

19th International Symposium in Robot and Human Interactive Communication 2010

**Viareggio, Italy
13-15 September 2010**



**IEEE Catalog Number: CFP10RHC-PRT
ISBN: 978-1-4244-7991-7**

TABLE OF CONTENTS

MOSTST SINGLE TRACK PAPERS I (REGULAR SESSION)

A Methodological Adaptation for Heuristic Evaluation of HRI	1
<i>Astrid Weiss, Daniela Wurhofer, Regina Bernhaupt, Martin Altmanninger, Manfred Tscheligi</i>	
Extended Duration Human-Robot Interaction: Tools and Analysis	7
<i>Ravi Kiran Sarvadevabhatla, Victor Ng-Thow-Hing, Sandra Okita</i>	
Transparency of a Pneumatic Teleoperation System Using On/off Solenoid Valves	15
<i>Minh-Quyen LE, Minh Tu Pham, Richard Moreau, Tanneguy Redarce</i>	

MOA1T1 HAPTIC INTERACTION I (REGULAR SESSION)

Human Telehaptic Perception of Stiffness Using an Adaptive Impedance Reflection Bilateral Teleoperation Control Scheme	21
<i>Spyros Velanas, Costas S. Tzafestas</i>	
Provision of Haptic/Tactile Information by a Vehicle Steering Interface	27
<i>takuma ito, Minoru Kamata</i>	
Mechanical Design and Optimization of a Novel fMRI Compatible Haptic Manipulator	33
<i>Siqiao Li, Antonio Frisoli, Massimiliano Solazzi, Massimo Bergamasco</i>	

MOA1T2 VIRTUAL AND AUGMENTED REALITY (REGULAR SESSION)

Development of an Information Projection Interface Using a Projector-Camera System	39
<i>Hiroki Goto, Yuzo Kawasaki, Akio NAKAMURA</i>	
Visual Interface System by Character Handwriting Gestures in the Air	45
<i>Toshio Asano, Sachio Honda</i>	
Robotic Arm for Car Dashboard Layout Assessment in Mixed Reality Environment.....	51
<i>Giandomenico Caruso, Paolo Bellucci</i>	
A Virtual Environment for Realistic Testing and Training of Face Detection and Recognition Systems	58
<i>Mauricio Correa, Javier Ruiz-del-Solar, Isao Parra-Tsunekawa</i>	
Development of Virtual Viewing Direction Operation System with Image Stabilization for Asynchronous Visual Information Sharing.....	65
<i>Naoji Shiroma, Eimei Oyama</i>	

MOA1T3 SOCIAL ROBOTICS I (REGULAR SESSION)

Improved Robot Attitudes and Emotions at a Retirement Home after Meeting a Robot	71
<i>Rebecca McAulay Quinlan Stafford, Elizabeth Broadbent, Chandimal Jayawardena, Ulrike Unger, I Han Kuo, Aleksandar Igic, Richie Wong, Ngaire Kerse, Catherine Watson, Bruce MacDonald</i>	
Towards a Formulation of Love in Human-Robot Interaction.....	77
<i>Hooman Aghaebrahimi Samani, Adrian CHEOK, Foo Wui Ngiap, Arjun Nagpal, MINGDE QIU</i>	
"Does it Work?" A Framework to Evaluate the Effectiveness of a Robotic Toy for Children with Special Needs.....	83
<i>Ester Ferrari, Ben Robins, Kerstin Dautenhahn</i>	
The Social Robot Flobi: Key Concepts of Industrial Design.....	90
<i>Frank Hegel, Friederike Eyssel, Britta Wrede</i>	
Interactive Medicine Case System for Promoting Correct Dosing.....	96
<i>Takuo Suzuki, Yasushi Nakauchi</i>	

MOP1T1 TELEOPERATED INTERACTION (REGULAR SESSION)

Energy Recovery in Time-Varying Delay Teleoperated System Using Wave-Variables	102
<i>Massimo Satler, Carlo Alberto Avizzano, Antonio Frisoli, Paolo Tripicchio, Massimo Bergamasco</i>	

