE	3682
<i>Q. Xu, Y. Li</i>	
A GOAL-ORIENTED FUZZY REACTIVE CONTROL FOR MOBILE ROBOTS WITH AUTOMATIC RULE OPTIMIZATION	3688
<i>A. Zhu, S. Yang</i>	
SLOPE-BASED POINT PURSUING MANEUVERS OF NONHOLONOMIC ROBOTS USING FPGA	3694
<i>Ying-Hao Yu, Sarath Kodagoda, Q P Ha</i>	
GENERAL 3D MODELLING OF NOVEL OBJECTS FROM A SINGLE VIEW	3700
<i>Zoltan-Csaba Marton, Dejan Pangercic, Nico Blodow, Jonathan Kleinhellefort, Michael Beetz</i>	
ROBUST GROUND PLANE DETECTION FOR OBSTACLE AVOIDANCE OF MOBILE ROBOTS USING A MONOCULAR CAMERA	3706
<i>Chia-How Lin, Sin-Yi Jiang, Yueh-Ju Pu, Kai-Tai Song</i>	
POSITION TRACKING SYSTEM OF EVERYDAY OBJECTS IN AN EVERYDAY ENVIRONMENT	3712
<i>Kouji Murakami, Tsutomu Hasegawa, Kousuke Shigematsu, Fumichika Sueyasu, Yasunobu Nohara, Byong-Won Ahn, Ryo Kurazume</i>	
RFID SENSOR DEPLOYMENT USING DIFFERENTIAL EVOLUTION FOR INDOOR MOBILE ROBOT LOCALIZATION	3719
<i>Joon-Hong Seok, Joon-Yong Lee, Changmok Oh, Ju-Jang Lee, Ho Joo Lee</i>	
AUGMENTED EKF BASED SLAM METHOD FOR IMPROVING THE ACCURACY OF THE FEATURE MAP	3725
<i>J. Kang, W. Choi, S. An, S. Oh</i>	
EVALUATION OF POSE ONLY SLAM	3732
<i>Gibson Hu, Shoudong Huang, Gamin Dissanayake</i>	
CLOSING LOOPS WITHOUT PLACES	3738
<i>Christopher Mei, Gabe Sibley, Paul Newman</i>	
TOWARD UNDERSTANDING THE EFFECTS OF VISUAL- AND FORCE-FEEDBACK ON ROBOTIC HAND GRASPING PERFORMANCE FOR SPACE TELEOPERATION	3745
<i>Neal Y Lii, Zhaopeng Chen, Benedikt Pleintinger, Christoph Borst, Gerd Hirzinger, Andre Schiele</i>	
INTERACTION MODELS FOR MULTIPLE-RESIDENT ACTIVITY RECOGNITION IN A SMART HOME	3753
<i>Yi-Ting Chiang, Kuo-Chung Hsu, Ching-Hu Lu, Li-Chen Fu, Yung-Jen Hsu</i>	
MOTION PLANNING AND CONTROL OF AN UNDERACTUATED 3DOF HELICOPTER	3759
<i>Simon Westerberg, Uwe Mettin, Anton Shiriaev</i>	
ON-LINE ESTIMATION OF TIME VARYING CAPTURE DELAY FOR VISION-BASED VIBRATION CONTROL OF FLEXIBLE MANIPULATORS DEPLOYED IN HOSTILE ENVIRONMENTS	3765
<i>Gregory Dubus</i>	

VISUAL SERVOING OF PRESENTERS IN AUGMENTED VIRTUAL REALITY TV STUDIOS	3771
<i>Suraj Nair, Thorsten Röder, Giorgio Panin, Alois Knoll</i>	
HIGH PERFORMANCE VISION TRACKING SYSTEM FOR MOBILE ROBOT USING SENSOR DATA FUSION WITH KALMAN FILTER	3778
<i>Jaehong Park, Wonsang Hwang, Hyun-Il Kwon, Jong-Hyeon Kim, Chang-Hun Lee, Muhammad Latif Anjum, Kwang-Soo Kim, Dongil Dan Cho</i>	
A PURE VISION-BASED APPROACH TO TOPOLOGICAL SLAM	3784
<i>W. Lui, R. Jarvis</i>	
SCENE CHANGE DETECTION FOR VISION-BASED TOPOLOGICAL MAPPING AND LOCALIZATION	3792
<i>N. Nourani-Vatani, C. Pradalier</i>	
LOCALIZATION OF AN OMNIDIRECTIONAL TRANSPORT ROBOT USING IEEE 802.15.4A RANGING AND LASER RANGE FINDER	3798
<i>Christof Roehrig, Daniel Hess, Christopher Kirsch, Frank Kuenemund</i>	
TEMPORAL AND SPATIAL 3D MOTION VECTOR FILTERING BASED VISUAL ODOMETRY FOR OUTDOOR SERVICE ROBOT	3804
<i>Giil Kwon, Yeong Nam Chae, Hyun S. Yang</i>	
IMPROVING MONOCULAR PLANE-BASED SLAM WITH INERTIAL MEASURES	3810
<i>Fabien Servant, Eric Marchand, Pascal Houlier</i>	
SKYLINE2GPS: LOCALIZATION IN URBAN CANYONS USING OMNI-SKYLINES	3816
<i>Srikumar Ramalingam, Sofien Bouaziz, Peter Sturm, Matthew Brand</i>	
REALIZING AUTONOMOUS VALET PARKING WITH AUTOMOTIVE GRADE SENSORS	3824
<i>Prasanth Jeevan, Frank Harchut, Bernhard Mueller, Burkhard Huhnke</i>	
THE UNCONSTRAINED AND INEQUALITY CONSTRAINED MOVING HORIZON APPROACH TO ROBOT LOCALIZATION	3830
<i>Gianluigi Pillonetto, Aleksandr Aravkin, Stefano Carpin</i>	
STEPS IN TRAJECTORY PLANNING AND CONTROLLER DESIGN FOR A HYDRAULICALLY DRIVEN CRANE WITH LIMITED SENSING	3836
<i>Daniel Orti-z Morales, Pedro La Hera, Uwe Mettin, Leonid Freidovich, Anton Shiriaev, Simon Westerberg</i>	
MOTION PLANNING FOR COOPERATIVE MANIPULATORS FOLDING FLEXIBLE PLANAR OBJECTS	3842
<i>Benjamin Balaguer, Stefano Carpin</i>	
MOTION PLANNING OF MULTIROBOT FORMATION	3848
<i>S. Liu, D. Sun, C. Zhu</i>	
COORDINATED NAVIGATION OF MULTI-ROBOT SYSTEMS WITH BINARY CONSTRAINTS	3854
<i>Bernd Bruggemann, Dirk Schulz</i>	
PROT - AN EMBODIED AGENT FOR INTELLIGIBLE AND USER-FRIENDLY HUMAN-ROBOT INTERACTION	3860
<i>Ryota Fujimura, Kazuhiro Nakadai, Michita Imai, Ren Ohmura</i>	
THE APPLICATION OF THE GREY-BASED TAGUCHI METHOD TO OPTIMIZE THE GLOBAL PERFORMANCES OF THE ROBOT MANIPULATOR	3868
<i>Hyunseop Lim, Soonwoong Hwang, Kyoosik Shin, Chang-Soo Han</i>	
EXTRACTION OF CANDIDATE POINTS FOR A DESTINATION ESTIMATION METHOD BASED ON BEHAVIOR DYNAMICS	3875
<i>Yoshitaka Terada, Soichiro Morishita, Hajime Asama</i>	
ELECTROMYOGRAPHIC SIGNAL INTEGRATED ROBOT HAND CONTROL FOR MASSAGE THERAPY APPLICATIONS	3881
<i>R. Luo, C. Chang</i>	
SMOOTH COLLISION AVOIDANCE IN HUMAN-ROBOT COEXISTING ENVIRONMENT	3887
<i>Yusuke Tamura, Fukuzawa Tomohiro, Hajime Asama</i>	
DESIGN OF A PERSONALIZED R-LEARNING SYSTEM FOR CHILDREN	3893
<i>Woo Hyun Ko, Sang Hoon Ji, Sang Mu Lee, Kyung-Tae Nam</i>	
"COULD I HAVE A WORD?": EFFECTS OF ROBOT'S WHISPER	3899
<i>Masahiro Shiomi, Kayako Nakagawa, Reo Matsumura, Kazuhiko Shinozawa, Hiroshi Ishiguro, Norihiro Hagita</i>	
DEVELOPMENT OF EXPERIMENTAL SETUP TO CREATE NOVEL MENTAL DISORDER MODEL RATS USING SMALL MOBILE ROBOT	3905
<i>Hiroyuki Ishii, Qing Shi, Atsuo Takanishi, Satoshi Okabayashi, Naritoshi Iida, Hiroshi Kimura, Yu Tahara, Akiko Hirao, Shigenobu Shibata</i>	
TIME-DELAYED BILATERAL TELEOPERATION WITH FORCE ESTIMATION FOR N-DOF NONLINEAR ROBOT MANIPULATORS	3911
<i>John Michael Daly, David Wang</i>	
THE DEVELOPMENT OF A REAL-TIME WEARABLE MOTION REPLICATION PLATFORM WITH SPATIAL SENSING AND TACTILE FEEDBACK	3919
<i>Ding Zhongqiang</i>	
ON-LINE ESTIMATION OF THE REFERENCE VISUAL FEATURES APPLICATION TO VISION BASED LONG RANGE NAVIGATION TASK	3925
<i>Adrien Durand Petiteville, Michel Courdresses, Viviane Cadenat, Philippe Baillion</i>	
STATISTICAL VISUAL-DYNAMIC MODEL FOR HAND-EYE COORDINATION	3931
<i>Daniel Beale, Pejman Iravani, Peter Hall</i>	
USING GPUS TO IMPROVE SYSTEM PERFORMANCE IN VISUAL SERVO SYSTEMS	3937
<i>Chuantao Zang, Koichi Hashimoto</i>	

TRAJECTORY TRACKING OF A SELF-BALANCING TWO-WHEELED ROBOT USING BACKSTEPPING SLIDING-MODE CONTROL AND FUZZY BASIS FUNCTION NETWORKS.....	3943
<i>Ching-Chih Tsai, Shang-Yu Ju, Shih-Min Hsieh</i>	
TWO-LEVELED OBSTACLE AVOIDANCE SCHEME USING A KINEMATICALLY REDUNDANT OMNI-DIRECTIONAL MOBILE ROBOT	3949
<i>Eui-Jung Jung, Sung Mok Kim, Byung-Ju Yi, Whee Kuk Kim</i>	
DUAL POSITION CONTROL STRATEGIES USING THE COOPERATIVE DUAL TASK-SPACE FRAMEWORK	3955
<i>Bruno Vilhena Adorno, Philippe Fraisse, Sebastien Druon</i>	
PARALLEL, REAL-TIME VISUAL SLAM	3961
<i>B. Clip, J. Lim, J. Frahm, M. Pollefeys</i>	
THE CAUSAL UPDATE FILTER - A NOVEL FILTER PARADIGM APPLIED TO SLAM	3969
<i>Niko Sünderhauf, Peer Neubert, Peter Protzel</i>	
STEREO-BASED SIMULTANEOUS LOCALIZATION, MAPPING AND MOVING OBJECT TRACKING.....	3975
<i>Kuen-Han Lin, Chieh-Chih Wang</i>	
6 DOF SLAM USING A TOF CAMERA: THE CHALLENGE OF A CONTINUOUSLY GROWING NUMBER OF LANDMARKS	3981
<i>Siegfried Hochdorfer, Christian Schlegel</i>	
HIGH PRECISION CONTROL OF MAGNETICALLY DRIVEN MICROTOOLS FOR CELL MANIPULATIONS.....	3987
<i>M. Hagiwara, T. Kawahara, Y. Yamanishi, B. Lee, F. Arai</i>	
REALISTIC VISUAL AND HAPTIC FEEDBACK SIMULATOR FOR REAL-TIME CELL INDENTATION	3993
<i>Hamid Ladjal, Jean Luc Hanus, Antoine Ferreira, Carol Keefer, Anand Pillarsetti, Jaydev P. Desai</i>	
AUTOMATED HANDLING OF BIO-NANOWIRES FOR NANOPACKAGING	3999
<i>Sergej Fatikow, Manuel Rolf Mikczinski, Malte Bartenwerfer, Florian Niewiera, Michael Weigel-Jech, Pooya Saketi, Pasi Johannes Kallio</i>	
