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Scaramuzza, Davide	Univ. of Zurich
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Fazeli, Nima	Massachusetts Inst. of Tech
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Gehring, Christian	ETH Zurich, Disney Res. Zurich
Jud, Dominic	ETH Zurich
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Tsounis, Vassilios	National Tech. Univ. of Athens
Hwangbo, Jemin	Swiss Federal Inst. of Tech. Zurich
Bodie, Karen	ETH Zurich
Fankhauser, Péter	ETH Zurich
Bloesch, Michael	ETH Zurich
Diethelm, Remo	ETH Zurich
Bachmann, Samuel	ETH Zurich
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Seshia, Sanjit A.		Univ. of California Berkeley
Dragan, Anca		Univ. of California Berkeley
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Chair: Asfour, Tamim		Karlsruhe Inst. of Tech. (KIT)
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Schmidt, Andreas		Karlsruhe Inst. of Tech
Vahrenkamp, Nikolaus		Karlsruhe Inst. of Tech. (KIT)
Asfour, Tamim		Karlsruhe Inst. of Tech. (KIT)
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Song, Kehao		Northwestern Pol. Univ
Yi, Jingang		Rutgers Univ
Duan, Zhansheng		Xi'an Jiaotong Univ
Pan, Quan		Northwestern Pol. Univ
Huang, Panfeng		Northwestern Pol. Univ
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Carlone, Luca		Massachusetts Inst. of Tech
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Karaman, Sertac		Massachusetts Inst. of Tech

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Okada, Kei		The Univ. of Tokyo
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Takeuchi, Eijiro		Nagoya Univ
Ninomiya, Yoshiki		Toyota Central R & D Labs., Inc
Kato, Shinpei		Nagoya Univ
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Shell, Dylan		Texas A&M Univ
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Schaffernicht, Erik		Örebro Univ. AASS Res. Center
Fan, Han		Örebro Univ
Lilienthal, Achim J.		Örebro Univ
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Johansson, Anders		Örebro Univ. Hospital
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Furukawa, Tomonari	Virginia Pol. Inst. and State Univ
Kumon, Makoto	Graduate School of Science and Tech. Kumamoto
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Grehl, Steve	TU Bergakademie Freiberg
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Ben Amor, Heni	Arizona State Univ
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Hirai, Shinichi Ritsumeikan Univ
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Pashkevich, Anatol Ec. Des Mines De Nantes

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Melchiorri, Claudio Univ. of Bologna

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Chen, Gong National Univ. of Singapore
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Laribi, Med Amine	Inst. Pprime, CNRS, Univ. De Poitiers, ENSMA	
Courreges, Fabien		Limoges Univ
Zeghloul, Said	Inst. Pprime, CNRS, Univ. De Poitiers, ENSMA	
Arsicault, Marc		PPRIME Inst. Univ. Poitiers
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Chiu, WAI, YAN Philip		Chinese Univ. of Hong Kong
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Gan, Dongming		Khalifa Univ. of Science, Tech. and Res
Cempini, Marco		Rehabilitation Inst. of Chicago
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Vitiello, Nicola		Scuola Superiore Sant'Anna
Dias, Jorge		Univ. of Coimbra
Dario, Paolo		Scuola Superiore Sant'Anna
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Detweiler, Carrick		Univ. of Nebraska-Lincoln
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Kwon, Dong-Soo	KAIST
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He, Shan	Waseda Univ
Somlor, Sophon	Waseda Univ
Schmitz, Alexander	Waseda Univ
Sugano, Shigeki	Waseda Univ

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Chung, Wan Kyun	POSTECH

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Bentivegna, Darrin	Carnegie Mellon Univ

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Agarwal, Priyanshu	Univ. of Texas at Austin
Fox, Jonas	The Univ. of Texas at Austin
Madden, Kaci	Univ. of Texas

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Shin, Heemin	Korea Advanced Inst. of Science and Tech
You, Haram	KAIST
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Shim, David Hyunchul	KAIST
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Nibori, Ai	Waseda Univ
Futaki, Hajime	Waseda Univ
Miura, Yusaku	Waseda Univ
Shina, Megumi	Waseda Univ
Matsuki, Kei	Waseda Univ
Yanagino, Hiroshi	Waseda Univ
Cosentino, Sarah	Waseda Univ
Hashimoto, Kenji	Waseda Univ
Takanishi, Atsuo	Waseda Univ
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Chair: Knoll, Alois	Tech. Univ. Muenchen TUM
Co-Chair: Balachandran, Ribin	DLR
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Artigas, Jordi	DLR - German Aerospace Center
Ryu, Jee-Hwan	Korea Univ. of Tech. and Education
Mehmood, Usman	Korea Univ. of Tech. and Education
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Stephant, Joanny	XLIM UMR CNRS 7252 Limoges Univ
Labbani-Igbida, Ouiddad	Univ. of Limoges -- ENSIL Engineering School -- XLIM Inst
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Colledanchise, Michele	KTH - the Royal Inst. of Tech
Ogren, Petter	Royal Inst. of Tech. (KTH)
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Rickert, Markus	Fortiss GmbH
Gaschler, Andre K.	Fortiss Tech. Univ. Muenchen
Cai, Caixia	Tech. Univ. München (TUM)
Perzylo, Alexander Clifford	Fortiss GmbH - An-Inst. Tech. Univ. Muenchen
Knoll, Alois	Tech. Univ. Muenchen TUM
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Chair: Liu, Yong	Zhejiang Univ

Co-Chair: Bhattacharya, Sourabh	Iowa State Univ
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Liu, Yong	Zhejiang Univ
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Scheggi, Stefano	Univ. of Twente
ChangKyu, Yoon	Johns Hopkins Univ
Gracias, David H.	Department of Chemical and Biomolecular Engineering, the Johns H
Misra, Sarthak	Univ. of Twente
12:00-12:15	TuAT2.4
<i>Target Tracking on Triangulation Graphs</i> , pp. 460-465.	
Laguna, Guillermo	Iowa State Univ
Zou, Rui	Iowa State Univ
Bhattacharya, Sourabh	Iowa State Univ
TuAT3	#103
Recognition (Regular session)	
Chair: Mertsching, Bärbel	Univ. of Paderborn
Co-Chair: Ghalamzan Esfahani, Amir Masoud	Univ. of Birmingham
11:15-11:30	TuAT3.1
<i>Illumination Invariant Representation of Natural Images for Visual Place Recognition</i> , pp. 466-472.	
Shakeri, Moein	Univ. of Alberta
Zhang, Hong	Univ. of Alberta
11:30-11:45	TuAT3.2
<i>3D Graph Based Stairway Detection and Localization for Mobile Robots</i> , pp. 473-479.	
Westfechtel, Thomas	Tohoku Univ
Ohno, Kazunori	Tohoku Univ
Mertsching, Bärbel	Univ. of Paderborn
Nickchen, Daniel	Paderborn Univ
Kojima, Shotaro	Tohoku Univ
Tadokoro, Satoshi	Tohoku Univ
11:45-12:00	TuAT3.3
<i>User-Adaptive Fall Detection for Patients Using Wristband</i> , pp. 480-486.	
Nho, Young-Hoon	KAIST, HRI Res. Center
Lim, Jong Gwan	Univ. of Trento
Kim, Dae-Eon	KAIST
Kwon, Dong-Soo	KAIST
12:00-12:15	TuAT3.4
<i>Effective Place Scene Clustering Using Straight Lines</i> , pp. 487-494.	
Moon, Hyewon	Hanyang Univ
Lee, Jin Han	Hanyang Univ
Lee, Sehyung	Hanyang Univ
Suh, Il Hong	Hanyang Univ

Medical Robot and Systems 1 (Regular session)