Incorporated Identity in Interaction with a Teleoperated Android Robot: A Case Study.....	109
<i>Ilona Straub, Shuichi Nishio, Hiroshi Ishiguro</i>	
Collaboration and Skill Transmission by First-Person Perspective View Sharing System	115
<i>Hiroki Kawasaki, Hiroyuki Iizuka, Shin Okamoto, Hideyuki Ando, Maeda Taro</i>	

MOP1T2 MACHINE LEARNING AND REASONING (REGULAR SESSION)

Learning Grasp Stability Based on Tactile Data and HMMs	122
<i>Yasemin Bekiroglu, Danica Kragic, Ville Kyriki</i>	
Belief Modelling for Situation Awareness in Human-Robot Interaction	128
<i>Pierre Lison, Carsten Ehrler, Geert-Jan Kruijff</i>	
Service-Oriented Context Reasoning Incorporating Patterns and Knowledge for Understanding Human-Augmented Situations	134
<i>Gi Hyun Lim, Kun Woo Kim, Byoungjun Chung, Il Hong Suh, Hyowon Suh, Munsang Kim</i>	

MOP1T3 LOCOMOTION AND WALKING I (REGULAR SESSION)

Development of a Walking Assistance Apparatus Using a Spatial Parallel Link Mechanism and Evaluation of Muscle Activity.....	141
<i>Hirokazu Yusa, Eiichirou Tanaka, Tadaaki Ikebara, Kazuhisa Ito, Shozo Saegusa, Kenichi Hashimoto, Yusuke Sato, Louis Yuge</i>	
Clinical VR Applications with the Light-Exoskeleton for Upper-Part Neurorehabilitation	149
<i>Luis Ivan Lugo Villeda, Antonio Frisoli, edoardo sotgiu, Giovanni Greco, Massimo Bergamasco</i>	
Admittance Based Control of Wheelchair Typed Omnidirectional Robot for Walking Support and Power Assistance.....	155
<i>Masashi Oda, Chi Zhu, masayuki suzuki, Xiang Luo, Hideomi WATANABE, Yuling Yan</i>	
SVM Classification of Locomotion Modes Using Surface Electromyography for Applications in Rehabilitation Robotics	161
<i>Elena Ceseracciu, Monica Reggiani, Zimi Sawacha, Massimo Sartori, Fabiola Spolaor, Claudio Cobelli, Enrico Pagello</i>	

MOP2T1 HUMAN-AGENT INTERACTION I (SPECIAL SESSION)

Experimental Investigation on a Robot-Like Remote Control with Strokes	167
<i>Kazuki Kobayashi, Seiji Yamada, Shinobu Nakagawa, Yasunori Saito</i>	
Telerobotics Connecting Classrooms between Japan and US: A Project Overview	173
<i>Fumihide Tanaka, Tomoyuki Noda</i>	
Improving Voice Interaction for Older People Using an Attachable Gesture Robot.....	175
<i>Hirotaka Osawa, Jarrod Orszulak, Kathryn M Godfrey, Michita Imai, Joseph Coughlin</i>	

MOP2T2 COGNITION FOR INTERACTIVE ROBOTS I (SPECIAL SESSION)

Load Sharing in Human-Robot Cooperative Manipulation	181
<i>Martin Lawitzky, Alexander Mordt, Sandra Hirche</i>	
Shape and Weight Rendering for Haptic Augmented Reality	188
<i>Stefano Scheggi, Gionata Salvietti, Domenico Prattichizzo</i>	
Exploiting Human Cooperation in Human-Centered Robot Navigation	194
<i>Thibault Kruse, Alexandra Kirsch, Emrah Akin Sisbot, Rachid Alami</i>	
Towards Robotic Facial Mimicry: System Development and Evaluation.....	200
<i>Christoph Mayer, Stefan Sosnowski, Kolja Kuhnlenz, Bernd Radig</i>	

MOP2T3 BRAIN ENGINEERING AND SCIENCE I (SPECIAL SESSION)

Influence of 10 Seconds' Interval in Pragmatic Interpretation.....	206
<i>Tetsuya Yasuda, Harumi Kobayashi</i>	
Association between Ego Scores and Individual Characteristics in EEG Analysis: Basic Study on Individual Brain Activity	212
<i>Shin-ichi Ito, Yasue Mitsukura, Katsuya Sato, Shoichiro Fujisawa, Minoru Fukumi</i>	