DEMONSTRATION OF MUSCLE-POWERED AUTONOMOUS MICRO MOBILE GEL	4005
<i>Keisuke Morishima, Kentaro Imagawa, Takayuki Hoshino</i>	
EXPERIMENTAL EVALUATION OF A FLEXIBLE JOINT DRIVEN BY WATER PRESSURE FOR UNDERWATER ROBOTS	4011
<i>Mizuho Shibata, Yuusuke Onishi, Sadao Kawamura</i>	
USING OPTICAL COMMUNICATION FOR REMOTE UNDERWATER ROBOT OPERATION.....	4017
<i>Marek Doniec, Carrick Detweiler, Iuliu Vasilescu, Daniela Rus</i>	
SWIMMING WITH ROBOTS: HUMAN ROBOT COMMUNICATION AT DEPTH.....	4023
<i>Bart Verzijlenberg, Michael Jenkin</i>	
3D PATH FOLLOWING WITH NO BOUNDS ON THE PATH CURVATURE THROUGH SURFACE INTERSECTION	4029
<i>Antonio Sgorbissa, Renato Zaccaria</i>	
THE ROBOTICS API: AN OBJECT-ORIENTED FRAMEWORK FOR MODELING INDUSTRIAL ROBOTICS APPLICATIONS.....	4036
<i>Andreas Angerer, Alwin Hoffmann, Andreas Schierl, Michael Vistein, Wolfgang Reif</i>	
COMPONENT-BASED REFACTORING OF MOTION PLANNING LIBRARIES	4042
<i>Davide Brugali, Walter Nowak, Luca Gherardi, Alexey Zakharov, Erwin Prassler</i>	
A SYSTEM ON CHIP APPROACH TO ENHANCED LEARNING IN INTERDISCIPLINARY ROBOTICS.....	4050
<i>Anders Stengaard Soerensen, Simon Falsig</i>	
LCM: LIGHTWEIGHT COMMUNICATIONS AND MARSHALLING	4057
<i>A. Huang, E. Olson, D. Moore</i>	
GAIN SCHEDULED CONTROL OF PERTURBED STANDING BALANCE.....	4063
<i>D. Xing, C. Atkeson, J. Su, B. Stephens</i>	
INTEGRATING GEOMETRIC CONSTRAINTS INTO REACTIVE LEG MOTION GENERATION	4069
<i>Fumio Kanehiro, Mitsuharu Morisawa, Wael Suleiman, Kenji Kaneko, Eiichi Yoshida</i>	
ENERGETIC EFFICIENCY AND STABILITY OF DYNAMIC BIPEDAL WALKING GAITS WITH DIFFERENT STEP LENGTHS	4077
<i>Yan Huang, Baojun Chen, Qiming Wang, Kunlin Wei, Long Wang</i>	
STABILITY OF TIME-VARYING CONTROL FOR AN UNDERACTUATED BIPED ROBOT BASED ON CHOICE OF CONTROLLED OUTPUTS.....	4083
<i>Ting Wang, Christine Chevallereau</i>	
A SPACE ROBOTIC SYSTEM USED FOR THE ON-ORBIT SERVICING IN THE GEOSTATIONARY ORBIT	4089
<i>Wenfu Xu, Bin Liang, Yangsheng Xu</i>	
RELIABILITY IMPACT ON PLANETARY ROBOTIC MISSIONS	4095
<i>David Asikin, John M. Dolan</i>	
VIRTUAL MASS OF IMPEDANCE SYSTEM FOR FREE-FLYING TARGET CAPTURE	4101
<i>Hiroki Nakanishi, Naohiro Uyama, Kazuya Yoshida</i>	
ENERGY EFFICIENT TRAJECTORY GENERATION FOR A STATE-SPACE BASED JPL AEROBOT	4107
<i>Weizhong Zhang, Tamer Inanc, Alberto Elfes</i>	
INTERCONNECTED PERFORMANCE OPTIMIZATION IN COMPLEX ROBOTIC SYSTEMS.....	4113
<i>Florian Rohrmüller, Omiros Kourakos, Matthias Rambow, Drzen Brscic, Dirk Wollherr, Sandra Hirche, Martin Buss</i>	
LEARNING INTERACTION PROTOCOLS USING AUGMENTED BAYSIAN NETWORKS APPLIED TO GUIDED NAVIGATION.....	4119
<i>Yasser F. O. Mohammad, Toyooki Nishida</i>	

MODELS OF MOTION PATTERNS FOR MOBILE ROBOTIC SYSTEMS	4127
<i>Stephan Sehestedt, Sarath Kodagoda, Gamini Dissanayake</i>	
INCREMENTAL MOTION PRIMITIVE LEARNING BY PHYSICAL COACHING USING IMPEDANCE CONTROL	4133
<i>Dongheui Lee, Christian Ott</i>	
AUTONOMOUS NAVIGATION FOR URBAN SERVICE MOBILE ROBOTS	4141
<i>Andreu Corominas Murtra, Eduard Trulls, Oscar Sandoval Torres, Joan Perez-Ibarz, Alejandro Vasquez, Josep M. Mirats Tur, Miquel Ferrer Sumsi, Alberto Sanfeliu</i>	
MOBILE ROBOT VISION NAVIGATION & LOCALIZATION USING GIST AND SALIENCY	4147
<i>Chin-Kai Chang, Christian Stagian, Laurent Itti</i>	
IMPROVED VISUAL LOCALIZATION AND NAVIGATION USING PROPRIOCEPTIVE SENSORS	4155
<i>Nadir Karam, Hicham Hadj-Abdelkader, Clement Claude Bruno Deymier, Datta Ramadasan</i>	
A NEW APPROACH TO VISION-AIDED INERTIAL NAVIGATION	4161
<i>Jean-Philippe Tardif, Michael David George, Michel Laverne, Alonzo Kelly, Anthony Sientz</i>	
THE DISTRIBUTED CONTROL AND EXPERIMENTS OF DIRECTIONAL SELF-ASSEMBLY FOR MODULAR SWARM ROBOTS	4169
<i>Hongxing Wei, Dezhong Li, Jindong Tan, Tianmiao Wang</i>	
COOPERATIVE CHEMICAL CONCENTRATION MAP BUILDING USING DECENTRALIZED ASYNCHRONOUS PARTICLE SWARM OPTIMIZATION BASED SEARCH ALGORITHM BY MOBILE ROBOTS	4175
<i>Mirbek Turduev, Yunus Atas, Pedro Sousa, Veysel Gazi, Lino Marques</i>	
INTRODUCING WANDA - A NEW ROBOT FOR RESEARCH, EDUCATION, AND ARTS	4181
<i>Alexander Kettler, Marc Szymanski, Jens Liedke, Heinz Woern</i>	
THE MARXBOT, A MINIATURE MOBILE ROBOT OPENING NEW PERSPECTIVES FOR THE COLLECTIVE-ROBOTIC RESEARCH	4187
<i>Michael Bonani, Valentin Longchamp, Stephane Magnenat, Philippe Retornaz, Daniel Burnier, Gilles Roulet, Florian Vaussard, Hannes Bleuler, Francesco Mondada</i>	
JOINT MECHANISM WITH A MULTI-DIRECTIONAL STIFFNESS ADJUSTER	4194
<i>S. Kajikawa, Y. Yonemoto</i>	
A NOVEL ACTUATOR WITH ADJUSTABLE STIFFNESS (AWAS)	4201
<i>Amir Jafari, Nikolaos Tsagarakis, Bram Vanderborght, Darwin G. Caldwell</i>	
SINGULARITY-BASED MECHANISM WITH HIGH RESPONSIVENESS	4207
<i>Tomoaki Mashimo, Takateru Urakubo, Takeo Kanade</i>	
KINETO-STATIC MECHANICAL SYNTHESIS FOR NONLINEAR PROPERTY DESIGN OF PASSIVE STIFFNESS USING CLOSED KINEMATIC CHAIN	4213
<i>Masafumi Okada, Jun Takeishi</i>	
UNDERWATER BOX-PUSHING WITH MULTIPLE VISION-BASED AUTONOMOUS ROBOTIC FISH	4219
<i>Yonghui Hu, Long Wang, Jianhong Liang, Tianmiao Wang</i>	
UNDERWATER ROBOT NAVIGATION AROUND A SPHERE USING ELECTROLOCATION SENSE AND KALMAN FILTER	4225
<i>Vincent Lebastard, Christine Chevallereau, Ali Amrouche, Brahim Jawad, Alexis Girin, Frédéric Boyer, Pol Bernard Gossiaux</i>	
TEACHING ROBOCLAM TO DIG: THE DESIGN, TESTING, AND GENETIC ALGORITHM OPTIMIZATION OF A BIOMIMETIC ROBOT	4231
<i>Amos Greene Winter, Robin Deits, Daniel Dorsch, Anette Hosoi, Alexander Slocum</i>	
CPG BASED SELF-ADAPTING MULTI-DOF ROBOTIC ARM CONTROL	4236
<i>Woosung Yang, Ji-Hun Bae, Yonghwan Oh, Nak Young Chong, Bum Jae You, Sang-Rok Oh</i>	
NONLINEAR ADAPTIVE BILATERAL CONTROL OF TELEOPERATION SYSTEMS WITH UNCERTAIN DYNAMICS AND KINEMATICS	4244
<i>Xia Liu, Mahdi Tavakoli, Qi Huang</i>	
POSITION DRIFT COMPENSATION IN TIME DOMAIN PASSIVITY BASED TELEOPERATION	4250
<i>Jordi Artigas, Carsten Preusche, Jee-Hwan Ryu</i>	
INCORPORATING HUMAN HAPTIC INTERACTION MODELS INTO TELEOPERATION SYSTEMS	4257
<i>Daniela Feth, Angelika Peer, Martin Buss</i>	
MODEL-MEDIATED TELEOPERATION FOR MULTI-OPERATOR MULTI-ROBOT SYSTEMS	4263
<i>C. Passenberg, A. Peer, M. Buss</i>	
ROBOTIC MANIPULATION OF HUMAN RED BLOOD CELLS WITH OPTICAL TWEEZERS FOR CELL PROPERTY CHARACTERIZATION	4269
<i>Y. Tan, D. Sun, W. Huang, J. Cheng, S. Cheng</i>	
EXPERIMENTAL STUDY OF CREEP RESPONSE OF VISCOELASTIC CONTACT INTERFACE UNDER FORCE CONTROL	4275
<i>Chia-Hung Tsai, Imin Kao, Akihide Shibata, Kayo Yoshimoto, Mitsuru Higashimori, Makoto Kaneko</i>	
PORT HAMILTONIAN MODELING FOR SOFT-FINGER MANIPULATION	4281
<i>Fanny Ficuciello, Raffaella Carlomi, Ludo C. Visser, Stefano Stramigioli</i>	
FORCE BASED MANIPULATION OF JENGA BLOCKS	4287
<i>Shinya Kimura, Tsutomu Watanabe, Yasumichi Aiyama</i>	
TRAJECTORY PLANNING FOR ROBOTS IN DYNAMIC HUMAN ENVIRONMENTS	4293
<i>M. Svenstrup, T. Bak, H. Andersen</i>	
ONLINE SMOOTH TRAJECTORY PLANNING FOR MOBILE ROBOTS BY MEANS OF NONLINEAR FILTERS	4299
<i>Marcello Bonfe, Cristian Secchi</i>	

MOTION PLANNING FOR AN OMNIDIRECTIONAL ROBOT WITH STEERING CONSTRAINTS	4305
<i>Simon Chamberland, Eric Beaudry, Lionel Clavier, Froduald Kabanza, Francois Michaud, Michel Lauria</i>	
NON-PARAMETRIC LEARNING FOR NATURAL PLAN GENERATION	4311
<i>Ian Alan Baldwin, Paul Newman</i>	
USE OF THE PARALLEL AND PERPENDICULAR CHARACTERISTICS OF BUILDING SHAPE FOR INDOOR MAP MAKING AND POSITIONING	4318
<i>Shigeru Bando, Shinichi Yuta</i>	