Chair: Hennersperger, Christoph	Tech. Univ. München
Co-Chair: Wu, Liao	Queensland Univ. of Tech
11:15-11:30	TuAT4.1
<i>Using Contours As Boundary Conditions for Elastic Registration During Minimally Invasive Hepatic Surgery</i> , pp. 495-500.	
Haouchine, Nazim	INRIA
Roy, Frederick	INRIA
Untereiner, Lionel	Inria
Cotin, Stephane	INRIA
11:30-11:45	TuAT4.2
<i>Towards Hybrid Control of a Flexible Curvilinear Surgical Robot with Visual/Haptic Guidance</i> , pp. 501-507.	
Wu, Liao	Queensland Univ. of Tech
Wu, Keyu	National Univ. of Singapore
Ren, Hongliang	Faculty of Engineering, National Univ. of Singapore
11:45-12:00	TuAT4.3
<i>Automatic Force-Compliant Robotic Ultrasound Screening of Abdominal Aortic Aneurysms</i> , pp. 508-513.	
Virga, Salvatore	Tech. Univ. München
Zettinig, Oliver	Tech. Univ. München
Esposito, Marco	Computer Aided Medical Procedures, Tech. Univ. Münche
Pfister, Karin	Univ. Medical Center Regensburg
Frisch, Benjamin	Computer Aided Medical Procedures, Tech. Univ. Münche
Neff, Thomas	KUKA Roboter GmbH
Navab, Nassir	TU Munich
Hennersperger, Christoph	Tech. Univ. München
12:00-12:15	TuAT4.4
<i>System Design and Development of a Robotic Device for Automated Venipuncture and Diagnostic Blood Cell Analysis</i> , pp. 514-520.	
Balter, Max	Rutgers Univ
Chen, Alvin	Rutgers Univ
Fromholtz, Alexander	Rutgers Univ. Department of Biomedical Engineering
Gorshkov, Alexander	Rutgers
Maguire, Tim	VasculoLogic LLC
Yarmush, Martin	Rutgers Univ

TuAT5

#105

Actuator (Regular session)

Chair: Suzumori, Koichi	Tokyo Inst. of Tech
Co-Chair: Carloni, Raffaella	Univ. of Twente
11:15-11:30	TuAT5.1
<i>Controlling a Multi-Joint Arm Actuated by Pneumatic Muscles with Quasi-DDP Optimal Control</i> , pp. 521-528.	
Kumar Hari Shankar Lal Das, Ganesh	LAAS/CNRS
Tondu, Bertrand	Univ. of Toulouse
Manhes, Jérôme	LAAS-CNRS, Univ. De Toulouse, CNRS
Forget, Florent	LAAS-CNRS
Stasse, Olivier	CNRS
Soueres, Philippe	LAAS-CNRS
11:30-11:45	TuAT5.2
<i>Modeling and Benchmarking Energy Efficiency of Variable Stiffness Actuators on the Example of the DLR FSJ</i> , pp. 529-536.	
Wolf, Sebastian	DLR - German Aerospace Center
Feenders, Jan-Emmo	DLR - German Aerospace Center
11:45-12:00	TuAT5.3
<i>Elastic Energy Storage in Leaf Springs for a Lever-Arm Based Variable Stiffness Actuator</i> , pp. 537-542.	
Barrett, Eamon	Univ. of Twente
Fumagalli, Matteo	Aalborg Univ
Carloni, Raffaella	Univ. of Twente

12:00-12:15	TuAT5.4
<i>Untethered Three-Arm Pneumatic Robot Using Hose-Free Pneumatic Actuator</i> , pp. 543-548.	
Kitamori, Takaaki	Tokyo Inst. of Tech. Department of Mechanical and Aero
Wada, Akira	Tokyo Inst. of Tech
Nabae, Hiroyuki	Tokyo Inst. of Tech
Suzumori, Koichi	Tokyo Inst. of Tech

TuAT6	#106
Underactuated Robots (Regular session)	

Chair: Yu, Hongnian	Bournemouth Univ
Co-Chair: Farnioli, Edoardo	Univ. Di Pisa

11:15-11:30	TuAT6.1
<i>Modelling and Dynamic Analysis of Underactuated Capsule Systems with Friction-Induced Hysteresis</i> , pp. 549-554.	
Liu, Pengcheng	Bournemouth Univ
Yu, Hongnian	Bournemouth Univ
Cang, Shuang	Bournemouth Univ

11:30-11:45	TuAT6.2
<i>Mechanics-Based Control of Underactuated 3D Robotic Walking: Dynamic Gait Generation under Torque Constraints</i> , pp. 555-560.	
Powell, Matthew	Georgia Inst. of Tech
Ames, Aaron	Georgia Inst. of Tech

11:45-12:00	TuAT6.3
<i>Differential Flatness and Control of Protocentric Aerial Manipulators with Any Number of Arms and Mixed Rigid-/Elastic-Joints</i> , pp. 561-566.	
Yuksel, Burak	Max Planck Inst. for Biological Cybernetics
Buondonno, Gabriele	Sapienza Univ. of Rome
Franchi, Antonio	LAAS-CNRS

12:00-12:15	TuAT6.4
<i>Frontal Plane Stabilization and Hopping with a 2DOF Tail</i> , pp. 567-573.	
Wenger, Garrett	Univ. of Pennsylvania
De, Avik	Univ. of Pennsylvania
Koditschek, Daniel	Univ. of Pennsylvania

TuAT7	#107
Perception for Grasping and Manipulation (Regular session)	

Chair: Zhang, Yizhai	Northwestern Pol. Univ
Co-Chair: Sasaki, Yoko	National Inst. of Advanced Industrial Science and Tech

11:15-11:30	TuAT7.1
<i>Incremental Scene Understanding on Dense SLAM</i> , pp. 574-581.	
Li, Chi	Johns Hopkins Univ
Xiao, Han	Johns Hopkins Univ
Tateno, Keisuke	Tech. Univ. München
Tombari, Federico	Univ. of Bologna
Navab, Nassir	TU Munich
Hager, Gregory	Johns Hopkins Univ

11:30-11:45	TuAT7.2
<i>Active Exploration Using Gaussian Random Fields and Gaussian Process Implicit Surfaces</i> , pp. 582-589.	
Caccamo, Sergio	KTH Royal Inst. of Tech
Bekiroglu, Yasemin	Univ. of Birmingham
Ek, Carl Henrik	Univ. of Bristol
Kragic, Danica	KTH

11:45-12:00	TuAT7.3
<i>Object Proposal Using 3D Point Cloud for DRC-HUBO+</i> , pp. 590-597.	
Shin, Seunghak	KAIST
Shim, Inwook	KAIST

Jung, Jiyoung	Naver Labs
Bok, Yunsu	KAIST
Oh, Jun Ho	Korea Advanced Inst. of Sci. and Tech
Kweon, In So	KAIST

12:00-12:15 TuAT7.4

High Precision Grasp Pose Detection in Dense Clutter, pp. 598-605.

Gualtieri, Marcus	Northeastern Univ
ten Pas, Andreas	Northeastern Univ
Saenko, Kate	ICSI & UC Berkeley EECS
Platt, Robert	Northeastern Univ

TuAT8 #108

Model Learning (Regular session)

Chair: del Pobil, Angel P.	Jaume-I Univ
Co-Chair: Zeeshan, Arif Muhammad	ETH Zurich

11:15-11:30 TuAT8.1

Generalizing a Learned Inverse Dynamic Model of KUKA LWR IV+ for Load Variations Using Regression in the Model Space, pp. 606-611.

Shareef, Zeeshan	Univ. of Bielefeld
Reinhart, Rene Felix	Fraunhofer-Gesellschaft
Steil, Jochen J.	Bielefeld Univ

11:30-11:45 TuAT8.2

A Reservoir Computing Approach for Learning Forward Dynamics of Industrial Manipulators, pp. 612-618.

Polydoros, Athanasios S.	Aalborg Univ
Nalpantidis, Lazaros	Aalborg Univ

11:45-12:00 TuAT8.3

Nonparametric Distribution Regression Applied to Sensor Modeling, pp. 619-625.

Tallavajhula, Abhijeet	Carnegie Mellon Univ
Poczos, Barnabas	Carnegie Mellon Univ
Kelly, Alonzo	Carnegie Mellon Univ

12:00-12:15 TuAT8.4

Online Learning for Characterizing Unknown Environments in Ground Robotic Vehicle Models, pp. 626-633.