Social Cooperation Analysis for Multi-User Cooperative Tasks	218
<i>Hiroshi Igarashi, Satoshi Suzuki, Harumi Kobayashi, FUMIO HARASHIMA</i>	

MOP3T1 HUMAN-AGENT INTERACTION II (SPECIAL SESSION)

Human Cognitive Strategy for Understanding the Behaviour of Entities	224
<i>Kazunori Terada, Kouhei Ono, Akira Ito</i>	
Does the Appearance of a Robot Affect Users' Ways of Giving Commands and Feedback?	230
<i>Anja Austermann, Seiji Yamada, Kotaro Funakoshi, Mikio Nakano</i>	
Active Perception Based on Hough Transform and Evolutionary Computation Using 3D Range Sensor	236
<i>Erriko Hiwada, Hiroyuki Masuta, Naoyuki Kubota</i>	

MOP3T2 COGNITION FOR INTERACTIVE ROBOTS II (SPECIAL SESSION)

Human Eye Movement Behavior in Action Observation	242
<i>Bjorn Vlaskamp, Anna Schuboe</i>	
Interacting in Time and Space: Investigating Human-human and Human-robot Joint Action	248
<i>Stefan Glasauer, Markus Huber, Patrizia Basili, Alois Knoll, Thomas Brandt</i>	
Towards Mapping Emotive Gait Patterns from Human to Robot	254
<i>Michelle Karg, Mathias Schwimmbeck, Kolja Kuhnen, Martin Buss</i>	
Towards a Dialog Strategy for Handling Miscommunication in Human-Robot Dialog.....	260
<i>Barbara Gonsior, Dirk Wollherr, Martin Buss</i>	

MOP3T3 BRAIN ENGINEERING AND SCIENCE II (SPECIAL SESSION)

Bayesian Intention Estimator Using Self-Organizing Map and Its Experimental Verification	266
<i>Satoshi Suzuki, FUMIO HARASHIMA</i>	
A Method of Obtaining Sense of Touch by Using EEG	272
<i>Tsukasa Nakamura, Shin-ichi Ito, Yohei Tomita, Yasue Mitsukura</i>	
Riding Condition Extraction System by the EEG Analysis.....	278
<i>Yohei Tomita, Hironobu Fukai, Yasue Mitsukura</i>	
Question Utterances in a Collaborative Conveyer Task in Virtual Space	282
<i>Masafumi Kumata, Shuichi Nakata, Satoshi Suzuki, Hiroshi Igarashi, Harumi Kobayashi</i>	
Classification of Hand Postures Based on 3D Vision Model for Human-Robot Interaction	288
<i>Hironori Takimoto, Seiki Yoshimori, Yasue Mitsukura, Minoru Fukumi</i>	

TUA1T1 ROBOTIC BEHAVIOR (REGULAR SESSION)

An Embodied Entrainment Character Cell Phone by Speech and Head Motion Inputs.....	294
<i>Michiya Yamamoto, Kouzi Osaki, Shotaro Matsune, Tomio Watanabe</i>	
Robot's Emotional Expression Generation Based on Context Information and Combination of Behavior Database	300
<i>Woo Hyun KIM, Jeong Woo Park, Wonhyong Lee, Myung Jin Chung</i>	
Motion Rendering System for Emotion Expression of Human Form Robots Based on Laban Movement Analysis.....	308
<i>Megumi Masuda, Shohei Kato</i>	

TUA1T2 HUMAN FACTORS IN ROBOTICS I (REGULAR SESSION)

Quantity or Quality - Predictability and Experience: A Case Study in Human-Robot Interaction	314
<i>Tal Sobol-Shikler, Yisrael Parmet, Yael Edan</i>	
Increased Effort Affects Performance in a Joint Pick-and-Place Task.....	320
<i>Tamara Lorenz, Anna Schuboe</i>	
How Safe Are Robots in Urban Environments? Bullying a Service Robot.....	326
<i>Pericle Salvini, Gaetano Ciaravella, Wonpil Yu, Gabriele Ferri, Alessandro Manzi, Cecilia Laschi, Barbara Mazzolai, Sang-Rok Oh, Paolo Dario</i>	