ON STOCHASTICALLY OBSERVABLE DIRECTIONS OF THE ESTIMATION THEORETIC SLAM STATE SPACE	4324
<i>L. Perera, E. Nettleton</i>	
CONTINUOUS SOUND SOURCE LOCALIZATION BASED ON MICROPHONE ARRAY FOR MOBILE ROBOTS	4332
<i>Hong Liu, Miao Shen</i>	
APPROACHES AND DATABASES FOR ONLINE CALIBRATION OF BINAURAL SOUND LOCALIZATION FOR ROBOTIC HEADS	4340
<i>Holger Finger, Paul Ruvolo, Shih-Chii Liu, Javier Movellan</i>	
A STATE EXCHANGE APPROACH IN REAL CONDITIONS FOR MULTI-ROBOT COOPERATIVE LOCALIZATION	4346
<i>Romuald Aufrere, Nadir Karam, Frédéric Chausse, Roland Chapuis</i>	
ASYNCHRONOUS MULTI-CENTRALIZED COOPERATIVE LOCALIZATION	4352
<i>Esha Nerurkar, Stergios Roumeliotis</i>	
FORCE CONTROL BASED ON BIARTICULAR MUSCLE SYSTEM AND ITS APPLICATION TO NOVEL ROBOT ARM DRIVEN BY PLANETARY GEAR SYSTEM	4360
<i>Sehoon Oh, Yasuto Kimura, Yoichi Hori</i>	
HYBRID FORCE/POSITION CONTROL APPLIED TO AUTOMATED GUIDING TASKS AT THE MICROSCALE	4366
<i>Kanty Rabenorosoa, Cédric Clévy, Philippe Lutz</i>	
ROVER CONTROL BASED ON AN OPTIMAL TORQUE DISTRIBUTION - APPLICATION TO 6 MOTORIZED WHEELS PASSIVE ROVER	4372
<i>Ambroise Krebs, Fabian Risch, Thomas Thueer, Cedric Pradalier, Roland Siegwart, Jerome Maye</i>	
CONTACT DETECTION AND REACTION OF A WHEELCHAIR MOUNTED ROBOTIC ARM EQUIPED WITH MECHANICAL GRAVITY CANCELLER	4378
<i>Wei Wang, Yuki Suga, Shigeki Sugano</i>	
FORCE CONTROL OF A ROBOT FOR WRIST REHABILITATION: TOWARDS COPING WITH HUMAN INTRINSIC CONSTRAINTS	4384
<i>Nevio Luigi Tagliamonte, Domenico Formica, Maria Scordia, Domenico Campolo, Eugenio Guglielmelli</i>	
ENHANCED OPERATIONAL SPACE FORMULATION FOR MULTIPLE TASKS USING TIME DELAY ESTIMATION	4390
<i>Jae Won Jeong, Pyung Hun Chang, Jinoh Lee</i>	
IMAGING SONAR-AIDED NAVIGATION FOR AUTONOMOUS UNDERWATER HARBOR SURVEILLANCE	4396
<i>H. Johansson, M. Kaess, B. Englot, F. Hover, J. Leonard</i>	
EKF-SLAM FOR AUV NAVIGATION UNDER PROBABILISTIC SONAR SCAN-MATCHING	4404
<i>A. Mallios, P. Ridao, D. Ribas, F. Maurelli, Y. Petillot</i>	
INSPECTION PLANNING FOR SENSOR COVERAGE OF 3D MARINE STRUCTURES	4412
<i>B. Englot, F. Hover</i>	
3D RECONSTRUCTION OF UNDERWATER STRUCTURES	4418
<i>C. Beall, B. J. Lawrence, V. Ila, F. Dellaert</i>	
TOWARDS AUTONOMOUS HABITAT CLASSIFICATION USING GAUSSIAN MIXTURE MODELS	4424
<i>Daniel Steinberg, Stefan Bernard Williams, Oscar Pizarro, Michael Jakuba</i>	
GAUSSIAN MIXTURE MODELS FOR AFFORDANCE LEARNING USING BAYESIAN NETWORKS	4432
<i>Pedro Osório, Alexandre Bernardino, Ruben Martinez-Cantin, José Santos-Victor</i>	
INFLUENCES OF INCONSISTENCY BETWEEN PHRASES AND POSTURES OF ROBOTS: A PSYCHOLOGICAL EXPERIMENT IN JAPAN	4438
<i>T. Nomura, K. Nakamura</i>	
TOWARDS A PLATFORM-INDEPENDENT COOPERATIVE HUMAN-ROBOT INTERACTION SYSTEM: I. PERCEPTION	4444
<i>Stephane Lalle, Severin Lemaignan, Alexander Lenz, Chris Melhuish, Lorenzo Natale, Sergey Skachek, Tijn Van Der Zant, Felix Warneken, Peter Ford Dominey</i>	
AN ADAPTIVE PROBABILISTIC APPROACH TO GOAL-LEVEL IMITATION LEARNING	4452
<i>Haris Dindo, Guido Schillaci</i>	
A ROBUST SKETCH INTERFACE FOR NATURAL ROBOT CONTROL	4458
<i>Danelle Shah, Joseph Schneider, Mark Campbell</i>	
PRACTICAL EXPERIMENT OF BALANCING FOR A HOPPING HUMANOID BIPED AGAINST VARIOUS DISTURBANCES	4464
<i>Baek-Kyu Cho, Jun-Ho Oh</i>	
GAIT PLANNING FOR A BIPED ROBOT BY A NONHOLONOMIC SYSTEM WITH DIFFERENCE-EQUATION CONSTRAINTS	4471
<i>Nobuya Yao, Tomohito Takubo, Kenichi Ohara, Yasushi Mae, Tatsuo Arai</i>	

HIGH-SPEED BIPED GAIT GENERATION BASED ON ASYMMETRIZATION OF IMPACT POSTURE USING TELESCOPIC LEGS	4477
<i>Fumihiko Asano</i>	
A WALKING PATTERN GENERATOR FOR BIPED ROBOTS ON UNEVEN TERRAINS	4483
<i>Yu Zheng, Ming C. Lin, Dinesh Manocha, Albertus Hendrawan Adiwahono, Chee Meng Chew</i>	
BIPED WALKING STABILIZATION BASED ON LINEAR INVERTED PENDULUM TRACKING	4489
<i>Shuuji Kajita, Mitsuharu Morisawa, Kanako Miura, Shin'Ichiro Nakaoka, Kensuke Harada, Kenji Kaneko, Fumio Kanehiro, Kazuhito Yokoi</i>	
DESIGN OF HIGH TORQUE AND HIGH SPEED LEG MODULE FOR HIGH POWER HUMANOID	4497
<i>Junichi Urata, Yuto Nakanishi, Kei Okada, Masayuki Inaba</i>	
EPISTEMEBASE:A SEMANTIC MEMORY SYSTEM FOR TASK PLANNING UNDER UNCERTAINTIES	4503
<i>Xiaofeng Xiong, Ying Hu, Jianwei Zhang</i>	
STRATEGIES FOR MULTI-MODAL SCENE EXPLORATION	4509
<i>Jeannette Bohg, Matthew Johnson-Roberson, Mårten Björkman, Danica Kragic</i>	
INTEGRATED VIEW AND PATH PLANNING FOR AN AUTONOMOUS SIX-DOF EYE-IN-HAND OBJECT MODELING SYSTEM	4516
<i>Lila Torabi, Kamal Gupta</i>	
GENERATING A CONTACT STATE GRAPH OF POLYHEDRAL OBJECTS FOR ROBOTIC APPLICATION	4522
<i>Sung Jo Kwak, Seong Youb Chung, Tsutomu Hasegawa</i>	
PLANNING PICK AND PLACE TASKS WITH TWO-HAND REGRASPING	4528
<i>Jean-Philippe Saut, Mokhtar Gharbi, Juan Cortes, Daniel Sidobre, Thierry Simeon</i>	
SIMULTANEOUS LOCAL MOTION PLANNING AND CONTROL FOR COOPERATIVE REDUNDANT ARMS	4534
<i>Gustavo Arechavaleta, Arturo Barrios, Gerardo Jarquín, Vicente Parra Vega</i>	
ROBUST FEATURE EXTRACTION FOR 3D RECONSTRUCTION OF BOUNDARY SEGMENTED OBJECTS IN A ROBOTIC LIBRARY SCENARIO	4540
<i>S. Grigorescu, S. Natarajan, D. Mronga, A. Graser</i>	
SPATIAL RESOLUTION FOR ROBOT TO DETECT OBJECTS	4548
<i>Lu Cao, Yoshinori Kobayashi, Yoshinori Kuno</i>	
MULTIPLE-CUE OBJECT RECOGNITION ON OUTSIDE DATASETS	4554
<i>Manuela Veloso, Sarah Aboutaleb</i>	
REAL-TIME 3D VISUAL SENSOR FOR ROBUST OBJECT RECOGNITION	4560
<i>Muhammad Atamimi, Akira Mizutani, Tomoaki Nakamura, Takayuki Nagai, Kotaro Funakoshi, Mikio Nakano</i>	
COMBINING DEPTH AND COLOR CUES FOR SCALE AND VIEWPOINT-INVARIANT OBJECT SEGMENTATION AND RECOGNITION USING RANDOM FORESTS	4566
<i>Jorg Stuckler, Sven Behnke</i>	
A PROBABILISTIC MEASUREMENT MODEL FOR LOCAL INTEREST POINT BASED 6 DOF POSE ESTIMATION	4572
<i>Thilo Grundmann, Robert Eidenberger, Georg V. Wichert</i>	
SHAPE-SHIFTING ROBOT PATH PLANNING METHOD BASED ON RECONFIGURATION PERFORMANCE	4578
<i>Tonglin Liu, Chengdong Wu, Bin Li</i>	
SMOOTH AND COLLISION-FREE NAVIGATION FOR MULTIPLE ROBOTS UNDER DIFFERENTIAL-DRIVE CONSTRAINTS	4584
<i>Jamie Snape, Jur Van Den Berg, Stephen J. Guy, Dinesh Manocha</i>	
A TIME COMPETITIVE HETEROGENEOUS MULTI ROBOT PATH FINDING ALGORITHM	4590
<i>Shahar Sarid, Amir Shapiro</i>	
NETWORK-GUIDED MULTI-ROBOT PATH PLANNING IN DISCRETE REPRESENTATIONS	4596
<i>Ryan Luna, Kostas E. Bekris</i>	
DECENTRALIZED PRIORITIZED PLANNING IN LARGE MULTIROBOT TEAMS	4603
<i>Prasanna Velagapudi, Katia Sycara, Paul Scerri</i>	
PURSUIT-EVASION IN 2.5D BASED ON TEAM-VISIBILITY	4610
<i>Andreas Kolling, Alexander Kleiner, Michael Lewis, Katia Sycara</i>	
SYNCHRONIZED GESTURE AND SPEECH PRODUCTION FOR HUMANOID ROBOTS	4617
<i>Victor Ng-Thow-Hing, Pengcheng Luo, Sandra Okita</i>	
HUMAN HAND MOTION RECOGNITION USING EMPIRICAL COPULA	4625
<i>Zhaojie Ju, Honghai Liu</i>	
PREDICTION OF USER'S GRASPING INTENTIONS BASED ON THE EYE-HAND COORDINATION	4631
<i>M. Carraso, X. Clady</i>	
SALIENCY-BASED IDENTIFICATION AND RECOGNITION OF POINTED-AT OBJECTS	4638
<i>B. Schuaerte, J. Richarz, G. Fink</i>	
A HAND-GESTURE-BASED CONTROL INTERFACE FOR A CAR-ROBOT	4644
<i>Xing-Han Wu, Mu-Chun Su, Pa-Chun Wang</i>	
INCREMENTAL LEARNING OF HUMAN BEHAVIORS USING HIERARCHICAL HIDDEN MARKOV MODELS	4649
<i>Dana Kulic, Yoshihiko Nakamura</i>	
MULTI-DOF EQUALIZATION OF HAPTIC DEVICES FOR ACCURATE RENDERING AT HIGH FREQUENCIES	4656
<i>Robert Wilson, Sonny Chan, Kenneth Salisbury, Gunter Niemeyer</i>	

COMMAND RECOGNITION BASED ON HAPTIC INFORMATION FOR A ROBOT ARM	4662