Koppel, Alec	Univ. of Pennsylvania
Fink, Jonathan	ARL
Warnell, Garrett	U.S. Army Res. Lab
Stump, Ethan	US Army Res. Lab
Ribeiro, Alejandro	Univ. of Pennsylvania

TuAT9 #204~205

(Special Session) Autonomous Farming Technologies and Agricultural Robotics (Regular session)

Chair: Sa, Inkyu	ETH Zurich
Co-Chair: An, Ho Seok	Univ. of Auckland

11:15-11:30 TuAT9.1

Proof-Of-Concept of a Robotic Apple Harvester, pp. 634-639.

Davidson, Joseph	Washington State Univ
Silwal, Abhisesh	Washington State Univ
Hohimer, Cameron	Washington State Univ
Karkee, Manoj	Washington State Univ
Mo, Changki	Washington State Univ. Tri-Cities
Zhang, Qin	Washington State Univ

11:30-11:45 TuAT9.2

Row Following in Pergola Structured Orchards, pp. 640-645.

Bell, Jamie	The Univ. of Auckland
MacDonald, Bruce	Univ. of Auckland

Ahn, Ho Seok	The Univ. of Auckland, Auckland
11:45-12:00	TuAT9.3
<i>Can You Pick a Broccoli? 3D-Vision Based Detection and Localisation of Broccoli Heads in the Field</i> , pp. 646-651.	
Kusumam, Keerthy	Univ. of Lincoln
Krajník, Tomáš	Univ. of Lincoln
Pearson, Simon	Univ. of Lincoln
Cielniak, Grzegorz	Univ. of Lincoln
Duckett, Tom	Univ. of Lincoln
12:00-12:15	TuAT9.4
<i>Development of an Autonomous Tomato Harvesting Robot with Rotational Plucking Gripper</i> , pp. 652-657.	
Yaguchi, Hiroaki	The Univ. of Tokyo
Nagahama, Kotaro	The Univ. of Tokyo
Hasegawa, Takaomi	DENSO Corp
Inaba, Masayuki	The Univ. of Tokyo
TuAT10	#206~208
Humanoid Robots 1 (Regular session)	
Chair: Henaff, Patrick	CNRS, INRIA, Univ. of Lorraine,
Co-Chair: Nava, Gabriele	Istituto Italiano Di Tecnologia
11:15-11:30	TuAT10.1
<i>Walking Control in Water Considering Reaction Forces from Water for Humanoid Robots with a Waterproof Suit</i> , pp. 658-665.	
Kojio, Yuta	The Univ. of Tokyo
Karasawa, Tatsushi	The Univ. of Tokyo
Kojima, Kunio	The Univ. of Tokyo
Koyama, Ryo	Univ. of Tokyo
Sugai, Fumihito	Tokyo Univ
Nozawa, Shunichi	The Univ. of Tokyo
Kakiuchi, Yohei	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo
11:30-11:45	TuAT10.2
<i>Achievement of Localization System for Humanoid Robots with Virtual Horizontal Scan Relative to Improved Odometry Fusing Internal Sensors and Visual Information</i> , pp. 666-673.	
Kumagai, Iori	Univ. of Tokyo
Ueda, Ryohei	The Univ. of Tokyo
Sugai, Fumihito	Tokyo Univ
Nozawa, Shunichi	The Univ. of Tokyo
Kakiuchi, Yohei	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo
11:45-12:00	TuAT10.3
<i>Measurement and Analysis of Physical Parameters of the Handshake between Two Persons According to Simple Social Contexts</i> , pp. 674-679.	
Tagne, Gilles	Univ. De Lorraine, LORIA
Henaff, Patrick	CNRS, INRIA, Univ. of Lorraine,
Gregori, Nicolas	PERSEUS Lab. Univ. De Lorraine
12:00-12:15	TuAT10.4
<i>Stability Analysis and Design of Momentum-Based Controllers for Humanoid Robots</i> , pp. 680-687.	
Nava, Gabriele	Istituto Italiano Di Tecnologia
Romano, Francesco	Istituto Italiano Di Tecnologia
Nori, Francesco	Istituto Italiano Di Tecnologia
Pucci, Daniele	Italian Inst. of Tech

Human-Robot Interaction (Teaser Session)

Chair: De Luca, Alessandro	Sapienza Univ. of Rome
Co-Chair: Guo, Yi	Stevens Inst. of Tech
14:20-14:21	TuT21.1
<i>Learning In-Contact Control Strategies from Demonstration</i> , pp. 688-695.	
Racca, Mattia	Aalto Univ
Pajarinen, Joni	TU Darmstadt
Montebelli, Alberto	Univ. of Skövde
Kyrki, Ville	Aalto Univ
14:21-14:22	TuT21.2
<i>Augmentation of Human Arm Motor Control by Isotropic Force Manipulability</i> , pp. 696-701.	
Petric, Tadej	Jozef Stefan Inst
Goljat, Rok	Jozef Stefan Inst
Babic, Jan	Jozef Stefan Inst
14:22-14:23	TuT21.3
<i>Human Force Augmentation : Optimal Control Parameters Tuning Using Structured Hoo Synthesis</i> , pp. 702-709.	
Abroug, Neil	CEA-LIST / Interactive Robotics Lab
Lamy, Xavier	French Atomic Energy Commission (CEA)
Laroche, Edouard	Univ. of Strasbourg
14:23-14:24	TuT21.4
<i>Development of a Robotic Teaching Interface for Human to Human Skill Transfer</i> , pp. 710-716.	
Yang, Chenguang	Plymouth Univ
Liang, Peidong	Harbin Inst. of Tech
Ajoudani, Arash	Advanced Robotics Department
Li, Zhijun	Shanghai Jiao Tong Univ
Bicchi, Antonio	Istituto Italiano Di Tecnologia
14:24-14:25	TuT21.5
<i>Analysis of Velocity's Influence on Forces and Muscular Activity in the Context of Sit-To-Stand Motion Assisted by an Elderly Care Robot</i> , pp. 717-724.	
DallaLibera, Fabio	Panasonic Corp
Tsusaka, Yuko	Panasonic Corp
Okazaki, Yasunao	Panasonic Corp
Futakuchi, Ryutaro	Panasonic Corp
Yamamoto, Masaki	Panasonic
Shikata, Noriyuki	Panasonic
Terashima, Masayuki	Panasonic Corp
14:25-14:26	TuT21.6
<i>Human Centric Spatial Affordances for Improving Human Activity Recognition</i> , pp. 725-730.	
Kim, David Inkyu	Univ. of Southern California
Martinson, Eric	Toyota InfoTechnology Center, USA
14:26-14:27	TuT21.7
<i>Exploiting Deep Semantics and Compositionality of Natural Language for Human-Robot-Interaction</i> , pp. 731-738.	
Eppe, Manfred	International Computer Science Inst. Berkeley
Trott, Sean	International Computer Science Inst. Berkeley
Feldman, Jerome	International Computer Science Inst. Berkeley
14:27-14:28	TuT21.8
<i>Studying of Rectilinear Locomotion for a Two-Segment System with Anisotropic Dry Friction Model</i> , pp. 739-744.	
Tang, Wenbin	Shanghai Univ
Li, Hengyu	Shanghai Univ
Xie, Shaorong	Shanghai Univ
Luo, Jun	Shanghai Univ
14:28-14:29	TuT21.9
<i>Torque Control Based Sensorless Hand Guiding for Direct Robot Teaching</i> , pp. 745-750.	
Lee, Sang-Duck	Korea Univ