Development of Advanced Cellular Manufacturing System with Human-Robot Collaboration - Assessment of Mental Strain on Human Operators Induced by the Assembly Support	333
<i>Ryu Kato, Marina Fujita, Tamio Arai</i>	
Assessment of Operators' Mental Strain Induced by Hand-Over Motion of Industrial Robot Manipulator	339
<i>Marina Fujita, Ryu Kato, Tamio Arai</i>	

TUA1T3 ROBOTIC VISION (REGULAR SESSION)

Visibility Techniques Applied to Robotics.....	345
<i>Emiliano Morini, Fabrizio Rocchi, Carlo Alberto Avizzano, Massimo Bergamasco</i>	
Laser Reflection Intensity and Multi-Layered Laser Range Finders for People Detection.....	351
<i>Alexander Carballo, Akihisa Ohya, Shinichi Yuta</i>	
Characterization of the Hokuyo UBG-04LX-F01 2D Laser Rangefinder	357
<i>Chan Soo Park, Doik Kim, BUM JAE YOU, Sang-Rok Oh</i>	
Predictive Visual Recognition of Types of Structural Corridor Landmarks for Mobile Robot Navigation	363
<i>Young-Bin Park, Il Hong Suh</i>	

TUSTST SINGLE TRACK PAPERS II (REGULAR SESSION)

An Architecture for Rehabilitation Task Practice in Socially Assistive Human-Robot Interaction.....	369
<i>Ross Mead, Eric Wade, Pierre Johnson, Aaron St. Clair, Shu-Ya Chen, Maja Mataric</i>	
Homeokinetic Prosthetic Control: Collaborative Selection of Myosignal Features	375
<i>Frank Hesse, J. Michael Herrmann</i>	
Robot Exercise Instructor: A Socially Assistive Robot System to Monitor and Encourage Physical Exercise for the Elderly	381
<i>Juan Fasola, Maja Mataric</i>	

TUP1T1 ROOM MULTIMODAL INTERFACES FOR CAPTURING AND TRANSFER OF SKILLS (SPECIAL SESSION)

A Multimodal Training Platform for Minimally Invasive Robotic Surgery.....	387
<i>Rainer Konietzschke, Andreas Toberge, Carsten Preusche, Paolo Tripicchio, Emanuele Ruffaldi, Sabine Webel, Uli Bockholt</i>	
IMA-VR: A Multimodal Virtual Training System for Skills Transfer in Industrial Maintenance and Assembly Tasks.....	393
<i>Teresa Gutierrez, Jorge Rodriguez, Yaiza Velaz, Sara Casado, Suescun Cruces Angel, Emilio Sanchez</i>	
Towards Automatic Generation of Multimodal AR-Training Applications and Workflow Descriptions	399
<i>Timo Engelke, Sabine Webel, Uli Bockholt, Harald Wuest, Nirit Gavish, Franco Tecchia, Carsten Preusche</i>	
Evaluating Exemplary Training Accelerators for Programming-By-Demonstration	405
<i>Thomas Hulin, Volker Schmigel, Eldad Yechiam, Uwe Zimmermann, Carsten Preusche, Gloria Pohler</i>	
Effect of Delay on Dynamic Targets Tracking Performance and Behavior in Virtual Environment.....	411
<i>Vittorio Lippi, Carlo Alberto Avizzano, Denis Mottet, Emanuele Ruffaldi</i>	

TUP1T2 RE-THINKING INTERACTION WITH ROBOTS I (SPECIAL SESSION)

Towards an Affect Space for Robots to Display Emotional Body Language.....	417
<i>Aryel Beck, Lola Canamero, Kim A. Bard</i>	
Investigation on People Living with Paro at Home - Evaluation of Design for Human Robot Interaction -	423
<i>Takanori Shibata, Yukitaka Kawaguchi, Kazuyoshi Wada</i>	
Closing and Closure in Human-Companion Interaction: Analyzing Video Data from a Field Study.....	429
<i>Sabine Payr</i>	

TUP1T3 LOCOMOTION AND WALKING II (REGULAR SESSION)