<i>Ryosuke Hanyu, Toshiaki Tsuji, Shigeru Abe</i>	
ACTUATION MODEL FOR CONTROL OF A LONG RANGE LORENTZ FORCE MAGNETIC LEVITATION DEVICE	4668
<i>Peter Berkelman, Michael Dzadovsky</i>	
DESIGN AND EVALUATION OF A WEARABLE HAPTIC INTERFACE FOR LARGE WORKSPACES	4674
<i>Ingo Kossyk, Jonas Dörr, Konstantin Kondak</i>	
MECHANISM AND EVALUATION OF A HAPTIC INTERFACE "FORCE BLINKER 2" FOR NAVIGATION OF THE VISUALLY IMPAIRED	4680
<i>Takeshi Ando, Ryota Tsukahara, Masatoshi Seki, Masakatsu G. Fujie</i>	
HAPTIC PRIMITIVES GUIDANCE BASED ON THE KAUTHAM PATH PLANNER	4686
<i>Carlos Vázquez Hurtado, Jan Rosell, Luciano Chirinos Gamboa, Omar Arturo Dominguez-Ramirez</i>	
GOAL SEEKING FOR ROBOTS IN UNKNOWN ENVIRONMENTS	4692
<i>Jisha V R, Debasish Ghose</i>	
SCENE ASSOCIATION FOR MOBILE ROBOT NAVIGATION	4698
<i>Edward Johns, Guang-Zhong Yang</i>	
GENERIC FRUSTRATION AS A REGULATORY MECHANISM FOR MOTIVATED NAVIGATION	4704
<i>Cyril Hasson, Philippe Gaussier</i>	
FAST PATH PLANNING USING MULTI-RESOLUTION BOUNDARY VALUE PROBLEMS	4710
<i>R. Silveira, E. Prestes, L. Nedel</i>	
A PROBABILISTIC ACTION DURATION MODEL FOR PLAN SELECTION AND MONITORING	4716
<i>Vittorio Amos Ziparo, Luca Iocchi, Matteo Leonetti, Daniele Nardi</i>	
TOWARDS MIXED SOCIETIES OF CHICKENS AND ROBOTS	4722
<i>Alexey Gribovskiy, José Halloy, Jean-Louis Deneubourg, Hannes Bleuler, Francesco Mondada</i>	
ROBOT AUTOMATION IN OIL AND GAS FACILITIES: INDOOR AND ONSITE DEMONSTRATIONS	4729
<i>D. Anisi, J. Gunnar, T. Lillehagen, C. Skourup</i>	
HOLISTIC DESIGN AND ANALYSIS FOR THE HUMAN-FRIENDLY ROBOTIC CO-WORKER	4735
<i>Sami Haddadin, Sven Parusel, Rico Belder, Joern Vogel, Tim Rokahr, Alin Albu-Schaffer, Gerd Hirzinger</i>	
MATERIAL HANDLING OF A MOBILE MANIPULATOR USING AN EYE-IN-HAND VISION SYSTEM	4743
<i>Tsing-Iuan Tsay, Ying-Feng Lai, Yi-Lin Hsiao</i>	
HUMAN-ROBOT INTERACTION AND FUTURE INDUSTRIAL ROBOTICS APPLICATIONS	4749
<i>Clint Heyer</i>	
ADAPTIVE FUZZY CONTROL FOR TRAJECTORY TRACKING OF MOBILE ROBOT	4755
<i>Yuming Liang, Lihong Xu, Ruihua Wei, Haigen Hu</i>	
LOCAL PATH PLANNING SCHEME FOR CAR-LIKE VEHICLE'S SHORTEST TURNING MOTION USING GEOMETRIC ANALYSIS	4761
<i>Seoung Kyoo Lee, Sungon Lee, Nakju Doh, Changjoo Nam</i>	
SIMPLIFIED POWER CONSUMPTION MODELING AND IDENTIFICATION FOR WHEELED SKID-STEER ROBOTIC VEHICLES ON HARD HORIZONTAL GROUND	4769
<i>J. Morales, J. L. Martinez, A. Mandow, A. Pequeno-Boyer, A. Garcia-Cerezo</i>	
ADDRESSING INPUT SATURATION AND KINEMATIC CONSTRAINTS OF OVERACTUATED UNDERCARRIAGES BY PREDICTIVE POTENTIAL FIELDS	4775
<i>Christian Pascal Connette, Martin Haegele, Andreas Pott, Alexander Verl</i>	
STOCHASTIC OPTIMIZATION OF NEURAL NETWORK-BASED CONTROLLER FOR AGGRESSIVE MANEUVER ON LOOSE SURFACES	4782
<i>Alexander V. Terekhov, Jean-Baptiste Mouret, Christophe Grand</i>	
A NOVEL COMPLIANT ROVER FOR ROUGH TERRAIN MOBILITY	4788
<i>Arun Singh, Rahul Kumar Namdev, Vijay Eathakota, Madhava Krishna</i>	
WEARABLE ECHOGRAPHY ROBOT FOR TRAUMA PATIENT	4794
<i>Keiichiro Ito, Shigeki Sugano, Hiroyasu Iwata</i>	
ACTIVE COOPERATIVE PERCEPTION IN NETWORK ROBOT SYSTEMS USING POMDPS	4800
<i>Matthijs Spaan, Tiago Veiga, Pedro Lima</i>	
A TWO PHASE RECURSIVE TREE PROPAGATION BASED FRAMEWORK FOR MULTI-ROBOTIC EXPLORATION WITH FIXED BASE STATION CONSTRAINT	4806
<i>Piyooosh Mukhija, Madhava Krishna, Vamshi Krishna</i>	
FAULT-TOLERANT PROBABILISTIC SENSOR FUSION FOR MULTI-AGENT SYSTEMS	4812
<i>Abdolkarim Pahlhani, Matthijs Spaan, Pedro Lima</i>	
NETWORK-ASSISTED TARGET TRACKING VIA SMART LOCAL ROUTING	4818
<i>Jason O'Kane, Wenyuan Xu</i>	
PROBABILISTIC LANDMARK BASED LOCALIZATION OF RAIL VEHICLES IN TOPOLOGICAL MAPS	4824
<i>S. Hensel, C. Hasberg</i>	
USING FEATURE SCALE CHANGE FOR ROBOT LOCALIZATION ALONG A ROUTE	4830
<i>Andrew Vardy</i>	
EFFICIENT TRAJECTORY BENDING WITH APPLICATIONS TO LOOP CLOSURE	4836
<i>Gijs Dubbelman, Isaac Esteban, Klammer Schutte</i>	
ROBUST POSITIONING USING RELAXED CONSTRAINT-PROPAGATION	4843
<i>Vincent Drevelle, Philippe Bonnifait</i>	
A UNIFIED APPROACH FOR CONTROL OF REDUNDANT MECHANICAL SYSTEMS UNDER EQUALITY AND INEQUALITY CONSTRAINTS	4849
<i>Farhad Aghili</i>	

EXAMINING THE BENEFITS OF VARIABLE IMPEDANCE ACTUATION	4855
<i>Daniel S. Walker, Gunter Niemeyer</i>	
COOPERATIVE BIN-PICKING WITH TIME-OF-FLIGHT CAMERA AND IMPEDANCE CONTROLLED DLR LIGHT-WEIGHT ROBOT III.....	4862
<i>Stefan Fuchs, Sami Haddadin, Sven Parusel, Michael Suppa, Maik Keller, Andreas Kolb</i>	
ON-LINE STATE AND PARAMETER ESTIMATION OF AN UNDER-ACTUATED UNDERWATER VEHICLE USING A MODIFIED DUAL UNSCENTED KALMAN FILTER	4868
<i>George Karras, Savvas Loizou, Kostas Kyriakopoulos</i>	
COOPERATIVE LOCALIZATION OF MARINE VEHICLES USING NONLINEAR STATE ESTIMATION	4874
<i>Georgios Papadopoulos, Maurice Fallon, John Leonard, Nicholas Patrikalakis</i>	
PLANE-BASED REGISTRATION OF SONAR DATA FOR UNDERWATER 3D MAPPING	4880
<i>Kaustubh Pathak, Andreas Birk, Narunas Vaskevicius</i>	
AN EFFICIENT STRATEGY FOR DATA EXCHANGE IN MULTI-ROBOT MAPPING UNDER UNDERWATER COMMUNICATION CONSTRAINTS	4886
<i>Max Pfingsthorn, Andreas Birk, Heiko Buelow</i>	
MECHANICAL SUPPORT AS A SPATIAL ABSTRACTION FOR MOBILE ROBOTS.....	4894
<i>Kristoffer Sjöo, Alper Aydemir, Thomas Mörwald, Kai Zhou, Patric Jensfelt</i>	
HUMAN-ROBOT INTERACTION FOR LEARNING AND ADAPTATION OF OBJECT MOVEMENTS.....	4901
<i>Manuel Muhlig, Michael Gienger, Jochen J. Steil</i>	
A MODEL-PREDICTIVE SWITCHING APPROACH TO EFFICIENT INTENTION RECOGNITION.....	4908
<i>Peter Krauthausen, Uwe D. Hanebeck</i>	
USING ON-LINE CONDITIONAL RANDOM FIELDS TO DETERMINE HUMAN INTENT FOR PEER-TO- PEER HUMAN ROBOT TEAMING.....	4914
<i>John Hoare, Lynne Parker</i>	
TRAJECTORY PLANNING OF A ONE-LEGGED ROBOT PERFORMING STABLE HOP.....	4922
<i>Ting-Ying Wu, T.-J. Yeh, Bing-Hung Hsu</i>	
A CPG-BASED DECENTRALIZED CONTROL OF A QUADRUPED ROBOT INSPIRED BY TRUE SLIME MOLD.....	4928
<i>Takeshi Kano, Koh Nagasawa, Dai Owaki, Atsushi Tero, Akio Ishiguro</i>	
SLIP RUNNING WITH AN ARTICULATED ROBOTIC LEG	4934
<i>Marco Hutter, C. David Remy, Mark Hoepflinger, Roland Siegwart</i>	
FACILITATING MULTI-MODAL LOCOMOTION IN A QUADRUPED ROBOT UTILIZING PASSIVE OSCILLATION OF THE SPINE STRUCTURE	4940
<i>Takashi Takuma, Masahiro Ikeda, Tatsuya Masuda</i>	
TERRAMECHANICS-BASED PROPULSIVE CHARACTERISTICS OF MOBILE ROBOT DRIVEN BY ARCHIMEDEAN SCREW MECHANISM ON SOFT SOIL.....	4946
<i>Kenji Nagaoka, Masatsugu Otsuki, Takashi Kubota, Satoshi Tanaka</i>	
DEVELOPING VIRTUAL TESTBEDS FOR MOBILE ROBOTIC APPLICATIONS IN THE WOODS AND ON THE MOON	4952
<i>Juergen Rossmann, Thomas Josef Jung, Malte Rast</i>	
SLIP-RATIO-COORDINATED CONTROL OF PLANETARY EXPLORATION ROBOTS TRAVERSING OVER DEFORMABLE ROUGH TERRAIN	4958
<i>L. Ding, H. Bao, Z. Deng, Z. Liu</i>	
A COMPARISON OF GLOBAL LOCALIZATION ALGORITHMS FOR PLANETARY EXPLORATION.....	4964
<i>Paul Timothy Furgale, Patrick Carle, Timothy Barfoot</i>	
PATTERN RECOGNITION STRUCTURED HEURISTICS METHODS FOR IMAGE PROCESSING IN MOBILE ROBOT NAVIGATION	4970
<i>Luciano Lulio, Arthur J. V. Porto, Mario Luiz Tronco</i>	
PATH FOLLOWING OF A VEHICLE-TRAILER SYSTEM IN PRESENCE OF SLIDING: APPLICATION TO AUTOMATIC GUIDANCE OF A TOWED AGRICULTURAL IMPLEMENT	4976
<i>Christophe Cariou, Roland Lenain, Benoit Thuilot, Philippe Martinet</i>	
ROW-DETECTION ON AN AGRICULTURAL FIELD USING OMNIDIRECTIONAL CAMERA.....	4982
<i>Stefan Ericson, Björn Åstrand</i>	
LINEAR-TIME PATH AND MOTION PLANNING ALGORITHM FOR A TREE CLIMBING ROBOT - TREEBOT	4988