Ahn, Kuk Hyun	Korea Univ
Song, Jae-Bok	Korea Univ
14:29-14:30	TuT21.10
<i>A Vision-Guided Dual Arm Sewing System for Stent Graft Manufacturing</i> , pp. 751-758.	
Huang, Bidan	Imperial Coll. London
Vandini, Alessandro	Imperial Coll. London
Hu, Yang	Imperial Coll. London
Lee, Su-Lin	Imperial Coll. London
Yang, Guang-Zhong	Imperial Coll. London
14:30-14:31	TuT21.11
<i>Multi-Modal Integration of Dynamic Audiovisual Patterns for an Interactive Reinforcement Learning Scenario</i> , pp. 759-766.	
Cruz, Francisco	Univ. of Hamburg
Parisi, German Ignacio	Univ. of Hamburg
Twiefel, Johannes	Univ. of Hamburg, Department of Informatics, Knowledge Tech
Wermter, Stefan	Univ. of Hamburg
14:31-14:32	TuT21.12
<i>Compliant Control for Soft Robots: Emergent Behavior of a Tendon Driven Anthropomorphic Arm</i> , pp. 767-773.	
Martius, Georg	IST Austria
Hostettler, Rafael	Tech. Univ. München
Knoll, Alois	Tech. Univ. Muenchen TUM
Der, Ralf	Univ. of Leipzig
14:32-14:33	TuT21.13
<i>Mass Control of Pneumatic Soft Continuum Actuators with Commodity Components</i> , pp. 774-779.	
Deimel, Raphael	TU Berlin
Radke, Marcel	TU Berlin
Brock, Oliver	Tech. Univ. Berlin
14:33-14:34	TuT21.14
<i>It-Knee: An Exoskeleton with Ideal Torque Transmission Interface for Ergonomic Power Augmentation</i> , pp. 780-786.	
Saccales, Lorenzo	Fondazione Istituto Italiano Di Tecnologia
Sarakoglou, Ioannis	Fondazione Istituto Italiano Di Tecnologia
Tsagarakis, Nikos	Istituto Italiano Di Tecnologia
14:34-14:35	TuT21.15
<i>Human Intent Forecasting Using Intrinsic Kinematic Constraints</i> , pp. 787-793.	
Hu, Ninghang	Univ. of Amsterdam
Bestick, Aaron	Univ. of California, Berkeley
Englebienne, Gwenn	Univ. of Twente
Bajcsy, Ruzena	Univ. of California, Berkeley
Krose, Ben	Univ. of Amsterdam
14:35-14:36	TuT21.16
<i>Combining Real and Virtual Sensors for Measuring Interaction Forces and Moments Acting on a Robot</i> , pp. 794-800.	
Buondonno, Gabriele	Sapienza Univ. of Rome
De Luca, Alessandro	Sapienza Univ. of Rome
14:36-14:37	TuT21.17
<i>A Passivity-Based Admittance Control Design Using Feedback Interconnections</i> , pp. 801-807.	
Kim, Min Jun	POSTECH
Lee, Woongyong	POSTECH
Ott, Christian	German Aerospace Center (DLR)
Chung, Wan Kyun	POSTECH
14:37-14:38	TuT21.18
<i>A Persuasive Learning from Demonstration System Architecture for Social Group Recreational Activities</i> , pp. 808-814.	
Louie, Wing-Yue Geoffrey	Univ. of Toronto
Nejat, Goldie	Univ. of Toronto
14:38-14:39	TuT21.19
<i>Robot-Assisted Pedestrian Regulation in an Exit Corridor</i> , pp. 815-822.	

Jiang, Chao	Stevens Inst. of Tech
Ni, Zhen	South Dakota State Univ
Guo, Yi	Stevens Inst. of Tech
He, Haibo	Univ. of Rhode Island
14:39-14:40	TuT21.20
<i>Autonomous Question Answering with Mobile Robots in Human-Populated Environments</i> , pp. 823-830.	
Chung, Michael Jae-Yoon	Univ. of Washington
Pronobis, Andrzej	Univ. of Washington
Cakmak, Maya	Univ. of Washington
Fox, Dieter	Univ. of Washington
Rao, Rajesh P. N.	Univ. of Washington
14:40-14:41	TuT21.21
<i>Human-Robot Shared Workspace Collaboration Via Hindsight Optimization</i> , pp. 831-838.	
Pellegrinelli, Stefania	National Res. Council of Italy, Inst. of Industrial Tech
Admoni, Henny	Carnegie Mellon Univ
Javdani, Shervin	Carnegie Mellon Univ
Srinivasa, Siddhartha	Carnegie Mellon Univ
14:41-14:42	TuT21.22
<i>Iterative Learning of Variable Impedance Control for Human-Robot Cooperation</i> , pp. 839-844.	
Yamawaki, Tasuku	National Defense Acad. of Japan
Ishikawa, Hiroki	National Defense Acad. of Japan
Yashima, Masahito	National Defense Acad. of Japan
14:42-14:43	TuT21.23
<i>Development of a Grasping Force-Feedback User Interface for Surgical Robot System</i> , pp. 845-850.	
Kim, Uikyum	SungKyunKwan Univ
Seok, Dong-Yeop	Sungkyunkwan Univ
Kim, Yong Bum	Sungskyunkwan Univ
Lee, Dong-Hyuk	Korea Inst. of Industrial Tech. (KITECH)
Choi, Hyouk Ryeol	Sungkyunkwan Univ
14:43-14:44	TuT21.24
<i>Using IMU Data to Demonstrate Hand-Clapping Games to a Robot</i> , pp. 851-856.	
Fitter, Naomi	Univ. of Pennsylvania
Kuchenbecker, Katherine J.	Univ. of Pennsylvania
14:44-14:45	TuT21.25
<i>Hybrid Force/Velocity Control for Physical Human-Robot Collaboration Tasks</i> , pp. 857-863.	
Magrini, Emanuele	Sapienza Univ. of Rome
De Luca, Alessandro	Sapienza Univ. of Rome
TuT22	#112
Manipulation and Grasping (Teaser Session)	
Chair: Ozawa, Ryuta	Ritsumeikan Univ
Co-Chair: Perdereau, Véronique	Univ. Pierre Et Marie Curie - Paris 6
14:20-14:21	TuT22.1
<i>Design of Low-Cost and Easy-Assemblable Robotic Hands with Stiff and Elastic Gear Trains</i> , pp. 864-870.	
Hirano, Yasuyuki	Ritumeikan Univ
Akiyama, Kensaku	Sankyo
Ozawa, Ryuta	Ritsumeikan Univ
14:21-14:22	TuT22.2
<i>Learning Compliant Assembly Motions from Demonstration</i> , pp. 871-876.	
Suomalainen, Markku Heikki	Aalto Univ
Kyrki, Ville	Aalto Univ
14:22-14:23	TuT22.3
<i>Grasping Bulky Objects with Two Anthropomorphic Hands</i> , pp. 877-884.	