An Approach to the Design of Fully Actuated Body Extenders for Material Handling	435
<i>Nicola Lucchesi, Simone Marcheschi, Luigi Federico Borelli, Fabio Salsedo, Marco Fontana, Massimo Bergamasco</i>	
Distinction of Intention and Improvement of Operation on Human Body Motion Interface	441
<i>Sho Yokota, Hiroshi Hashimoto, Yasuhiro Ohyama, Jin-Hua She, Daisuke Chugo, Hisato Kobayashi</i>	
Seating Motion Analysis and Its Assistance on a Robotic Walker.....	447
<i>Daisuke Chugo, Hajime Ozaki, Yuki Sakaida, Sho Yokota, Kunikatsu Takase</i>	
Human Gait Recognition for Virtual Environments Exploration	453
<i>Marina Vela Nunez, Carlo Alberto Avizzano, Emanuele Ruffaldi, Massimo Bergamasco</i>	
Optimal Gait Pattern Generation for Powered Robotic Exoskeleton and Verification of Its Feasibility.....	461
<i>Seunghoon Lee, wan-soo Kim, min-sung Kang, Jungsoo Han, Chang-Soo Han</i>	

TUP2T1 ADVANCED HAPTIC INTERACTION SYSTEMS (SPECIAL SESSION)

A Comparison of Direct and Indirect Haptic Aiding for Remotely Piloted Vehicles.....	467
<i>Samantha M.C. Alaimo, Lorenzo Pollini, Jean Pierre Bresciani, Heinrich H. Buelthoff</i>	
Unimanual, Bimanual and Bilateral Weight Perception of Virtual Objects in MF2 Environment.....	474
<i>Christos Giachrisitsis, Pablo Garcia-Robledo, Jorge Barrio, Alan Wing, Manuel Ferre</i>	
Neural Correlates of Human-Robot Handshaking	481
<i>Nicola Vanello, Daniela Bonino, Emiliano Ricciardi, Mario Tesconi, Enzo Pasquale Scilingo, Valentina Hartwig, Alessandro Tognetti, Giuseppe Zupone, Fabrizio Cutolo, Giulio Giovannetti, Pietro Pietrini, Danilo De Rossi, Luigi Landini</i>	
Synthesis of an Interactive Haptic Dancing Partner.....	488
<i>Jens Holldampf, Angelika Peer, Martin Buss</i>	

TUP2T2 RE-THINKING INTERACTION WITH ROBOTS II (SPECIAL SESSION)

Development and Preliminary Evaluation of a Caregiver's Manual for Robot Therapy using the Therapeutic Seal Robot Paro.....	494
<i>Kazuyoshi Wada, Yousuke Ikeda, Kaoru Inoue, Reona Uehara</i>	
User Perception of Usability Aspects in Indirect HRI - A Chain of Translations	500
<i>Astrid Weiss, Judith Igelsbock, Paolo Pierro, Roland Buchner, Carlos Balaguer, Manfred Tscheligi</i>	

TUP2T3 INTERNAL MODELS AND PREDICTION IN HUMANOID ROBOTS (SPECIAL SESSION)

Gaze Anticipation During Human Locomotion - Top-down Organization That May Invert the Concept of Locomotion in Humanoid Robots	507
<i>Hideki Kadone, Delphine Bernardin, Daniel Bennequin, Alain Berthoz</i>	
Implementation of a Bio-Inspired Visual Tracking Model on the iCUB Robot	513
<i>Egidio Falotico, Davide Zambrano, Giovanni Gerardo Muscolo, Laura Marazzato, Paolo Dario, Cecilia Laschi</i>	

WESTST SINGLE TRACK PAPERS III (REGULAR SESSION)

Which one? Grounding the Referent Based on Efficient Human-Robot Interaction	519
<i>Raquel Ros Espinoza, Severin Lemaignan, Emrah Akin Sisbot, Rachid Alami, Jasmin Steinwender, Katharina Hamann, Felix Warneken</i>	
Tactile Sensing: Steps to Artificial Somatosensory Maps.....	525
<i>Giorgio Cannata, Simone Denei, Fulvio Mastrogiovanni</i>	
Learning Flexible, Multi-Modal Human-Robot Interaction by Observing Human-Human-Interaction	531
<i>Sven R. Schmidt-Rohr, Martin Losch, Rudiger Dillmann</i>	

WEA1T1 SPEECH AND MOTION FOR INTERACTION (REGULAR SESSION)

Using Child-Robot Interaction to Investigate the User Acceptance of Constrained and Artificial Languages.....	537
<i>Omar Mubin, Suleman Shahid, Eva van de Sande, Emiel Krahmer, Marc Swerts, Christoph Bartneck, Loes Feijts</i>	

