PRELIMINARY PROGRAMME
Full-day Workshop on
Shape Changing Robotic Structures and Interfaces

2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain
5 October 2018

This workshop will bring together and encourage collaboration between communities interested in soft robotics, reconfigurable mechanisms, human-computer interaction, haptics and beyond. Live demonstrations are shown!

Time	Presenter *Tentative presentation topic*	
09:00 – 09:15	Dr Anne Roudaut and Dr Helge Wurdemann *Welcome Message*	
09:15 – 09:35	Dr Anne Roudaut *Shape-changing interfaces in HCI*	Overview
09:35 – 09:55	Prof. Kaspar Althoefer *Frontiers of soft robotic structures*	
09:55 – 10:15	Prof. Jian S Dai *Evolution of reconfigurable robots and mechanisms*	
10:15 – 11:00	Q/A and panel discussion with Profs Althoefer, Dai and Dr Roudaunt	
11.00 – 11.30	Morning coffee break	
11.30 – 11.45	Prof. Allison M. Okamura *Shape change in growing soft robots*	Technologies/Design
11.45 – 12.00	Prof. Daniela Rus *M-Blocks Modular Robotics*	
12.00 – 12.20	Submitted contribution I: Teasers for live demos/posters 1. Aluna Everitt, *Laser-Cut and 3D Printed Semi-Solid Surfaces as a Fabrication Technique for Developing Shape-Changing Displays* 2. Hyunyoung Kim, Céline Coutrix, Anne Roudaut, *KnobSlider: A Shape-Changing Interface for Parameter Control* 3. Zachary M. Hammond, Nathan S. Usevitch, Elliot W. Hawkes, and Sean Follmer, *Variable Stiffness Linear Actuator Robot* 4. S.M.Hadi Sadati, S. Elnaz Naghibi, K. Althoefer, T. Nanayakkara, *Toward a Low Hysteresis Helical Scale Jamming Interface inspired by Teleost Fish Scale Morphology and Arrangement.* 5. Marwa A.ElDiwiny, *How To Design Your Polymer Artificial Muscle Actuator/ Sensor*	

12.20 – 12.35	Prof. Jamie Paik *Design, actuation, fabrication, and control of unique robotic systems*	
12.35 – 12.50	Prof. Sean Follmer *Design of novel tactile physical interfaces and novel robotic device*	
12.50 – 13.10	Submitted contribution II: Teasers for live demos/posters 6. Woong-Bae Kim, Kyu-Jin Cho, *Soft Robotic Origami Structures: Highly Deformable and Configurable Soft Robots* 7. Tyler Rhodes and Vishesh Vikas, *Planar Shape Changing Compliant Tensegrity Mechanisms with Multi-Stable Equilibria* 8. Audrey Sedal, Daniel Bruder, *Shape Design of Soft Systems Using Scalable Patterned Reinforcements* 9. Qiukai Qi, Van Anh Ho, *Variable Afferent Network Morphology (VANmorph): An Implementation on Sensorized Soft Body* 10. Yiheng Zhu, Jonathan Rossiter, Helmut Hauser, *Towards Robotic Morphosis*	
13.10 – 13.30	Interactive session I + II	
13.30 – 14.30	Lunch break	
14.30 – 14.45	Prof. Gordon Cheng *Artificial robotic "skin" made of hundreds of small hexagonal cells*	Applications
14.45 – 15.00	Prof. Arianna Menciassi *Soft robotics for minimally invasive surgery*	
15.00 – 15.15	Dr Bani Anvari *Human-machine Interaction for autonomous vehicles*	
15.15 – 15.35	Submitted contribution III: Teasers for live demos/posters 11. E. Judd, H. Hauser, and J. Rossiter, *Sensing Through the Body* 12. Dae-Young Lee, Kyu-Jin Cho, *Stiffening of Transformable Structure via Structural Locking* 13. Massimo Vespignani, Jeffrey M. Friesen, and Jonathan E. Bruce, *SUPERball v2: A Deformable Tensegrity Rover for Planetary Exploration* 14. Jianglong Guo, Chaoqun Xiang, and Jonathan Rossiter, *Self-sensing shape changing structures for active and soft manipulation and robotics applications* 15. Sang-Min Baek, Kyu-Jin Cho, *Deployable Glider Module for Multimodal Robots*	
	Round table discussions	
16.30 – 17.00	Afternoon coffee break and end	

More information on http://iros2018.softhaptics.website