Rojas de Silva Gonzalez, Francisco Abiud Suarez, Raul	Univ. Pol. De Catalunya (UPC) Univ. Pol. De Catalunya (UPC)
14:23-14:24	TuT22.4
<i>Grasp Envelopes: Extracting Constraints on Gripper Postures from Online Reconstructed 3D Models</i> , pp. 885-892.	
Stoyanov, Todor	Örebro Univ
Krug, Robert	Oerebro Univ
Muthusamy, Rajkumar	Aalto Univ
Kyrki, Ville	Aalto Univ
14:24-14:25	TuT22.5
<i>Preparatory Object Reorientation for Task-Oriented Grasping</i> , pp. 893-899.	
Nguyen, Anh	Inst. Italiano Di Tech
Kanoulas, Dimitrios	Inst. Italiano Di Tech
Caldwell, Darwin G.	Istituto Italiano Di Tecnologia
Tsagarakis, Nikos	Istituto Italiano Di Tecnologia
14:25-14:26	TuT22.6
<i>ALPHA: A Hybrid Self-Adaptable Hand for a Social Humanoid Robot</i> , pp. 900-906.	
Cerruti, Giulio	IRCCyN, Aldebaran
Chablat, Damien	Inst. De Recherche En Communications Et Cybernétique De Nante
Gouaillier, David	Aldebaran Robotics
Sakka, Sophie	IRCCyN / Univ. of Poitiers
14:26-14:27	TuT22.7
<i>Task-Relevant Grasp Selection: A Joint Solution to Planning Grasps and Manipulative Motion Trajectories</i> , pp. 907-914.	
Ghalmazan Esfahani, Amir Masoud	Univ. of Birmingham
Mavrakis, Nikos	Univ. of Birmingham
Kopicki, Marek	Univ. of Birmingham
Stolkin, Rustam	Univ. of Birmingham
Leonardis, Ales	Univ. of Birmingham
14:27-14:28	TuT22.8
<i>Physics-Based Damage-Aware Manipulation Strategy Planning Using Scene Dynamics Anticipation</i> , pp. 915-922.	
Fromm, Tobias	Jacobs Univ
Birk, Andreas	Jacobs Univ
14:28-14:29	TuT22.9
<i>Control and Modeling for Direct Teaching of Industrial Articulated Robotic Arms</i> , pp. 923-928.	
Wang, Shuai	Shanghai JiaoTong Univ
Yuan, Jianjun	Shanghai Jiao Tong Univ. China
Fu, Xiajun	Shanghai Jiao Tong Univ
Wang, Ning	Shanghai Jiao Tong Univ
Zhang, Weijun	Shanghai Jiao Tong Univ
Xu, Peiqi	Siasun Robot& Automation CO., LTD
14:29-14:30	TuT22.10
<i>Dual-Arm Coordinated-Motion Task Specification and Performance Evaluation</i> , pp. 929-936.	
Park, H. Andy	Purdue Univ
Lee, C. S. George	Purdue Univ
14:30-14:31	TuT22.11
<i>Fast Computation of Contact Points for Robotic Simulations Based on CAD Models without Tessellation</i> , pp. 937-944.	
Crozet, Sébastien	CEA
Leon, Jean-Claude	Grenoble Univ. - INRIA
Merlhot, Xavier	Interactive Simulation Lab. CEA LIST
14:31-14:32	TuT22.12
<i>Implementation of Twisting Skill to Robot Hands for Manipulating Linear Deformable Objects</i> , pp. 945-950.	
Takizawa, Masaru	The Univ. of Electro-Communications
Kudoh, Shunsuke	The Univ. of Electro-Communications
Suehiro, Takashi	The Univ. of Electro-Communications
14:32-14:33	TuT22.13

<i>Physics-Based Model of a Rectangular Garment for Robotic Folding</i> , pp. 951-956.		
Petrik, Vladimir		Czech Tech. Univ. in Prague
Smutny, Vladimir		Faculty of Electrical Engineering, Czech Tech. Pra
Krsek, Pavel		Czech Tech. Univ. in Prague
Hlavac, Vaclav		Czech Tech. Univ. in Prague
14:33-14:34		TuT22.14
<i>Modeling and Control of an Ornithopter for Diving</i> , pp. 957-964.		
Rose, Cameron		Univ. of California, Berkeley
Mahmoudieh, Parsa		Univ. of California, Berkeley
Fearing, Ronald		Univ. of California at Berkeley
14:34-14:35		TuT22.15
<i>In-Hand Object Shape Identification Using Invariant Proprioceptive Signatures</i> , pp. 965-970.		
Vasquez, Alex		Sorbone Univ. UPMC Univ. Paris 06
Kappassov, Zhanat		Pierre and Marie Curie Univ
Perdereau, Véronique		Univ. Pierre Et Marie Curie - Paris 6
14:35-14:36		TuT22.16
<i>Classifying and Sorting Cluttered Piles of Unknown Objects with Robots: A Learning Approach</i> , pp. 971-978.		
Kujala, Janne V.		ZenRobotics Ltd
Lukka, Tuomas J.		ZenRobotics Ltd
Holopainen, Harri		ZenRobotics Ltd
14:36-14:37		TuT22.17
<i>Online Planning of Optimal Trajectories on Assigned Paths with Dynamic Constraints for Robot Manipulators</i> , pp. 979-985.		
Casalino, Andrea		Pol. Di Milano
Zanchettin, Andrea Maria		Pol. Di Milano
Rocco, Paolo		Pol. Di Milano
14:37-14:38		TuT22.18
<i>Wolverine: A Wearable Haptic Interface for Grasping in Virtual Reality</i> , pp. 986-993.		
Choi, Inrak		Stanford Univ
Hawkes, Elliot Wright		Stanford Univ
Christensen, David		Stanford Univ
Ploch, Christopher		Stanford Univ
Follmer, Sean		Stanford Univ
14:38-14:39		TuT22.19
<i>Direct and Realistic Handover of a Virtual Object</i> , pp. 994-999.		
Kim, Jun-Sik		Korea Inst. of Science & Tech
Park, Jung-Min		Korea Inst. of Science and Tech
14:39-14:40		TuT22.20
<i>Toward Physics-Based Virtual Reality Testbeds for Intelligent Robot Manipulators - an Erobotics Approach</i> , pp. 1000-1005.		
Guiffo Kaigom, Eric		Inst. for Man-Machine Interaction, RWTH AachenUniversity
Rossmann, Juergen		RWTH Aachen Univ
14:40-14:41		TuT22.21
<i>A Self-Aligning Gripper Using an Electrostatic/Gecko-Like Adhesive</i> , pp. 1006-1011.		
Dadkhah, Mohammad		Perception Robotics
Zhao, Zhanyue		Illinois Inst. of Tech
Wettels, Nicholas		Perception Robotics
Spenko, Matthew		Illinois Inst. of Tech
14:41-14:42		TuT22.22
<i>Vision-Based Precision Manipulation with Underactuated Hands: Simple and Effective Solutions for Dexterity</i> , pp. 1012-1018.		
Calli, Berk		Yale Univ
Dollar, Aaron		Yale Univ
14:42-14:43		TuT22.23
<i>Development of a Dual-Cable Hand Exoskeleton System for Virtual Reality</i> , pp. 1019-1024.		
Park, Yeon gyu		UNIST(Ulsan National Inst. of Science and Tech
Jo, Inseong		UNIST

Bae, Joonbum UNIST
14:43-14:44 TuT22.24

Real-Time Grasp Planning Based on Motion Field Graph for Human-Robot Cooperation, pp. 1025-1032.

Hwang, Jae Pyung Hanyang Univ
Yang, Myungsik Hanyang Univ
Suh, Il Hong Hanyang Univ
Kwon, Taesoo Carnegie Mellon Univ

14:44-14:45 TuT22.25

HEXOTRAC: A Highly Under-Actuated Hand Exoskeleton for Finger Tracking and Force Feedback, pp. 1033-1040.

Sarakoglou, Ioannis Fondazione Istituto Italiano Di Tecnologia
Brygo, Anais Istituto Italiano Di Tecnologia
Mazzanti, Dario Fondazione Istituto Italiano Di Tecnologia
Garcia Hernandez, Nadia Vanessa Center for Res. and Advanced Studies of the IPN
Caldwell, Darwin G. Istituto Italiano Di Tecnologia
Tsagarakis, Nikos Istituto Italiano Di Tecnologia

TuBT1 #101

Wheeled System Control (Regular session)

Chair: Suzumori, Koichi Tokyo Inst. of Tech
Co-Chair: Nabae, Hiroyuki Tokyo Inst. of Tech

14:50-15:05 TuBT1.1

Robust Trajectory Tracking Controllers for Pose-Regulation of Wheeled Mobile Robots, pp. 1041-1047.

Becerra, Hector M. Centro De Investigación En Matemáticas (CIMAT)
Colunga Ramírez, José Armando Centro De InvestigaciÓn En Matemáticas, A.c
Romero Velazquez, Jose Guadalupe Lab. Des Signaux Et Systèmes, CNRS-SUPELEC

15:05-15:20 TuBT1.2

Eccentric Crank Rover : A Novel Crank Wheel Mechanism with Eccentric Wheels, pp. 1048-1053.