<i>Tin Lun Lam, Guoqing Xu, Huihuan Qian, Yangsheng Xu</i>	
CONTROL OF AD-HOC FORMATIONS FOR AUTONOMOUS AIRPORT SNOW SHOVELING	4995
<i>Martin Saska, Vojtech Vonasek, Libor Preucil</i>	
IMPLEMENTATION OF ROBOT FORMATION CONTROL AND NAVIGATION USING REAL-TIME PANEL METHOD	5001
<i>Abdel-Razzak Merheb, Yunus Atas, Veysel Gazi, Nilay Sezer-Uzol</i>	
PARALLEL COMPACT ROADMAP CONSTRUCTION OF 3D VIRTUAL ENVIRONMENTS ON THE GPU.....	5007
<i>A. Bleiweiss</i>	
COORDINATED EXPLORATION WITH MARSUPIAL TEAMS OF ROBOTS USING TEMPORAL SYMBOLIC PLANNING	5014
<i>Kai M. Wurm, Christian Dornhege, Patrick Eyerich, Cyrill Stachniss, Bernhard Nebel, Wolfram Burgard</i>	
BENCHMARKING GRASPING AND MANIPULATION: PROPERTIES OF THE OBJECTS OF DAILY LIVING.....	5020
<i>Kayla Matheus, Aaron Dollar</i>	

IMPOSING JOINT KINEMATIC CONSTRAINTS WITH AN UPPER LIMB EXOSKELETON WITHOUT CONSTRAINING THE END-POINT MOTION	5028
<i>Vincent Crocher, Anis Sahbani, Guillaume Morel</i>	
AN ASYMMETRIC STIFFNESS MODEL OF A HUMAN HAND	5034
<i>Satoko Abiko, Atsushi Konno, Masaru Uchiyama</i>	
ENHANCED BIMANUAL MANIPULATION ASSISTANCE WITH THE PERSONAL MOBILITY AND MANIPULATION APPLIANCE (PERMMA)	5042
<i>Jijie Xu, Garrett Grindle, Ben Salatin, Juan J. Vazquez, Dan Ding, Rory Cooper, Hongwu Wang</i>	
DESIGN OF A LINEAR HAPTIC DISPLAY BASED ON APPROXIMATE STRAIGHT LINE MECHANISMS	5048
<i>Mathieu Joinie-Maurin, Romain Rump, Laurent Barbe, Olivier Piccin, Jacques Gangloff, Bernard Bayle</i>	
ON THE Z-WIDTH LIMITATION DUE TO THE VIBRATION MODES OF HAPTIC INTERFACES	5054
<i>J. Gil, M. Puerto, I. Diaz, E. Sanchez</i>	
DESIGN AND PSYCHOPHYSICAL EVALUATION OF A TACTILE PULSE DISPLAY FOR TELEOPERATED ARTERY PALPATION	5060
<i>Laura Santos-Carreras, Kaspar Leuenberger, Philippe Rétornaz, Roger Gassert, Hannes Bleuler</i>	
REAL-TIME VIRTUAL HAPTIZATION OF AN OBJECT SURFACE MEASURED BY A HIGH-SPEED PROJECTOR-CAMERA SYSTEM	5067
<i>Kota Toma, Shingo Kagami, Koichi Hashimoto</i>	
THREE DIMENSIONAL DEPLOYMENT OF ROBOT SWARMS	5073
<i>Geunho Lee, Yasuhiro Nishimura, Kazutaka Tatara, Nak Young Chong</i>	
A HIERARCHICAL APPROACH TO AUTOMATIC DEPLOYMENT OF ROBOTIC TEAMS WITH COMMUNICATION CONSTRAINTS	5079
<i>Yushan Chen, Sam Birch, Alin Stefanescu, Calin Belta</i>	
EXPERIMENTS IN DECENTRALIZED ROBOT CONSTRUCTION WITH TOOL DELIVERY AND ASSEMBLY ROBOTS	5085
<i>Adrienne Bolger, Matthew Faulkner, David Stein, Lauren White, Seung-Kook Yun, Daniela Rus</i>	
RESOURCE CONSTRAINED MULTIROBOT TASK ALLOCATION WITH A LEADER-FOLLOWER COALITION METHOD	5093
<i>Jian Chen, Xiao Yan, Haoyao Chen, Dong Sun</i>	
A ROBOTIC CONCEPT FOR REMOTE MAINTENANCE OPERATIONS: A ROBUST 3D OBJECT DETECTION AND POSE ESTIMATION METHOD AND A NOVEL ROBOT TOOL	5099
<i>Aksel Andreas Transeth, Øystein Skotheim, Henrik Schumann-Olsen, Gorm Johansen, Jens Thielemann, Erik Kyrkjebø</i>	
DEVELOPMENT OF AN INSPECTION ROBOT FOR 500 KV EHV POWER TRANSMISSION LINES	5107
<i>Hongguang Wang, Fei Zhang, Yong Jiang, Guangjun Liu, Xiaojie Peng</i>	
OUTDOOR NAVIGATION WITH A SPHERICAL AMPHIBIOUS ROBOT	5113
<i>Viktor Kaznov, Mattias Seeman</i>	
CLOSED-LOOP PALLET MANIPULATION IN UNSTRUCTURED ENVIRONMENTS	5119
<i>Matthew Walter, Sertac Karaman, Emilio Frazzoli, Seth Teller</i>	
A NOVEL REHABILITATION SYSTEM SUPPORTING BILATERAL ARM COOPERATIVE TRAINING	5127
<i>Chunguang Li, Yoshio Inoue, Tao Liu, Kyoko Shibata</i>	
SYMMETRIC MOTIONS FOR BIMANUAL REHABILITATION	5133
<i>Hernando Gonzalez, Rafael Alvarez, Kyle Brandon Reed</i>	
LASER-ASSISTED TELEROBOTIC CONTROL FOR ENHANCING MANIPULATION CAPABILITIES OF PERSONS WITH DISABILITIES	5139
<i>Karan Khokar, Kyle Brandon Reed, Redwan Alqasemi, Rajiv Dubey</i>	
CHANGES IN MUSCLE ACTIVATION PATTERNS FOLLOWING ROBOT-ASSISTED TRAINING OF HAND FUNCTION AFTER STROKE	5145
<i>Berna Salman, Shahabeddin Vahdat, Olivier Lambery, Ludovic Dovat, Etienne Burdet, Theodore Edgar Milner</i>	
A SELF--ROUTING PROTOCOL FOR DISTRIBUTED CONSENSUS ON LOGICAL INFORMATION	5151
<i>Adriano Fagiolini, Simone Martini, Davide Di Baccio, Antonio Bicchi</i>	
MULTIROBOT CONSENSUS WHILE PRESERVING CONNECTIVITY IN PRESENCE OF OBSTACLES WITH BOUNDED CONTROL INPUTS	5157
<i>Xiangpeng Li, Dong Sun, Jie Yang</i>	
PLANAR MULTI-ROBOT REALIZATIONS OF CONNECTIVITY GRAPHS USING GENETIC ALGORITHMS	5163
<i>Haluk Bayram, Isil Bozma</i>	
WARPWING: A COMPLETE OPEN SOURCE CONTROL PLATFORM FOR MINIATURE ROBOTS	5169
<i>Ankur Mehta, Kristofer S. J. Pister</i>	
MOBILE ROBOT LOCALIZATION USING STEREO VISION IN OUTDOOR ENVIRONMENTS UNDER VARIOUS ILLUMINATION CONDITIONS	5175
<i>Kiyoshi Irie, Tomoaki Yoshida, Masahiro Tomono</i>	
ROBUST PLACE RECOGNITION WITH STEREO CAMERAS	5182
<i>Cesar Dario Cadena Lerma, Dorian Galvez Lopez, Fabio Ramos, Juan D. Tardos, José Neira</i>	
NOISE MODEL CREATION FOR VISUAL ODOMETRY WITH NEURAL-FUZZY MODEL	5190
<i>Atsushi Sakai, Masahito Mitsuhashi, Yoji Kuroda</i>	
A SPHERICAL ROBOT-CENTERED REPRESENTATION FOR URBAN NAVIGATION	5196
<i>Maxime Meilland, Andrew Ian Comport, Patrick Rives</i>	
MOBILE ROBOT SELF-LOCALIZATION BASED ON TRACKED SCALE AND ROTATION INVARIANT FEATURE POINTS BY USING AN OMNIDIRECTIONAL CAMERA	5202
<i>T. Tasaki, S. Tokura, T. Sonoura, F. Ozaki, N. Matsuhira</i>	

LEARNING TO LOCALIZE USING GAUSSIAN PROCESS REGRESSION ON OMNIDIRECTIONAL IMAGE DATA	5208
<i>B. Huhle, T. Schairer, A. Schilling, W. Straßer</i>	
RELATIVE POSTURE ESTIMATION USING HIGH FREQUENCY MARKERS	5214
<i>Yuya Ono, Yoshio Iwai, Hiroshi Ishiguro</i>	
T-LESS : A NOVEL TOUCHLESS HUMAN-MACHINE INTERFACE BASED ON INFRARED PROXIMITY SENSING	5220
<i>Dongseok Ryu, Dugan Um, Philip Tanofsky, Do Hyong Koh, Young Sam Ryu, Sungchul Kang</i>	
A WEARABLE SYSTEM FOR THE WIRELESS EXPERIENCE OF EXTENDED RANGE TELEPRESENCE	5226
<i>Ferdinand Packi, Antonia Pérez Arias, Frederik Beutler, Uwe D. Hanebeck</i>	
TESTING AND EVALUATION OF AN INERTIAL/MAGNETIC SENSOR-BASED PEN INPUT DEVICE	5232
<i>James Calusdian, Xiaoping Yun, Leonidas Drakopoulos</i>	
DEVELOPMENT OF A 3D INTERACTIVE VIRTUAL MARKET SYSTEM WITH ADAPTIVE TREADMILL CONTROL	5238
<i>Haiwei Dong, Tatu Oshiumi, Akinori Nagano, Zhiwei Luo</i>	
T-MOBILE: VIBRO-TACTILE DISPLAY PAD WITH SPATIAL AND DIRECTIONAL INFORMATION FOR HAND-HELD DEVICE	5245
<i>G. Yang, M. Jin, Y. Jin, S. Kang</i>	
NONLINEAR CONTROL AND GEOMETRIC CONSTRAINT ENFORCEMENT FOR TELEOPERATED TASK EXECUTION	5251
<i>A. Rodriguez, E. Nuno, L. Palomo, L. Basanez</i>	
SKILL-BASED TELEMANIPULATION BY MEANS OF INTELLIGENT ROBOTS	5258
<i>Simon Notheis, Giulio Milighetti, Björn Hein, Heinz Woern, Jürgen Beyerer</i>	
FRICTION COMPENSATION IN ENERGY-BASED BILATERAL TELEMANIPULATION	5264
<i>M. Franken, S. Misra, S. Stramigioli</i>	
PERFORMANCE ANALYSIS OF A MANIPULATION TASK IN TIME-DELAYED TELEOPERATION	5270
<i>Michael C. Yip, Mahdi Tavakoli, Robert D. Howe</i>	
PERFORMANCE IMPROVEMENT OF FORCE FEEDBACK IN BILATERAL TELEOPERATION WITH PD CONTROLLER	5276
<i>Yuji Wang, Fuchun Sun, Huaping Liu, Haibo Min</i>	
MULI-DOF MODEL-REFERENCE FORCE CONTROL FOR TELEROBOTIC APPLICATIONS	5282
<i>J. Scot Hart, Gunter Niemeyer</i>	
PROBABILITY OF LOVE BETWEEN ROBOTS AND HUMANS	5288
<i>H. A. Samani, A. D. Cheok</i>	
MUTUAL ENTRAINMENT: IMPLICIT ELICITATION OF HUMAN GESTURES BY ROBOT SPEECH	5294
<i>Takamasa Ito, Masahiro Shiomi, Kazuhiko Shimozawa, Takaaki Akimoto, Katsunori Shimohara, Norihiro Hagita</i>	
EASY DEVELOPMENT OF COMMUNICATIVE BEHAVIORS IN SOCIAL ROBOTS	5302
<i>Chao Shi, Takayuki Kanda, Michihiro Shimada, Fumitaka Yamaoka, Hiroshi Ishiguro, Norihiro Hagita</i>	
