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Towards Autonomous Robotic Systems

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Proceedings, Part I

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Preface

This volume contains the papers presented at TAROS 2019, the 20th Towards Autonomous Robotic Systems (TAROS) Conference, held at Queen Mary University of London, UK, during July 3–5, 2019 (<https://www.qmul.ac.uk/robotics/events/taros2019/>).

TAROS is the longest running UK-hosted international conference on robotics and autonomous systems (RAS), which is aimed at the presentation and discussion of the latest results and methods in autonomous robotics research and applications. The conference offers a friendly environment for robotics researchers and industry to take stock and plan future projects. It welcomes senior researchers and research students alike, and specifically provides opportunities for research students and young research scientists to present their work to the scientific community.

TAROS 2019 was held at the Queen Mary University of London, the most inclusive university of its kind. The conference programme included an academic conference, industry exhibitions, robot demonstrations and a conference dinner. The program highlights included:

- Keynote lectures by world-leading experts in robotics, including lectures by Professor Veronique Perdereau from Sorbonne University, France, Dr. Francesco Nori from Google DeepMind, UK, and Professor Bruno Siciliano from the University of Naples Federico II, Italy
- An IET-sponsored evening lecture by Professor Aude Billard from the Swiss Institute of Technology Lausanne (EPFL), Switzerland
- Invited talks by Rich Walker from Shadow Robot Company, UK, and Dr Stoyan Smoukov from Queen Mary University of London, UK
- Oral presentations, covering topics of robotic grippers and manipulation, human–robot interaction, robotic learning, robot navigation, planning and safety, robotic sensing, soft robotics, mobile and industrial robots
- Poster presentations, covering topics of swarm and multi-robot system, aerial and space robotics, eversion robots, bio-inspired robots, reconfigurable robots, robot design and testing, human–robot interaction
- Presentations of the finalists of the Queen Mary UK Best PhD in Robotics Award
- Industrial and academic exhibition stands

The TAROS 2019 Organizing Committee would like to thank all the authors, reviewers, and the conference sponsors, including the IET, UK-RAS Network, The Alan Turing Institute, Institute of Applied Data Science, Queen Mary University of London, University of Nottingham (The Rolls-Royce UTC in Manufacturing and On-wing Technology), NCNR, Automata, Ocado Technology, Springer and Frontiers in Robotics and AI.

May 2019

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Contents – Part I

Robotic Grippers and Manipulation

Reasoning on Grasp-Action Affordances	3
<i>Paola Ardón, Èric Pairet, Ron Petrick, Subramanian Ramamoorthy, and Katrin Lohan</i>	
Design Analysis of a Fabric Based Lightweight Robotic Gripper.	16
<i>Ahmed Hassan, Hareesh Godaba, and Kaspar Althoefer</i>	
A Method to Estimate the Oblique Arch Folding Axis for Thumb Assistive Devices	28
<i>Visakha K. Nanayakkara, Nantachai Sornkaran, Hasitha Wegiriya, Nikolaos Vitzilaios, Demetrios Venetsanos, Nicolas Rojas, M. Necip Sahinkaya, and Thrishantha Nanayakkara</i>	
Energy-Tank Based Force Control for 3D Contour Following.	41
<i>Salua Hamaza, Ioannis Georgilas, and Thomas Richardson</i>	
Kinematic Control and Obstacle Avoidance for Soft Inflatable Manipulator	52
<i>Ahmad Ataka, Agostino Stilli, Jelizaveta Konstantinova, Helge A. Wurdemann, and Kaspar Althoefer</i>	
Learning and Composing Primitive Skills for Dual-Arm Manipulation.	65
<i>Èric Pairet, Paola Ardón, Michael Mistry, and Yvan Petillot</i>	
DE VITO: A Dual-Arm, High Degree-of-Freedom, Lightweight, Inexpensive, Passive Upper-Limb Exoskeleton for Robot Teleoperation	78
<i>Fabian Falck, Kawin Larppichet, and Petar Kormushev</i>	
A Novel Probabilistic Projection Model for Multi-camera Object Tracking. . .	90
<i>Jiixin Lin, Chun Xiao, Disi Chen, Dalin Zhou, Zhaojie Ju, and Honghai Liu</i>	

Soft Robotics, Sensing and Mobile Robots

Soft Fiber-Reinforced Pneumatic Actuator Design and Fabrication: Towards Robust, Soft Robotic Systems	103
<i>Jan Fras and Kaspar Althoefer</i>	
Ultrasound Feature Evaluation for Robustness to Sensor Shift in Ultrasound Sensor Based Hand Motion Recognition	115
<i>Peter Boyd, Yinfeng Fang, and Honghai Liu</i>	