Komura, Hirotaka Tokyo Inst. of Tech
Endo, Gen Tokyo Inst. of Tech
Suzumori, Koichi Tokyo Inst. of Tech

15:20-15:35 TuBT1.3

Passive Robotic Walker Path Following with Bang-Bang Hybrid Control Paradigm, pp. 1054-1060.

Divan, Stefano Univ
Andreetto, Marco Univ. of Trento
Fontanelli, Daniele Univ. of Trento
Palopoli, Luigi Univ. of Trento

15:35-15:50 TuBT1.4

Permanent Magnet-Assisted Omnidirectional Ball Drive, pp. 1061-1066.

Özgür, Ayberk École Pol. Fédérale De Lausanne
Johal, Wafa École Pol. Fédérale De Lausanne
Dillenbourg, Pierre EPFL

15:50-16:05 TuBT1.5

R-Crank: Amphibious All Terrain Mobile Robot, pp. 1067-1072.

Yamada, Shintaro Tokyo Inst. of Tech
Hirose, Shigeo Tokyo Inst. of Tech
Endo, Gen Tokyo Inst. of Tech
Suzumori, Koichi Tokyo Inst. of Tech
Nabae, Hiroyuki Tokyo Inst. of Tech

TuBT2 #102

Detection and Segmentation (Regular session)

Chair: Burgard, Wolfram Univ. of Freiburg
Co-Chair: Ang Jr, Marcelo H National Univ. of Singapore

14:50-15:05	TuBT2.1
<i>Augmenting Deep Convolutional Neural Networks with Depth-Based Layered Detection for Human Detection</i> , pp. 1073-1078.	
Martinson, Eric	Toyota InfoTechnology Center, USA
Yalla, Ganesh	Toyota InfoTechnology Center
15:05-15:20	TuBT2.2
<i>3D Region Segmentation Using Topological Persistence</i> , pp. 1079-1084.	
Beksi, William	Univ. of Minnesota
Papanikolopoulos, Nikos	Univ. of Minnesota
15:20-15:35	TuBT2.3
<i>Simultaneous Segmentation, Estimation and Analysis of Articulated Motion from Dense Point Cloud Sequence</i> , pp. 1085-1092.	
Kim, Youngji	Korea Advanced Inst. of Science and Tech
Lim, Hwasup	Korea Inst. of Science and Tech
Ahn, Sang Chul	KIST
Kim, Ayoung	Korea Advanced Inst. of Science Tech
15:35-15:50	TuBT2.4
<i>Robust Moving Objects Detection in Lidar Data Exploiting Visual Cues</i> , pp. 1093-1098.	
Postica, Gheorghii	Pol. Di Milano
Romanoni, Andrea	Pol. Di Milano
Matteucci, Matteo	Pol. Di Milano
15:50-16:05	TuBT2.5
<i>Lost and Found: Detecting Small Road Hazards for Self-Driving Vehicles</i> , pp. 1099-1106.	
Pinggera, Peter	Daimler
Ramos, Sebastian	Daimler AG R&D
Gehrig, Stefan	Daimler AG
Franke, Uwe	Daimler
Rother, Carsten	TU Dresden
Mester, Rudolf	Goethe Univ. Frankfurt
TuBT3	#103
Haptics (Regular session)	
Chair: Fischer, Gregory Scott	Worcester Pol. Inst. WPI
Co-Chair: Patoglu, Volkan	Sabanci Univ
14:50-15:05	TuBT3.1
<i>A Six Degrees of Freedom Haptic Interface for Laparoscopic Training</i> , pp. 1107-1112.	
Agboh, Wisdom C.	Sabanci Univ
Yalcin, Mustafa	Sabanci Univ
Patoglu, Volkan	Sabanci Univ
15:05-15:20	TuBT3.2
<i>Towards a Haptic Feedback Framework for Multi-DOF Robotic Laparoscopic Surgery Platforms</i> , pp. 1113-1118.	
Munawar, Adnan	Worcester Pol. Inst
Fischer, Gregory Scott	Worcester Pol. Inst. WPI
15:20-15:35	TuBT3.3
<i>ANYpulator: Design and Control of a Safe Robotic Arm</i> , pp. 1119-1125.	
Bodie, Karen	Verity Studios AG
Bellicoso, C. Dario	ETH Zurich
Hutter, Marco	ETH Zurich
15:35-15:50	TuBT3.4
<i>Visuo-Haptic Transmission of Contact Information Improve Operation of Active Scope Camera</i> , pp. 1126-1132.	
Funamizu, Takahito	Tohoku Univ
Nagano, Hikaru	Tohoku Univ
Konyo, Masashi	Tohoku Univ
Tadokoro, Satoshi	Tohoku Univ
15:50-16:05	TuBT3.5

Two-Channel Electrotactile Stimulation for Sensory Feedback of Fingers of Prosthesis, pp. 1133-1138.

Choi, Kyunghwan
 Kim, Pyungkang
 Kim, Kyung-Soo
 Kim, Soohyun

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TuBT4	#104
Medical Robot and Systems 2 (Regular session)	
Chair: Yi, Byung-Ju	Hanyang Univ
Co-Chair: Rabenorosa, Kanty	FEMTO-ST Inst
14:50-15:05	TuBT4.1
<i>Nonholonomic Closed-Loop Velocity Control of a Soft-Tethered Magnetic Capsule Endoscope</i> , pp. 1139-1144.	
Taddese, Addisu	Vanderbilt Univ
Slawinski, Piotr	Vanderbilt Univ
Obstein, Keith	Vanderbilt Univ
Valdastri, Pietro	Vanderbilt Univ
15:05-15:20	TuBT4.2
<i>Design and Closed-Loop Control of a Tri-Layer Polypyrrole Based Telescopic Soft Robot</i> , pp. 1145-1150.	
Chikhaoui, Mohamed Taha	FEMTO-ST Inst
Cot, Amélie	Femto-St Inst
Rabenorosa, Kanty	FEMTO-ST Inst
Rougeot, Patrick	Univ. of Franche-Comté, FEMTO-ST Inst
Andreff, Nicolas	Univ. De Franche Comté
15:20-15:35	TuBT4.3
<i>A Robotic System for Percutaneous Coronary Intervention Equipped with a Steerable Catheter and Force Feedback Function</i> , pp. 1151-1156.	
Cha, Hyo-Jeong	Hanyang Univ
Yoon, Hyun-Soo	Hanyang Univ
Jung, Kwan young	Hanyang Univ
Yi, Byung-Ju	Hanyang Univ
Lee, Sungon	Hanyang Univ
Won, Jong Yun	Yonsei Univ. Coll. of Medicine
15:35-15:50	TuBT4.4
<i>Implicit Active Constraints for Safe and Effective Guidance of Unstable Concentric Tube Robots</i> , pp. 1157-1163.	
Leibrandt, Konrad	Imperial Coll. London
Bergeles, Christos	Univ. Coll. London
Yang, Guang-Zhong	Imperial Coll. London
15:50-16:05	TuBT4.5
<i>Towards Dynamic Object Manipulation with Tactile Sensing for Prosthetic Hands</i> , pp. 1164-1169.	
Shaw-Cortez, Wenceslao	The Univ. of Melbourne
Oetomo, Denny	The Univ. of Melbourne
Manzie, Chris	Univ. of Melbourne
Choong, Peter	The Univ. of Melbourne
TuBT5	
Navigation (Regular session)	
#105	
Chair: Stasse, Olivier	CNRS
Co-Chair: Liu, Yong	Zhejiang Univ
14:50-15:05	TuBT5.1
<i>Experience-Based Path Planning for Mobile Robots Exploiting User Preferences</i> , pp. 1170-1176.	
Nardi, Lorenzo	Univ. of Bonn
Stachniss, Cyrill	Univ. of Bonn
15:05-15:20	TuBT5.2
<i>Motion Control of Tracked Vehicle Based on Contact Force Model</i> , pp. 1177-1183.	