MAINTAINING LEARNING MOTIVATION OF OLDER PEOPLE BY COMBINING HOUSEHOLD APPLIANCE WITH A COMMUNICATION ROBOT	5310
<i>Hirota Osawa, Jarrod Orszulak, Kathryn M Godfrey, Joseph Coughlin</i>	
DESIGN AND TESTING OF A HYBRID EXPRESSIVE FACE A HUMANOID ROBOT	5317
<i>Danny Bazo, Ravi Vaidyanathan, Alexander Lenz, Chris Melhuish</i>	
IMITATION AS A COMMUNICATION TOOL FOR ONLINE FACIAL EXPRESSION LEARNING AND RECOGNITION	5323
<i>Sofiane Boucenna, Philippe Gaussier, Pierre Andry, Laurence Hafemeister</i>	
A BIO-INSPIRED POSTURAL CONTROL FOR A QUADRUPED ROBOT: AN ATTRACTOR-BASED DYNAMICS	5329
<i>Joao Sousa, Vi-tor Matos, Cristina Santos</i>	
TRAJECTORY PLANNING AND FOUR-LEG COORDINATION FOR STAIR CLIMBING IN A QUADRUPED ROBOT	5335
<i>Chih-Chung Ko, Shen-Chiang Chen, Cheng Hsin Li, Pei-Chun Lin</i>	
FOLLOW-THE-CONTACT-POINT GAIT CONTROL OF CENTIPEDE-LIKE MULTI-LEGGED ROBOT TO NAVIGATE AND WALK ON UNEVEN TERRAIN	5341
<i>Shinkichi Inagaki, Tomoya Niwa, Tatsuya Suzuki</i>	
DISTURBANCE DETECTION, IDENTIFICATION, AND RECOVERY BY GAIT TRANSITION IN LEGGED ROBOTS	5347
<i>Aaron Johnson, Galen Clark Haynes, Daniel Koditschek</i>	
DEVELOPMENT OF TERRAIN ADAPTIVE SOLE FOR MULTI-LEGGED WALKING ROBOT	5354
<i>Shumpei Ohtsuka, Gen Endo, Eduardo F. Fukushima, Shigeo Hirose</i>	
BIOLOGICALLY-INSPIRED LOCOMOTION OF A 2G HEXAPOD ROBOT	5360
<i>Andrew Baisch, Pratheev Sreetharan, Robert Wood</i>	
TOWARDS A COMPLETE SAFE PATH PLANNING FOR ROBOTIC MANIPULATORS	5366
<i>Bakir Lacevic, Paolo Rocco</i>	
GENERATING COLLISION FREE REACHING MOVEMENTS FOR REDUNDANT MANIPULATORS USING DYNAMICAL SYSTEMS	5372
<i>Hendrik Reimann, Ioannis Iossifidis, Gregor Schoner</i>	
MST-BASED METHOD FOR 6DOF RIGID BODY MOTION PLANNING IN NARROW PASSAGES	5380
<i>M. Nowakiewicz</i>	

DEFORMATION PATH PLANNING FOR MANIPULATION OF FLEXIBLE CIRCUIT BOARDS	5386
<i>Yuya Asano, Hidefumi Wakamatsu, Eiji Morinaga, Eiji Arai, Shinichi Hirai</i>	
MOMENTUM CONSERVING PATH TRACKING THROUGH DYNAMIC SINGULARITIES WITH A FLEXIBLE-BASE REDUNDANT MANIPULATOR	5392
<i>Naoyuki Hara, Dragomir Nenchev, Qiao Sun, Daisuke Sato</i>	
NATURAL GAIT PARAMETERS PREDICTION FOR GAIT REHABILITATION VIA ARTIFICIAL NEURAL NETWORK	5398
<i>Hup Boon Lim, Trieu Phat Luu, Kay Hiang Hoon, K. H. Low</i>	
RECOGNIZING PEOPLE BASED ON THEIR FOOTSTEPS USING A WEARABLE ACCELEROMETER	5404
<i>Hannes Becker, Wolfram Burgard</i>	
OBJECT CONCEPT MODELING BASED ON THE RELATIONSHIP AMONG APPEARANCE, USAGE AND FUNCTIONS	5410
<i>Tomoaki Nakamura, Takayuki Nagai</i>	
DETECTION AND MEASUREMENT OF HUMAN MOTION AND RESPIRATION WITH MICROWAVE DOPPLER SENSOR	5416
<i>Hajime Kubo, Taketoshi Mori, Tomomasa Sato</i>	
GESTURE RECOGNITION BASED ON ARM TRACKING FOR HUMAN-ROBOT INTERACTION	5424
<i>Markos Sigalas, Haris Baltzakis, Panos Trahanias</i>	
POSITION PREDICTION IN CROSSING BEHAVIORS	5430
<i>A. Castro-Gonzalez, Masahiro Shiomi, Takayuki Kanda, Miguel A. Salichs, Hiroshi Ishiguro, Norihiro Hagita</i>	
DEVELOPMENT AND EVALUATION OF A VISION ALGORITHM FOR 3D RECONSTRUCTION OF NOVEL OBJECTS FROM THREE CAMERA VIEWS	5438
<i>Steven Colbert, Redwan Alqasemi, Rajiv Dubey, Gregor Franz, Konrad Woellhaf</i>	
EXPLOITING STRUCTURE IN TWO-ARMED MANIPULATION TASKS FOR HUMANOID ROBOTS	5446
<i>Franziska Zacharias, Daniel Leidner, Florian Schmidt, Christoph Borst, Gerd Hirzinger</i>	
THE DRIVER CONCEPT FOR THE DLR LIGHTWEIGHT ROBOT III	5453
<i>Robert Burger, Sami Haddadin, Georg Plank, Sven Parusel, Gerd Hirzinger</i>	
SKYSCRAPER-I: TETHERED WHOLE WINDOWS CLEANING ROBOT -DESIGN OF MOVING MECHANISMS AND BASIC EXPERIMENTS	5460
<i>Noriaki Imaoka, Se-Gon Roh, Nishida Yusuke, Shigeo Hirose</i>	
DISTRIBUTED CONTROL FOR AN ANTHROPOMIMETIC ROBOT	5466
<i>Michael Jantsch, Steffen Wittmeier, Alois Knoll</i>	
PADY : HUMAN-FRIENDLY/COOPERATIVE WORKING SUPPORT ROBOT FOR PRODUCTION SITE	5472
<i>Jun Kinugawa, Yuta Kawaai, Yusuke Sugahara, Kazuhiro Kosuge</i>	
CONSTRUCTION OF TASK INSTRUCTION SYSTEM FOR OBJECT RETRIEVAL SERVICE BASED ON USER SATISFACTION	5480
<i>Keitaro Kuba, Natsuki Yamanobe, Tatsunori Hara, Tamio Arai, Kazuyuki Nagata</i>	
REAL-TIME IMPLEMENTATION OF A NON-INVASIVE TONGUE-BASED HUMAN-ROBOT INTERFACE	5486
<i>Michael Mace, Khondaker Abdullah-Al-Mamun, Ravi Vaidyanathan, Shouyan Wang, Lalit Gupta</i>	
INDEX FINGER SYSTEM FORCE CAPABILITIES UNDER SIMULATED PATHOLOGICAL CONDITIONS	5492
<i>Amani Ben Sghaier, Lotfi Romdhane, Fathi Ben Oueddou</i>	
FRACTIONAL IMPEDANCE CONTROL FOR REPRODUCING THE MATERIAL PROPERTIES OF MUSCLE	5498
<i>Yo Kobayashi, Takeshi Ando, Takao Watanabe, Masatoshi Seki, Masakatsu G. Fujie</i>	
WEARABLE AND AMBIENT SENSOR FUSION FOR THE CHARACTERISATION OF HUMAN MOTION	5505
<i>Douglas Gavin McIlwraith, Julien Pansiot, Guang-Zhong Yang</i>	
TRACTION FORCE CHARACTERIZATION OF HUMAN BIPEDAL MOTION	5511
<i>Andrew Peter Vogt, Lucas Lincoln, Stacy Bamberg, Mark Minor</i>	
DEVELOPMENT OF KNEE POWER ASSIST USING BACKDRIVABLE ELECTRO-HYDROSTATIC ACTUATOR	5517
<i>Hiroshi Kaminaga, Tomoya Amari, Yamato Niwa, Yoshihiko Nakamura</i>	
DESCENDING-STAIR DETECTION, APPROACH, AND TRAVERSAL WITH AN AUTONOMOUS TRACKED VEHICLE	5525
<i>Joel Hesch, Gian Luca Mariottini, Stergios Roumeliotis</i>	
ENERGY MANAGEMENT FOR FOUR-WHEEL INDEPENDENT DRIVING VEHICLE	5532
<i>Huihuan Qian, Guoqing Xu, Jingyu Yan, Tin Lun Lam, Yangsheng Xu, Kun Xu</i>	
A SIMPLE TRACTOR-TRAILER BACKING CONTROL LAW FOR PATH FOLLOWING	5538
<i>Zhe Leng, Mark Minor</i>	
LANE DETECTION AND TRACKING IN CHALLENGING ENVIRONMENTS BASED ON A WEIGHTED GRAPH AND INTEGRATED CUES	5543
<i>Chunzhao Guo, Seiichi Mita, David McAllester</i>	
MOVING ON TO DYNAMIC ENVIRONMENTS: VISUAL ODOMETRY USING FEATURE CLASSIFICATION	5551
<i>Bernd Kitt, Frank Moosmann, Christoph Stiller</i>	
ROAD STRUCTURE BASED SCENE UNDERSTANDING FOR INTELLIGENT VEHICLE SYSTEMS	5557
<i>Akihiro Tsukada, Masahiro Ogawa, Franck Galpin</i>	
A DECENTRALIZED MULTI-ROBOT SYSTEM FOR INTRUDER DETECTION IN SECURITY DEFENSE	5563
<i>Yuyang Zhang, Yan Meng</i>	
DISTRIBUTED COVERAGE CONTROL ON SURFACES IN 3D SPACE	5569
<i>Andreas Breitenmoser, Jean-Claude Metzger, Roland Siegwart, Daniela Rus</i>	

COMPLETE AND ROBUST COOPERATIVE ROBOT AREA COVERAGE WITH LIMITED RANGE	5577
<i>Pooyan Fazli, Alireza Davoodi, Philippe Pasquier, Alan Mackworth</i>	
FOLLOW-THE-LEADER FORMATION MARCHING THROUGH A SCALABLE O(LOG2N) PARALLEL ARCHITECTURE	5583
<i>Julian Colorado, Antonio Barrientos, Claudio Rossi, Jaime Del Cerro</i>	
NAVIGATION OF MULTI-ROBOT FORMATION IN UNSTRUCTURED ENVIRONMENT USING DYNAMICAL VIRTUAL STRUCTURES	5589
<i>Ahmed Benzerrouk, Lounis Adouane, Laurent Lequeuvre, Philippe Martinet</i>	
IQ-ASYMTR: SYNTHESIZING COALITION FORMATION AND EXECUTION FOR TIGHTLY-COUPLED MULTIROBOT TASKS.....	5595
<i>Yu (Tony) Zhang, Lynne Parker</i>	
VISION GUIDED MULTI-PROBE ASSEMBLY OF 3D MICROSTRUCTURES.....	5603
<i>John Wason, John Wen, Young-Man Choi, Jason Gorman, Nicholas Dagalakis</i>	
MICROASSEMBLY USING A VARIABLE VIEW IMAGING SYSTEM TO OVERCOME SMALL FOV AND OCCLUSION PROBLEMS	5610
<i>Xiaodong Tao, Hyungsuck Cho, Deokhwa Hong</i>	
PREDICTIVE CONTROL OF A MICRO BEAD'S TRAJECTORY IN A DIELECTROPHORESIS-BASED DEVICE.....	5616
<i>Mohamed Kharboutly, Michael Gauthier, Nicolas Chaillet</i>	
VAN DER WAALS FORCE COMPUTATION OF FREELY ORIENTED ROUGH SURFACES FOR MICROMANIPULATION PURPOSES	5622
<i>M. Savia, Q. Zhou</i>	
BIOMOTOR-BASED NANOTRANSPORT SYSTEM CONSTRUCTED BY PICK-AND-PLACE ASSEMBLY OF INDIVIDUAL MOLECULES	5628