Continual Processing of Situated Dialogue in Human-Robot Collaborative Activities	543
<i>Geert-Jan Kruijff, Miroslav Janicek, Pierre Lison</i>	
Natural Human-Robot Interaction through Spatial Language: A Dynamic Neural Fields Approach.....	549
<i>Yulia Sandamirskaya, John Lipinski, Ioannis Iossifidis, Gregor Schoner</i>	
Detecting Robot-Directed Speech by Situated Understanding in Object Manipulation Tasks	557
<i>Xiang Zuo, Naoto Iwahashi, Ryo Taguchi, Kotaro Funakoshi, Mikio Nakano, Shigeki MATSUDA, Komei Sugiura, Natsuki Oka</i>	
Towards an Integrated Model of Speech and Gesture Production for Multi-Modal Robot Behavior	563
<i>Maha Salem, Stefan Kopp, Ipke Wachsmuth, Frank Joublin</i>	
Real Time Lip Synchronization between Text to Speech(TTS) System and Robot Mouth	569
<i>Kyung-Geune Oh, Chan-Yul Jung, Yong-Gyu Lee, Seung-Jong Kim</i>	

WEA1T2 COMPANION ROBOTS (REGULAR SESSION)

Sharing of Control between an Interactive Shopping Robot and it's User in Collaborative Tasks	575
<i>Michael Goeller, Florian Steinhardt, Thilo Kerscher, Rudiger Dillmann, Michel Devy, Thierry GERMA, Frederic LERASLE</i>	
Video Prototyping of Dog-Inspired Non-Verbal Affective Communication for an Appearance Constrained Robot.....	581
<i>Dag Sverre Syrdal, Kheng Lee Koay, Marta Gacs, Michael Leonard Walters, Kerstin Dautenhahn</i>	
Exploring Human Mental Models of Robots through Explicitation Interviews.....	587
<i>Dag Sverre Syrdal, Kerstin Dautenhahn, Kheng Lee Koay, Michael Leonard Walters, Nuno Otero</i>	
Anthropomorphic Inferences from Emotional Nonverbal Cues: A Case Study.....	595
<i>Friederike Eyssel, Frank Hegel, Gernot Horstmann, Claudia Wagner</i>	
'I Will Ask You' Choosing Answerers by Observing Gaze Responses Using Integrated Sensors for Museum Guide Robots	601
<i>Yoshinori Kobayashi, Takashi Shibata, Yosuke Hoshi, Yoshinori Kuno, Mai Okada, Keiichi Yamazaki</i>	
The Interplay of Context and Emotion for Non-Anthropomorphic Robots	607
<i>Bryan Wiltgen, Jenay Beer, Keith McGregor, Karl Jiang, Andrea Lockerd Thomaz</i>	

WEA1T3 HAPTIC INTERACTION II (REGULAR SESSION)

Haptic Mouse with Quick and Flexible Tactile Feedback Generated by Double Control Loop	613
<i>Itsuo Kumazawa</i>	
VibroTac: An Economic and Versatile Usable Vibrotactile Feedback Device	619
<i>Simon Schatzle, Tilo Wusthoff, Tobias Ende, Carsten Preusche</i>	
RemoTouch: A System for Remote Touch Experience	625
<i>Domenico Prattichizzo, Francesco Chinello, Claudio Pacchierotti, Kouta Minamizawa</i>	
Ownership Illusion of the Hand/Arm through Dynamic VR Interactions and Automatic Vibrotactile Stimulation	629
<i>Silvia Pabon, Miguel Angel Padilla, Antonio Frisoli, Giovanni Greco, Massimo Bergamasco</i>	
A Framework for Managing Multiprocess Applications Based on a Distributed Finite-State Machine Approach	635
<i>Michele Antolini, Mario Covarrubias, Monica Bordegoni, Umberto Cugini</i>	
Design of a Cutaneous Fingertip Display for Improving Haptic Exploration of Virtual Objects.....	641
<i>Massimiliano Solazzi, Antonio Frisoli, Massimo Bergamasco</i>	

WEP1T1 THE ROLE OF TACTILE SENSING IN HUMAN-ROBOT INTERACTION (SPECIAL SESSION)