Kojima, Shotaro	Tohoku Univ
Ohno, Kazunori	Tohoku Univ
Suzuki, Takahiro	Tohoku Univ
Westfechtel, Thomas	Tohoku Univ
Okada, Yoshito	Tohoku Univ
Tadokoro, Satoshi	Tohoku Univ
15:20-15:35	TuBT5.3
<i>Navigation Planning for Legged Robots in Challenging Terrain</i> , pp. 1184-1189.	
Wermelinger, Martin	ETH Zurich
Fankhauser, Péter	ETH Zurich
Diethelm, Remo	ETH Zurich
Krüsi, Philipp Andreas	ETH Zurich
Siegwart, Roland	ETH Zurich
Hutter, Marco	ETH Zurich
15:35-15:50	TuBT5.4
<i>Autonomous Navigation in Dynamic Social Environments Using Multi-Policy Decision Making</i> , pp. 1190-1197.	
Mehta, Dhanvin	Univ. of Michigan
Ferrer, Gonzalo	Univ. of Michigan
Olson, Edwin	Univ. of Michigan
15:50-16:05	TuBT5.5
<i>Towards Online Characterization of Autonomously Navigating Robots in Unstructured Environments</i> , pp. 1198-1205.	
Twigg, Jeffrey	Army Res. Lab
Gregory, Jason M.	US Army Res. Lab
Fink, Jonathan	ARL
TuBT6	#106
Localization and Mapping (Regular session)	
Chair: Eustice, Ryan	Univ. of Michigan
Co-Chair: Chung, Soon-Jo	Caltech
14:50-15:05	TuBT6.1
<i>Efficient Loop Closure Based on FALKO LIDAR Features for Online Robot Localization and Mapping</i> , pp. 1206-1213.	
Kallasi, Fabjan	Univ. Degli Studi Di Parma
Lodi Rizzini, Dario	Univ. of Parma
15:05-15:20	TuBT6.2
<i>MO-SLAM: Multi Object SLAM with Run-Time Object Discovery through Duplicates</i> , pp. 1214-1221.	
Dharmasiri, Thanuja	Monash Univ
Lui, Vincent	Monash Univ
Drummond, Tom	Monash Univ
15:20-15:35	TuBT6.3
<i>Pop-Up SLAM: Semantic Monocular Plane SLAM for Low-Texture Environments</i> , pp. 1222-1229.	
Yang, Shichao	Carnegie Mellon Univ
Song, Yu	Beijing Jiaotong Univ
Kaess, Michael	Carnegie Mellon Univ
Scherer, Sebastian	Carnegie Mellon Univ
15:35-15:50	TuBT6.4
<i>Utilizing High-Dimensional Features for Real-Time Robotic Applications: Reducing the Curse of Dimensionality for Recursive Bayesian Estimation</i> , pp. 1230-1237.	
Li, Jie	Univ. of Michigan
Ozog, Paul	Ford Motor Company
Abernethy, Jacob	Univ. of Michigan
Eustice, Ryan	Univ. of Michigan
Johnson-Roberson, Matthew	Univ. of Michigan
15:50-16:05	TuBT6.5
<i>Visual-Inertial Curve Slam</i> , pp. 1238-1245.	

Meier, Kevin
Chung, Soon-Jo
Hutchinson, Seth

Univ. of Illinois at Urbana-Champaign
Univ. of Illinois at Urbana-Champaign
Univ. of Illinois

TuBT7	#107
Manufacturing and Automation (Regular session)	
Chair: Boesl, Dominik B. O.	Tech. Univ. München
Co-Chair: Felton, Samuel	Harvard Univ
14:50-15:05	TuBT7.1
<i>Programming Robotic Tool-Path and Tool-Orientations for Conformance Grinding Based on Human Demonstration</i> , pp. 1246-1253.	
Ng, Wu Xin Charles	Nanyang Tech. Univ
Chan, Kelvin Hau-Kong	Rolls-Royce Singapore
Teo, Wee Kin	Rolls-Royce Singapore
Chen, I-Ming	Nanyang Tech. Univ
15:05-15:20	TuBT7.2
<i>Feedback-Controlled Self-Folding of Autonomous Robot Collectives</i> , pp. 1254-1261.	
Nisser, Martin	Harvard Univ
Felton, Samuel	Harvard Univ
Tolley, Michael Thomas	Univ. of California, San Diego
Rubenstein, Michael	Northwestern Univ
Wood, Robert	Harvard Univ
15:20-15:35	TuBT7.3
<i>4 Robotic Revolutions - Proposing a Holistic Phase Model Describing Future Disruptions in the Evolution of Robotics and Automation and the Rise of a New Generation 'R' of Robotic Natives</i> , pp. 1262-1267.	
Boesl, Dominik B. O.	Tech. Univ. München
Liepert, Bernd	KUKA AG / KUKA Lab. GmbH
15:35-15:50	TuBT7.4
<i>An Assembly Sequence Generation of a Product Family for Robot Programming</i> , pp. 1268-1274.	
Lee, Kimoon	Georgia Inst. of Tech
Joo, Sungmoon	Georgia Inst. of Tech
Christensen, Henrik Iskov	Georgia Inst. of Tech
TuBT8	#108
(Special Session) New Horizon for Robot Audition Applications (Regular session)	
Chair: Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd
Co-Chair: Okuno, Hiroshi G.	Waseda Univ
14:50-15:05	TuBT8.1
<i>Hearing Support System Using Environment Sensor Network</i> , pp. 1275-1280.	
Ishi, Carlos Toshinori	ATR
Liu, Chaoran	Osaka Univ
Even, Jani	ATR
Hagita, Norihiro	ATR
15:05-15:20	TuBT8.2
<i>Ego-Noise Reduction Using a Motor Data-Guided Multichannel Dictionary</i> , pp. 1281-1286.	
Schmidt, Alexander	FAU Erlangen
Deleforge, Antoine	Inria Rennes - Bretagne Atlantique
Kellermann, Walter	Univ. Erlangen
15:20-15:35	TuBT8.3
<i>Semi-Automatic Bird Song Analysis by Spatial-Cue-Based Integration of Sound Source Detection, Localization, Separation, and Identification</i> , pp. 1287-1292.	
Kojima, Ryosuke	Tokyo Inst. of Tech
Sugiyama, Osamu	Tokyo Inst. of Tech
Suzuki, Reiji	Nagoya Univ
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd

Taylor, Charles	UCLA
15:35-15:50	TuBT8.4
<i>Probabilistic 3D Sound Sources Mapping Using Moving Microphone Array</i> , pp. 1293-1298.	
Sasaki, Yoko	National Inst. of Advanced Industrial Science and Tech
Tanabe, Ryo	Tokyo Univ. of Science
Takemura, Hiroshi	Tokyo Univ. of Science
15:50-16:05	TuBT8.5
<i>Partially Shared Deep Neural Network in Sound Source Separation and Identification Using a UAV-Embedded Microphone Array</i> , pp. 1299-1304.	
Morito, Takayuki	Tokyo Inst. of Tech
Sugiyama, Osamu	Tokyo Inst. of Tech
Kojima, Ryosuke	Tokyo Inst. of Tech
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd
TuBT9	#204~205
Marine Robots 1 (Regular session)	
Chair: Kaess, Michael	Carnegie Mellon Univ
Co-Chair: Kruusmaa, Maarja	Tallinn Univ. of Tech
14:50-15:05	TuBT9.1
<i>A Discrete Dipole Approximation Approach to Underwater Active Electrosense Problems</i> , pp. 1305-1312.	
Wang, Ke	Curtin Univ
Cui, Lei	Curtin Univ
Do, Khac Duc	Univ. of Western Australia
15:05-15:20	TuBT9.2
<i>Planning Feasible and Safe Paths Online for Autonomous Underwater Vehicles in Unknown Environments</i> , pp. 1313-1320.	
Hernández, Juan David	Univ. De Girona
Moll, Mark	Rice Univ
Vidal Garcia, Eduard	Univ. De Girona
Carreras, Marc	Univ. De Girona
Kavraki, Lydia	Rice Univ
15:20-15:35	TuBT9.3
<i>Motion Control Architecture of a 4-Fin U-CAT AUV Using DOF Prioritization</i> , pp. 1321-1327.	
Salumae, Taavi	Tallinn Univ. of Tech
Chemori, Ahmed	Cnrs / Limm
Kruusmaa, Maarja	Tallinn Univ. of Tech
15:35-15:50	TuBT9.4
<i>Supporting AUV Localisation through Next Generation Underwater Acoustic Networks: Results from the Field</i> , pp. 1328-1333.	
Munafò, Andrea	NATO STO Centre for Maritime Res. and Experimentation
Furfaro, Thomas	NATO STO Centre for Maritime Res. and Experimentation
Ferri, Gabriele	NATO Centre for Maritime Res. and Experimentation
Alves, Joao	CMRE (Center for Marine Res. and Experimentation)
15:50-16:05	TuBT9.5
<i>Incremental Data Association for Acoustic Structure from Motion</i> , pp. 1334-1341.	
Huang, Tiffany A.	Carnegie Mellon Univ
Kaess, Michael	Carnegie Mellon Univ
TuBT10	#206~208
Humanoid Robots 2 (Regular session)	
Chair: Bicchi, Antonio	Istituto Italiano Di Tecnologia
Co-Chair: Yamamoto, Ko	Univ. of Tokyo
14:50-15:05	TuBT10.1
<i>Walking-Wheeling Dual Mode Strategy for Humanoid Robot, DRC-HUBO+</i> , pp. 1342-1348.	
Bae, HyoIn	KAIST, HuboLab