<i>Mehmet Gagatay Tarhan, Ryuji Yokokawa, Laurent Jalabert, Dominique Collard, Hiroyuki Fujita</i>	
MODELLING OF A MEMS-BASED MICROGRIPPER: APPLICATION TO DEXTEROUS MICROMANIPULATION.....	5634
<i>Mokrane Boudaoud, Yassine Haddab, Yann Le Gorrec</i>	
FLEXIBLE EXTRINSIC CALIBRATION OF NON-OVERLAPPING CAMERAS USING A PLANAR MIRROR: APPLICATION TO VISION-BASED ROBOTICS	5640
<i>P. Lebraly, C. Deymier, O. Ait-Aider, E. Royer, M. Dhome</i>	
CALIBRATION OF A ROTATING MULTI-BEAM LIDAR.....	5648
<i>Naveed Muhammad, Simon Lacroix</i>	
MULTIDIMENSIONAL SCALING BASED LOCATION CALIBRATION FOR WIRELESS MULTIMEDIA SENSOR NETWORKS	5654
<i>Rohit Shrikant Kadam, Sijian Zhang, Weihua Sheng, Qizhi Wang</i>	
IMPROVEMENT OF ROBOT ACCURACY BY CALIBRATING KINEMATIC MODEL USING A LASER TRACKING SYSTEM -COMPENSATION OF NON-GEOMETRIC ERRORS USING NEURAL NETWORKS AND SELECTION OF OPTIMAL MEASURING POINTS USING GENETIC ALGORITHM	5660
<i>Seiji Aoyagi, Atsushi Kohama, Yasutaka Nakata, Yuki Hayano, Masato Suzuki</i>	
SENSOR-BASED SELF-CALIBRATION OF THE ICUB'S HEAD.....	5666
<i>José Santos, Alexandre Bernardino, José Santos-Victor</i>	
ONE CAMERA IN HAND FOR KINEMATIC CALIBRATION OF A PARALLEL ROBOT	5673
<i>Alberto Traslousheros-Michel, Jose Maria Sebastian, Eduardo Castillo-Castaneda, Flavio Roberti, Ricardo Carelli</i>	
A BIO-PLAUSIBLE DESIGN FOR VISUAL POSE STABILIZATION.....	5679
<i>Shuo Han, Andrea Censi, Andrew D Straw, Richard Murray</i>	
USING IMAGE GRADIENT AS A VISUAL FEATURE FOR VISUAL SERVOING.....	5687
<i>Eric Marchand, Christophe Collewet</i>	
EXPERIMENTAL STUDY ON IMPEDANCE CONTROL FOR THE FIVE-FINGER DEXTEROUS ROBOT HAND DLR-HIT II.....	5693
<i>Zhaopeng Chen, Neal Y Lii, Thomas Wimboeck, Shaowei Fan, Minghe Jin, Christoph Borst, Hong Liu</i>	
WHEELED MOBILE ROBOTS NAVIGATION FROM A VISUAL MEMORY USING WIDE FIELD OF VIEW CAMERAS	5701
<i>H. Becerra, J. Courbon, Y. Mezouar, C. Sagues</i>	
A REDUNDANCY-BASED APPROACH FOR OBSTACLE AVOIDANCE IN MOBILE ROBOT NAVIGATION.....	5708
<i>Andrea Cherubini, Francois Chaumette</i>	
A MULTI-PLANE APPROACH FOR ULTRASOUND VISUAL SERVOING : APPLICATION TO A REGISTRATION TASK.....	5714
<i>Caroline Nadeau, Alexandre Krupa</i>	
MARKERLESS, VISION-ASSISTED FLIGHT CONTROL OF A QUADROPTER	5720
<i>Sebastian Klose, Jian Wang, Michael Achtelik, Giorgio Panin, Florian Holzapfel, Alois Knoll</i>	
READER ANTENNAS' CONFIGURATION EFFECTS FOR TWO WHEELED ROBOTS ON FLOOR-INSTALLED RFID INFRASTRUCTURE - ANALYSIS OF FORWARD-BACKWARD CONFIGURATION EFFECT -	5726
<i>Kenri Kodaka, Shigeki Sugano</i>	
EVALUATION OF THE ROBUSTNESS OF PLANAR-PATCHES BASED 3D-REGISTRATION USING MARKER-BASED GROUND-TRUTH IN AN OUTDOOR URBAN SCENARIO.....	5733
<i>Kaustubh Pathak, Dorit Borrmann, Jan Elseberg, Narunas Vaskevicius, Andreas Birk, Andreas Nuechter</i>	
OPTIMAL STOCHASTIC LINEARIZATION FOR RANGE-BASED LOCALIZATION.....	5739
<i>Frederik Beutler, Marco F. Huber, Uwe D. Hanebeck</i>	

6-DOF LOCALIZATION FOR A MOBILE ROBOT USING OUTDOOR 3D VOXEL MAPS	5745
<i>Taro Suzuki, Mitsunori Kitamura, Yoshiharu Amano, Takumi Hashizume</i>	
PARTICLE FILTER-BASED POSITION ESTIMATION IN ROAD NETWORKS USING DIGITAL ELEVATION MODELS	5752
<i>Christian Mandel, Tim Laue</i>	
TEMPORARY MAPS FOR ROBUST LOCALIZATION IN SEMI-STATIC ENVIRONMENTS	5758
<i>Daniel Meyer-Delius, Juergen Michael Hess, Giorgio Grisetti, Wolfram Burgard</i>	
CHARACTERIZATION AND CONTROL OF A MONOLITHICALLY FABRICATED BISTABLE MODULE FOR MICROROBOTIC APPLICATIONS	5764
<i>Qiao Chen, Yassine Haddab, Philippe Lutz</i>	
MICROROBOTIC PLATFORM FOR MANIPULATION AND FLEXIBILITY MEASUREMENT OF INDIVIDUAL PAPER FIBERS	5770
<i>Pooya Saketi, Arnis Treimanis, Pedro Fardim, Pekka Ronkanen, Pasi Johannes Kallio</i>	
DEVELOPMENT OF A WIRELESS HYBRID MICROROBOT FOR BIOMEDICAL APPLICATIONS	5776
<i>Q. Pan, S. Guo, T. Okada</i>	
DYNAMIC BEHAVIOR INVESTIGATION FOR TRAJECTORY CONTROL OF A MICROROBOT IN BLOOD VESSELS	5782
<i>Laurent Arcese, Ali Cherry, Matthieu Fruchard, Antoine Ferreira</i>	
TUNING FORK BASED IN SITU SEM NANOROBOTIC MANIPULATION SYSTEM FOR WIDE RANGE MECHANICAL CHARACTERIZATION OF ULTRA FLEXIBLE NANOSTRUCTURES	5788
<i>Juan Camilo Acosta, Gilgueng Hwang, Francois Thoyer, Jerome Polesel-Maris, Stéphane Régnier</i>	
CHARACTERIZATION OF ETCHED AND UNETCHED VERTICALLY ALIGNED CARBON NANOFIBERS (VACNFS) USING ATOMIC FORCE MICROSCOPY	5794
<i>Siva Naga Sandeep Chalamalasetty, Zhuxin Dong, Uchechukwu C. Wejinya</i>	
PREDICTIVE DISPLAY FOR MOBILE MANIPULATORS IN UNKNOWN ENVIRONMENTS USING ONLINE VISION-BASED MONOCULAR MODELING AND LOCALIZATION	5800
<i>David Lovi, Neil Birkbeck, Alejandro Hernandez Herdocia, Adam Rachmielowski, Martin Jagersand, Dana Cobzas</i>	
DEVELOPMENT OF TELE-OPERATION SYSTEM FOR A CRANE WITHOUT OVERSHOOT IN POSITIONING	5807
<i>Hisashi Osumi, Masahiro Kubo, Shisato Yano, Keiichiro Saito</i>	
AN ENERGY-BOUNDING APPROACH TO RATE-MODE BILATERAL TELEOPERATION OF REMOTE VEHICLES IN CONSTANT TIME-DELAYED ENVIRONMENTS	5814
<i>Sungjun Park, Changhoon Seo, Jong-Phil Kim, Jeha Ryu</i>	
IMPROVING MOBILE ROBOT BILATERAL TELEOPERATION BY INTRODUCING VARIABLE FORCE FEEDBACK GAIN	5820
<i>Ildar Farkhatdinov, Jee-Hwan Ryu</i>	
DEVELOPMENT OF A HYBRID CONTROL FOR A PNEUMATIC TELEOPERATION SYSTEM USING ON/OFF SOLENOID VALVE	5826
<i>Minh-Quyen Le, Minh Tu Pham, Mahdi Tavakoli, Richard Moreau</i>	
WIDE-AREA HAPTIC GUIDANCE: TAKING THE USER BY THE HAND	5832
<i>Antonia Pérez Arias, Uwe D. Hanebeck</i>	
DEVELOPMENT OF A SCALE OF PERCEPTION TO HUMANOID ROBOTS: PERNOD	5838
<i>Hiroko Kamide, Yasushi Mae, Tomohito Takubo, Kenichi Ohara, Tatsuo Arai</i>	
MODEL VALIDATION: ROBOT BEHAVIOR IN PEOPLE GUIDANCE MISSION USING DTM MODEL AND ESTIMATION OF HUMAN MOTION BEHAVIOR	5844
<i>Anais Garrell, Alberto Sanfeliu</i>	
MIGHTABILITY MAPS: A PERCEPTUAL LEVEL DECISIONAL FRAMEWORK FOR CO-OPERATIVE AND COMPETITIVE HUMAN-ROBOT INTERACTION	5850
<i>Amit Kumar Pandey, Rachid Alami</i>	
PEOPLE DETECTION USING RANGE AND INTENSITY DATA FROM MULTI-LAYERED LASER RANGE FINDERS	5857
<i>Alexander Carballo, Akihisa Ohya, Shinichi Yuta</i>	
A FRAMEWORK TOWARDS A SOCIALLY AWARE MOBILE ROBOT MOTION IN HUMAN-CENTERED DYNAMIC ENVIRONMENT	5863
<i>Amit Kumar Pandey, Rachid Alami</i>	
A MOBILE ROBOT THAT UNDERSTANDS PEDESTRIAN SPATIAL BEHAVIORS	5869
<i>Shu Yun Chung, Han-Pang Huang</i>	
MODELLESS AND GRASPING-FORCELESS CONTROL BY ROBOTIC FINGERS CAPABLE OF MECHANICALLY COUPLED MOVEMENT	5875
<i>Takahiro Inoue, Shinichi Hirai, Daisuke Takizawa</i>	
PROGRESS IN THE BIOMECHATRONIC DESIGN AND CONTROL OF A HAND PROSTHESIS	5880
<i>Xinqing Wang, Yiwei Liu, Dapeng Yang, Nan Li, Li Jiang, Hong Liu</i>	
THE THUMB: GUIDELINES FOR A ROBOTIC DESIGN	5886
<i>Maxime Chalon, Markus Grebenstein, Thomas Wimboeck, Gerd Hirzinger</i>	
PRESHAPED VISUAL GRASP OF UNKNOWN OBJECTS WITH A MULTI-FINGERED HAND	5894
<i>Vincenzo Lippiello, Fabio Ruggiero, Luigi Villani, Bruno Siciliano</i>	
IMPROVING MOTION PLANNING IN WEAKLY CONNECTED CONFIGURATION SPACES	5900
<i>David Flavigné, Michel Taïx</i>	
REAL-TIME PATH PLANNING FOR A ROBOT ARM IN CHANGING ENVIRONMENTS	5906
<i>Tobias Kunz, Ulrich Reiser, Mike Stilman, Alexander Verl</i>	

ADAPTIVE REPLANNING IN HARD CHANGING ENVIRONMENTS	5912
<i>Hong Liu, Weiwei Wan</i>	
REAL-TIME ADAPTIVE MOTION PLANNING FOR A CONTINUUM MANIPULATOR	5919
<i>Jing Xiao, Rayomand Vatcha</i>	
ONLINE REPLANNING FOR REACTIVE ROBOT MOTION: PRACTICAL ASPECTS	5927
<i>Eiichi Yoshida, Kazuhito Yokoi, Pierre Gergondet</i>	
