

Contents

Keynote Lectures

Bioinspired Minirobotic Platforms for Educational Activities	1
<i>Paolo Dario</i>	
Animals as Models for Robot Mobility and Autonomy: Crawling, Walking, Running, Climbing and Flying	3
<i>Roger Quinn</i>	
Teamwork Planning and Learning in Adversarial Multi-Robot Domains	5
<i>Manuela Veloso</i>	
Human-Friendly Robot Partners in Informationally Structured Space	7
<i>Naoyuki Kubota</i>	

Papers

Learning and Adaptation for Human-Friendly Robot Partners in Informationally Structured Space	11
<i>Naoyuki Kubota</i>	
Teaching with Minirobots: The Local Educational Laboratory on Robotics	27
<i>P. Salvini, F. Cecchi, G. Macrì, S. Orofino, S. Coppedè, S. Sacchini, P. Guiggi, E. Spadoni, P. Dario</i>	
A Two Years Informal Learning Experience Using the Thymio Robot . . .	37
<i>Fanny Riedo, Philippe Rétornaz, Luc Bergeron, Nathalie Nyffeler, Francesco Mondada</i>	

A New Open Source 3D-Printable Mobile Robotic Platform for Education	49
<i>J. Gonzalez-Gomez, A. Valero-Gomez, A. Prieto-Moreno, M. Abderrahim</i>	
Germán LaRA: An Autonomous Robot Platform Supported by an Educational Methodology	63
<i>R. Francisco, C. Uribe, S. Ignacio, R. Vázquez</i>	
Mutual Learning for Second Language Education and Language Acquisition of Robots	75
<i>Akihiro Yorita, Naoyuki Kubota</i>	
The CoaX Micro-helicopter: A Flying Platform for Education and Research	89
<i>Cédric Pradalier, Samir Bouabdallah, Pascal Gohl, Matthias Egli, Gilles Caprari, Roland Siegwart</i>	
AMiRo – Autonomous Mini Robot for Research and Education	101
<i>Stefan Herbrechtsmeier, Ulrich Rückert, Joaquin Sitte</i>	
Modular Robot Platform for Teaching Digital Hardware Engineering and for Playing Robot Soccer in the AMiResot League	113
<i>Thomas Tetzlaff, Ulf Witkowski</i>	
Radar Sensor Implementation into a Small Autonomous Vehicle	123
<i>Ivan Ricardo Silva Ruiz, Dominik Aufderheide, Ulf Witkowski</i>	
The Wanda Robot and Its Development System for Swarm Algorithms	133
<i>Alexander Kettler, Marc Szymanski, Heinz Wörn</i>	
Multi-Robot System Validation: From Simulation to Prototyping with Mini Robots in the Teleworkbench	147
<i>Andry Tanoto, Felix Werner, Ulrich Rückert</i>	
An Experimental Testbed for Robotic Network Applications	161
<i>Donato Di Paola, Annalisa Milella, Grazia Cicirelli</i>	
iRov: A Robot Platform for Active Vision Research and as Education Tool	173
<i>Abdul Rahman Hafiz, Kazuyuki Murase</i>	
Autonomous Corridor Flight of a UAV Using a Low-Cost and Light-Weight RGB-D Camera	183
<i>Sven Lange, Niko Sünderhauf, Peer Neubert, Sebastian Drews, Peter Protzel</i>	

Segmentation of Scenes of Mobile Objects and Demonstrable Backgrounds	193
<i>Frederic Maire, Timothy Morris, Andry Rakotonirainy</i>	
A Real-Time Event-Based Selective Attention System for Active Vision	205
<i>Daniel Sonnleithner, Giacomo Indiveri</i>	
The ARUM Experimentation Platform: An Open Tool to Evaluate Mobile Systems Applications	221
<i>Marc-Olivier Killijian, Matthieu Roy, Gaetan Severac</i>	
Embodied Social Networking with Gesture-enabled Tangible Active Objects	235
<i>Eckard Riedenklau, Dimitri Petker</i>	
HECTOR, a New Hexapod Robot Platform with Increased Mobility - Control Approach, Design and Communication	249
<i>Axel Schneider, Jan Paskarbeit, Mattias Schaeffersmann, Josef Schmitz</i>	
Force Controlled Hexapod Walking	265
<i>Shalutha De Silva, Joaquin Sitte</i>	
Author Index	279