Light Intensity-Modulated Bending Sensor Fabrication and Performance Test for Shape Sensing	126
<i>Faisal ALJaber and Kaspar Althoefer</i>	
Designing Origami-Adapted Deployable Modules for Soft Continuum Arms	138
<i>Ketao Zhang and Kaspar Althoefer</i>	
A Debris Clearance Robot for Extreme Environments	148
<i>Craig West, Farshad Arvin, Wei Cheah, Andrew West, Simon Watson, Manuel Giuliani, and Barry Lennox</i>	
Dynamic Response Characteristics in Variable Stiffness Soft Inflatable Links.	160
<i>Ahmad Ali, Kaspar Althoefer, and Jelizaveta Konstantinova</i>	
Investigating Balance Control of a Hopping Bipedal Robot	171
<i>Beichen Ding, Andrew Plummer, and Pejman Irvani</i>	
Continuous Motion Utilising Advanced Motions on a Hexapod	183
<i>Wei Cheah, Hassan Hakim Khalili, Simon Watson, Peter Green, and Barry Lennox</i>	
Robotic Learning, Mapping and Planning	
Towards Adversarial Training for Mobile Robots	197
<i>Todd Flyr and Simon Parsons</i>	
Collaborative HRI and Machine Learning for Constructing Personalised Physical Exercise Databases	209
<i>Daniel Delgado Bellamy and Praminda Caleb-Solly</i>	
ORB-SLAM-CNN: Lessons in Adding Semantic Map Construction to Feature-Based SLAM.	221
<i>Andrew M. Webb, Gavin Brown, and Mikel Luján</i>	
Probabilistic Planning for Robotics with ROSPlan.	236
<i>Gerard Canal, Michael Cashmore, Senka Krivić, Guillem Alenyà, Daniele Magazzeni, and Carme Torras</i>	
Coverage Path Planning for Large-Scale Aerial Mapping	251
<i>Nasser Gyagenda, Ahmad Kamal Nasir, Hubert Roth, and Vadim Zhmud</i>	
Self-organized Collective Motion with a Simulated Real Robot Swarm	263
<i>Mohsen Raoufi, Ali Emre Turgut, and Farshad Arvin</i>	

Contact Planning for the ANYmal Quadruped Robot Using an Acyclic Reachability-Based Planner	275
<i>Mathieu Geisert, Thomas Yates, Asil Ogen, Pierre Fernbach, and Ioannis Havoutis</i>	
Multi-robot Multi-goal Motion Planning with Time and Resources	288
<i>Stefan Edelkamp and Junho Lee</i>	
Human-Robot Interaction	
instruMentor: An Interactive Robot for Musical Instrument Tutoring	303
<i>Shreyas Bagga, Benedikt Maurer, Tom Miller, Luke Quinlan, Lorenzo Silvestri, Dan Wells, Rebecka Winqvist, Mark Zolotas, and Yiannis Demiris</i>	
Position and Velocity Control for Telemanipulation with Interoperability Protocol	316
<i>Bukeikhan Omarali, Francesca Palermo, Maurizio Valle, Stefan Poslad, Kaspar Althoefer, and Ildar Farkhatdinov</i>	
Intrinsically Motivated Autonomy in Human-Robot Interaction: Human Perception of Predictive Information in Robots	325
<i>Marcus M. Scheunemann, Christoph Salge, and Kerstin Dautenhahn</i>	
Modeling and Control of Ankle Actuation Platform for Human-Robot Interaction	338
<i>Ata Otaran and Ildar Farkhatdinov</i>	
Investigating the Effects of Social Interactive Behaviours of a Robot on People's Trust During a Navigation Task	349
<i>Alessandra Rossi, Fernando Garcia, Arturo Cruz Maya, Kerstin Dautenhahn, Kheng Lee Koay, Michael L. Walters, and Amit K. Pandey</i>	
A Dataset for Action Recognition in the Wild	362
<i>Alexander Gabriel, Serhan Coşar, Nicola Bellotto, and Paul Baxter</i>	
Feel It on Your Fingers: Dataglove with Vibrotactile Feedback for Virtual Reality and Telerobotics	375
<i>Burathat Junput, Xuyi Wei, and Lorenzo Jamone</i>	
Virtual Reality Simulator for Medical Auscultation Training.	386
<i>Luis Andrés Puértolas Bálint, Luis Humberto Perez Macías, and Kaspar Althoefer</i>	

Robotic Systems and Applications

Note on Geometric and Exponential Expressions of Screw Displacement . . .	401
<i>Guowu Wei, Anthony H. Jones, and Lei Ren</i>	
A Modular 3D-Printed Inverted Pendulum	413
<i>Ian S. Howard</i>	
A Geometric Dynamics Algorithm for Serially Linked Robots	425
<i>Mohammad Safeea, Pedro Neto, and Richard Béarée</i>	
Full-Rotation Singularity-Safe Workspace for Kinematically Redundant Parallel Robots	436
<i>Yat Hei Cheung, Nicholas Baron, and Nicolas Rojas</i>	
Model-Based 3D Point Cloud Segmentation for Automated Selective Broccoli Harvesting.	448
<i>Hector A. Montes, Grzegorz Cielniak, and Tom Duckett</i>	
Mine Detonating Sphere-Bot	460
<i>Rebecca Harding, Charles Freestone, and Martin F. Stoelen</i>	
Author Index	473