TASK SPACE MOTION PLANNING USING REACTIVE CONTROL	5934
<i>Matthias Behnisch, Robert Haschke, Michael Gienger</i>	
LASER RANGE DATA BASED SEMANTIC LABELING OF PLACES	5941
<i>Lei Shi, Sarath Kodagoda, Gamini Dissanayake</i>	
ENERGY MINIMIZATION VIA GRAPH CUTS FOR SEMANTIC PLACE LABELING	5947
<i>Ehsan Fazl-Ersi, John Tsotsos</i>	
3D LOCALIZATION BASED ON VISUAL ODOMETRY AND LANDMARK RECOGNITION USING IMAGE EDGE POINTS	5953
<i>Masahiro Tomono</i>	
LEARNING TO HASH LOGISTIC REGRESSION FOR FAST 3D SCAN POINT CLASSIFICATION	5960
<i>Jens Behley, Kristian Kersting, Dirk Schulz, Volker Steinhage, Armin Cremers</i>	
A NEW SONAR SALIENT FEATURE STRUCTURE FOR EKF-BASED SLAM	5966
<i>Se-Jin Lee, Jae-Bok Song</i>	
CONSTRUCTION OF A COMPACT RANGE IMAGE SENSOR USING MULTI-SLIT LASER PROJECTOR AND OBSTACLE DETECTION OF A HUMANOID WITH THE SENSOR	5972
<i>Takahiro Kuroki, Kenji Terabayashi, Kazunori Umeda</i>	
A NAVIGATION SYSTEM FOR FAMILY INDOOR MONITOR MOBILE ROBOT	5978
<i>Fusheng Tan</i>	
PROACTIVE AVOIDANCE OF MOVING OBSTACLES FOR A SERVICE ROBOT UTILIZING A BEHAVIOR-BASED CONTROL	5984
<i>Michael Goeller, Florian Steinhardt, Thilo Kerscher, Johann Marius Zöllner, Rüdiger Dillmann</i>	
DEPLOYMENT OF A SERVICE ROBOT TO HELP OLDER PEOPLE	5990
<i>Chandimal Jayawardena, I Han Kuo, Ulrike Unger, Aleksandar Igic, Richie Wong, Catherine Watson, Rebecca McAulay Quinlan Stafford, Elizabeth Broadbent, Priyesh Tiwari, Jim Warren, Bruce Macdonald, Joochan Sohn</i>	
DEVELOPMENT OF A NURSING-CARE ASSISTANT ROBOT RIBA THAT CAN LIFT A HUMAN IN ITS ARMS	5996
<i>Toshiharu Mukai, Shinya Hirano, Hiromichi Nakashima, Yo Kato, Yuki Sakaida, Shijie Guo, Shigeyuki Hosoe</i>	
POWER ASSIST METHOD FOR A NONHOLONOMIC MOBILE ROBOT USING BOTH ZMP CRITERION AND IMPEDANCE CONTROL	6002
<i>Hiroshi Hiroshi Hidaka, Yoshiro Hada, Yuichi Murase, Shinji Kanda</i>	
AUTOMATICALLY AVAILABLE PHOTOGRAPHER ROBOT FOR CONTROLLING COMPOSITION AND TAKING PICTURES	6010
<i>Myung Jin Kim, Tae Houn Song, Seunghun Jin, Soonmook Jeong, Gi Hoon Go, Keyho Kwon, Jae Wook Jeon</i>	
CONTROL AND PATH PLANNING OF A WALK-ASSIST ROBOT USING DIFFERENTIAL FLATNESS	6016
<i>C. Ko, S. Agrawal</i>	
CONCEPT OF A MOBILE ROBOT-ASSISTED GAIT REHABILITATION SYSTEM • SIMULATION STUDY	6022
<i>Sinisa Slavic, Adrian Leu, Danijela Ristic-Durrant, Axel Gräser</i>	
A NEW TYPE OF OMNIDIRECTIONAL WHEELCHAIR ROBOT FOR WALKING SUPPORT AND POWER ASSISTANCE	6028
<i>Chi Zhu, Masashi Oda, Masayuki Suzuki, Xiang Luo, Hideomi Watanabe, Yuling Yan</i>	
TAILOR-MADE MODELING AND SWAY CONTROL OF HUMAN POSTURE RIDING ON ELECTRICAL WHEELCHAIR FOR COMFORT DRIVING	6034
<i>Koumei Yamashita, Yoshiyuki Noda, Takanori Miyoshi, Kazuhiko Terashima</i>	
POWER ASSIST EFFECTS OF A NEW TYPE ASSIST UNIT IN A ONE HAND DRIVE WHEELCHAIR WITH A TRIPLE RING	6040
<i>Kazuaki Sakai, Toshihiko Yasuda, Katsuyuki Tanaka</i>	
AUTO-TUNING CONTROL OF POWER ASSIST SYSTEM BASED ON THE ESTIMATION OF OPERATOR'S SKILL LEVEL FOR FORWARD AND BACKWARD DRIVING OF OMNI-DIRECTIONAL WHEELCHAIR	6046
<i>Kazuhiko Terashima, Kaoru Watanabe, Yuki Ueno, Yoji Masui</i>	
BUILDING LANE-GRAPHS FOR AUTONOMOUS PARKING	6052
<i>Young-Woo Seo, Chris Urmson, David Wettergreen, Jin-Woo Lee</i>	
THREAT-AWARE PATH PLANNING IN UNCERTAIN URBAN ENVIRONMENTS	6058
<i>Georges Aoude, Brandon Luders, Daniel S Levine, Jonathan How</i>	
GUIDANCE BASED COLLISION AVOIDANCE OF COORDINATED NONHOLONOMIC AUTONOMOUS VEHICLES	6064
<i>Xianbo Xiang, Lionel Lapierre, Bruno Jouvencel</i>	
LOCAL GRAPH-BASED DISTRIBUTED CONTROL FOR SAFE HIGHWAY PLATOONING	6070
<i>Sven Gowal, Riccardo Falconi, Alcherio Martinoli</i>	
ACCURATE PLATOON CONTROL OF URBAN VEHICLES, BASED SOLELY ON MONOCULAR VISION	6077
<i>Pierre Avanzini, Benoît Thuilot, Philippe Martinet</i>	
BRINGING SIMULATION TO LIFE: A MIXED REALITY AUTONOMOUS INTERSECTION	6083
<i>Michael Quinlan, Tsz-Chiu Au, Jesse Zhu, Nicolae Stiuurca, Peter Stone</i>	

TRACKING OF CLOSED-CURVE TRAJECTORIES FOR MULTI-ROBOT SYSTEMS	6089
<i>Lorenzo Sabattini, Cristian Secchi, Cesare Fantuzzi, Daniel De Macedo Possamai</i>	
AGREEMENT ON STOCHASTIC MULTI-ROBOT SYSTEMS WITH COMMUNICATION FAILURES	6095
<i>Fayette Shaw, Albert Chiu, James McLurkin</i>	
EFFICIENT KINEMATIC SOLUTION TO A MULTI-ROBOT WITH SERIAL AND PARALLEL MECHANISMS	6101
<i>H. Zhang, G. Salvietti, W. Wang, G. Li, J. Yu, J. Zhang</i>	
A COMPONENT-BASED ARCHITECTURE FOR FLEXIBLE INTEGRATION OF ROBOTIC SYSTEMS	6107
<i>Min Yang Jung, Anton Deguet, Peter Kazanzides</i>	
OBJECT INTERACTION LANGUAGE (OIL): AN INTENT-BASED LANGUAGE FOR PROGRAMMING SELF-ORGANIZED SENSOR/ACTUATOR NETWORKS	6113
<i>Daniel J. Sutton, Peter T. Klein, Michael W. Otte, Nikolaus Correll</i>	
AN FPGA BASED APPROACH TO INCREASED FLEXIBILITY, MODULARITY AND INTEGRATION OF LOW LEVEL CONTROL IN ROBOTICS RESEARCH	6119
<i>Simon Falsig, Anders Stengaard Soerensen</i>	
CONTROL MODELING OF A MICRO-MANIPULATOR FOR HUMAN SCALE TELE-OPERATION SYSTEM	6125
<i>Nan Xiao, Shuxiang Guo</i>	
3D HAPTIC HANDLING OF MICROSPHERES	6131
<i>Aude Bolopion, Hui Xie, Dogan Sinan Haliyo, Stéphane Régnier</i>	
MICRO MANIPULATION BASED ON ADHESION CONTROL WITH COMPOUND VIBRATION	6137
<i>T. Chen, L. Chen, L. Sun, W. Rong, Q. Yang</i>	
KINEMATICS PARAMETERS ESTIMATION FOR AN AFM/ROBOT INTEGRATED MICRO-FORCE MEASUREMENT SYSTEM	6143
<i>Dong Wei, David Rostoucher, Michael Gauthier</i>	
IMAGE-GUIDED ROBOT-ASSISTED MICROSCOPE OBJECTIVE LENS POSITIONING: APPLICATION IN PATCH CLAMPING	6149
<i>Mahdi Azizian, Rajni Patel, Cezar Gavrilovici, Michael Poulter</i>	
FLOCKING OF MICRO-SCALE PARTICLES WITH ROBOTICS AND OPTICAL TWEEZERS TECHNOLOGIES	6155
<i>Haoyao Chen, Dong Sun, Jian Chen, Yanhua Wu</i>	
AN EXTENDED FRICTION MODEL TO CAPTURE LOAD AND TEMPERATURE EFFECTS IN ROBOT JOINTS	6161
<i>André Carvalho Bittencourt, Erik Wernholt, Shiva Sander-Tavallaey, Torgny Brogardh</i>	
LOW-COST ACCELEROMETERS FOR ROBOTIC MANIPULATOR PERCEPTION	6168
<i>Morgan Quigley, Reuben Brewer, Sai Prashanth Soundararaj, Vijay Pradeep, Quoc Le, Andrew Ng</i>	
FLEXIBLE MODEL IDENTIFICATION OF THE PARALLEL ROBOT PAR2	6175
<i>Luiz Ricardo Douat, Isabelle Queinnec, Germain Garcia, Mical Michelin, Francois Pierrot</i>	
NUMERICAL ASPECTS REGARDING THE A-PRIORI FISHER INFORMATION OF NONLINEAR MODELS FOR HYDRAULIC SERVO-SYSTEMS	6181
<i>Franz Dietrich, Annika Raatz, Juergen Hesselbach</i>	
DYNAMIC IDENTIFICATION OF ROBOTS WITH A DRY FRICTION MODEL DEPENDING ON LOAD AND VELOCITY	6187
<i>Pauline Hamon, Maxime Gautier, Philippe Garrec</i>	
IDENTIFICATION OF STANDARD INERTIAL PARAMETERS FOR LARGE-DOF ROBOTS CONSIDERING PHYSICAL CONSISTENCY	6194
<i>Ko Ayusawa, Yoshihiko Nakamura</i>	
OMNIDIRECTIONAL PHOTOMETRIC VISUAL SERVOING	6202
<i>Guillaume Caron, Eric Marchand, El Mustapha Mouaddib</i>	
A COMPARATIVE STUDY BETWEEN ANALYTIC AND ESTIMATED IMAGE JACOBIAN BY USING A STEREOSCOPIC SYSTEM OF CAMERAS	6208
<i>Lizardo Pari, Jose Maria Sebastian, Alberto Traslosheros, Luis Angel</i>	
DISTRIBUTED COMPUTATION AND DATA SCHEDULING FOR NETWORKED VISUAL SERVO CONTROL SYSTEMS	6216
<i>Haiyan Wu, Lei Lou, Chih-Chung Chen, Kolja Kuhnlenz, Sandra Hirche</i>	
NEW STRATEGIES FOR AVOIDING ROBOT JOINT LIMITS: APPLICATION TO VISUAL SERVOING USING A LARGE PROJECTION OPERATOR	6222
<i>Mohammed Marey, Francois Chaumette</i>	
VISUAL SERVOING WITH QUICK EYE-VERGENCE TO ENHANCE TRACKABILITY AND STABILITY	6228
<i>Fujia Yu, Mamoru Minami, Wei Song</i>	
THREE-VIEW UNCALIBRATED VISUAL SERVOING	6234
<i>Azad Shademan, Martin Jagersand</i>	
Author Index	