Interface Electronics Design for POSFET Devices Based Tactile Sensing Systems	647
<i>Leonardo Barboni, Ravinder S. Dahiya, Giorgio Metta, Maurizio Valle</i>	
Touch Sensors for Humanoid Hands	652
<i>ALEXANDER SCHMITZ, Marco Maggiali, Lorenzo Natale, Giorgio Metta</i>	
A Framework for Representing Interaction Tasks Based on Tactile Data	659
<i>Giorgio Cannata, Simone Denei, Fulvio Mastrogiovanni</i>	
Tactile Interaction with a Humanoid Robot for Children with Autism: A Case Study Analysis	
Involving User Requirements and Results of an Initial Implementation	665
<i>Ben Robins, Farshid Amirabdollahian, Ze Ji, Kerstin Dautenhahn</i>	

WEP1T2 ROBOTICS IN MUSIC AND ART (SPECIAL SESSION)

Playing with the Masters: A Model for Interaction between Robots and Music Novices.....	673
<i>Ryan Nikolaidis, Gil Weinberg</i>	
Synchronization in Human-Robot Musicianship	679
<i>Guy Hoffman, Gil Weinberg</i>	
Toward Understanding the Nature of Musical Performance and Interaction with Wind Instrument-Playing Humanoids.....	686
<i>Jorge Solis, Atsuo Takanishi</i>	
Robotic Creatures: Anthropomorphism and Interaction in Contemporary Art	692
<i>Fiammetta Ghedini, Massimo Bergamasco</i>	

WEP1T3 ASSISTIVE ROBOTICS AND REHABILITATION (REGULAR SESSION)

Development of Assistive Robotic Arm System with Robot Technology Middleware (RTM)	698
<i>Kazuyuki Nagata, Yujin Wakita, Natsuki Yamanobe, Noriaki Ando</i>	
Estimation of Joint Stiffness Using EMG and Application to Master-Slave System with an Artificial Muscle Manipulator	704
<i>Taro Nakamura, Hiroyuki Maeda, Daisuke Tanaka, Masanori Maehara</i>	
Robotic Arm Operation Training System for Persons with Disabled Upper Limbs.....	710
<i>Natsuki Yamanobe, Yujin Wakita, Kazuyuki Nagata, Mathias Clerc, Takashi KINOSE, Eiichi Ono</i>	

WEP2T1 HUMAN FACTORS IN ROBOTICS II (REGULAR SESSION)

Accurate Micromanipulation Induced by Performing in Unstable Dynamics	716
<i>Eileen Lee-Ming Su, Gowrishankar Ganesh, Che Fai Yeong, etienne burdet</i>	
Information Support Development with Human-Centered Approach for Human-Robot Collaboration in Cellular Manufacturing	721
<i>Jeffrey Too Chuan Tan, Tamio Arai</i>	
Evaluation of Sensitivity Strength for Visual Inspection System of Color Display Device.....	727
<i>Seiji Hata, Junichiro Hayashi, Ken Suezawa</i>	

WEP2T2 SOCIAL ROBOTICS II (REGULAR SESSION)

Voice and Graphical - Based Interfaces for Interaction with a Robot Dedicated to Elderly and People with Cognitive Disorders.....	733
<i>consuelo granata, Mohamed chetouani, Adriana Tapus, Philippe Bidaud, vincent Dupourque</i>	
The FACE of Autism	739
<i>Daniele Mazzei, Lucia Billeci, Antonino Armato, Nicole Lazzari, Antonio Cisternino, Giovanni Pioggia, Roberta Igliozzi, Filippo Muratori, Arti Ahluwalia, Danilo De Rossi</i>	
Using Design Methodology to Enhance Interaction for a Robotic Receptionist.....	745
<i>Boon Siew Han, Alvin Wong, Yeow Kee Tan, Haizhou Li</i>	
A Human-Assisted Approach for a Mobile Robot to Learn 3D Object Models Using Active Vision	751
<i>Matthijs Jan Zwinderman, Paul E. Rybski, Gert Kootstra</i>	
Fictional Robots as a Data Source in HRI Research: Exploring the Link between Science Fiction and Interactional Expectations	758
<i>Sarah Kriz, Toni Ferro, Pallavi Damera, John Porter</i>	
Author Index	