Lee, In Ho	KAIST, HUBO Lab
Jung, Taejin	KAIST
Oh, Jun Ho	Korea Advanced Inst. of Sci. and Tech
15:05-15:20	TuBT10.2
<i>Balance and Impedance Optimization Control for Compliant Humanoid Stepping</i> , pp. 1349-1355.	
Spyrakos-Papastavridis, Emmanouil	Istituto Italiano Di Tecnologia
Caldwell, Darwin G.	Istituto Italiano Di Tecnologia
Tsagarakis, Nikos	Istituto Italiano Di Tecnologia
15:20-15:35	TuBT10.3
<i>Real-Time Skating Motion Control of Humanoid Robots for Acceleration and Balancing</i> , pp. 1356-1363.	
Takasugi, Noriaki	The Univ. of Tokyo
Kojima, Kunio	The Univ. of Tokyo
Nozawa, Shunichi	The Univ. of Tokyo
Kakiuchi, Yohei	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo
15:35-15:50	TuBT10.4
<i>Resolved COG Viscoelasticity Control of a Humanoid</i> , pp. 1364-1371.	
Yamamoto, Ko	Univ. of Tokyo
15:50-16:05	TuBT10.5
<i>Toward Whole-Body Loco-Manipulation: Experimental Results on Multi-Contact Interaction with the Walk-Man Robot</i> , pp. 1372-1379.	
Farnioli, Edoardo	Univ. Di Pisa
Gabiccini, Marco	Univ. of Pisa
Bicchi, Antonio	Istituto Italiano Di Tecnologia
TuT31	#111
Human-Robot Interaction/Planning (Teaser Session)	
Chair: Scherbatyuk, Alexander	Far Eastern Federal Univ
Co-Chair: Howard, Thomas	Univ. of Rochester
16:25-16:26	TuT31.1
<i>Kernel Density Estimation Based Self-Learning Sampling Strategy for Motion Planning of Repetitive Tasks</i> , pp. 1380-1387.	
Iversen, Thomas Fridolin	Univ. of Southern Denmark
Ellekilde, Lars-Peter	Univ. of Southern Denmark
16:26-16:27	TuT31.2
<i>Group Navigation and Control for Marine Autonomous Robotic Complex Based on Hydroacoustic Communication</i> , pp. 1388-1393.	
Scherbatyuk, Alexander	Far Eastern Federal Univ
Dubrovin, Fedor	Inst. for Marine Tech. Problems
Unru, Petr	Far Eastern Federal Univ
Rodionov, Alexander	Far Eastern Federal Univ
16:27-16:28	TuT31.3
<i>Overapproximative Arm Occupancy Prediction for Human-Robot Co-Existence Built from Archetypal Movements</i> , pp. 1394-1401.	
Pereira, Aaron	Tech. Univ. München
Althoff, Matthias	Tech. Univ. München
16:28-16:29	TuT31.4
<i>Sampled Differential Dynamic Programming</i> , pp. 1402-1409.	
Rajamäki, Joose	Aalto Univ
Naderi, Kourosh	Aalto Univ
Kyrki, Ville	Aalto Univ
Hämäläinen, Perttu Juho	Aalto Univ
16:29-16:30	TuT31.5
<i>Ballistic Motion Planning</i> , pp. 1410-1416.	
Campana, Mylène	LAAS-CNRS
Laumond, Jean-Paul	LAAS-CNRS

16:30-16:31	TuT31.6
<i>Collision-Free Trajectory Planning on Lissajous Curves for Repeated Multi-Agent Coverage and Target Detection</i> , pp. 1417-1422.	
Borkar, Aseem	Indian Inst. of Tech. Bombay
Sinha, Arpita	Indian Institute of Tech. Bombay
Vachhani, Leena	Indian Inst. of Tech. Bombay
Arya, Hemendra	Indian Inst. of Tech. Bombay
16:31-16:32	TuT31.7
<i>Motion Planning with Diffusion Maps</i> , pp. 1423-1430.	
Chen, Yufan	Massachusetts Inst. of Tech
Liu, Shih-Yuan	U.C. Berkeley
Liu, Miao	MIT
Miller, Justin	MIT
How, Jonathan Patrick	Massachusetts Inst. of Tech
16:32-16:33	TuT31.8
<i>Multi-Contact Bilateral Telemanipulation Using Wearable Haptics</i> , pp. 1431-1436.	
Meli, Leonardo	Univ. of Siena
Salvietti, Gionata	Univ. of Siena
Gioioso, Guido	Univ. Degli Studi Di Siena
Malvezzi, Monica	Univ. of Siena
Prattichizzo, Domenico	Univ. of Siena
16:33-16:34	TuT31.9
<i>Foresighted Navigation through Cluttered Environments</i> , pp. 1437-1442.	
Regier, Peter	Univ. of Bonn
Osswald, Stefan	Univ. of Bonn
Karkowski, Philipp	Univ. of Bonn
Bennewitz, Maren	Univ. of Bonn
16:34-16:35	TuT31.10
<i>Trust-Based Human-Robot Interaction for Multi-Robot Symbolic Motion Planning</i> , pp. 1443-1449.	
Spencer, David	Clemson Univ
Wang, Yue	Clemson Univ
Humphrey, Laura	Air Force Res. Lab
16:35-16:36	TuT31.11
<i>A Hybrid Teleoperation Control Scheme for a Single-Arm Mobile Manipulator with Omnidirectional Wheels</i> , pp. 1450-1455.	
Pepe, Alberto	ALMA MATER STUDIORUM - Univ. of Bologna
Chiaravalli, Davide	Alma Mater Studiorum, Univ. of Bologna
Melchiorri, Claudio	Univ. of Bologna
16:36-16:37	TuT31.12
<i>Gaussian Random Paths for Real-Time Motion Planning</i> , pp. 1456-1461.	
Choi, Sungjoon	Seoul National Univ
Lee, Kyungjae	Seoul National Univ
Oh, Songhwai	Seoul National Univ
16:37-16:38	TuT31.13
<i>Expressing Homotopic Requirements for Mobile Robot Navigation through Natural Language Instructions</i> , pp. 1462-1468.	
Yi, Daqing	Brigham Young Univ
Howard, Thomas	Univ. of Rochester
Goodrich, Michael A.	Brigham Young Univ
Seppi, Kevin	Brigham Young Univ
16:38-16:39	TuT31.14
<i>Optimizing the Use of Power in Wave Based Bilateral Teleoperation</i> , pp. 1469-1474.	
Ferraguti, Federica	Univ. Degli Studi Di Modena E Reggio Emilia
Fantuzzi, Cesare	Univ. Di Modena E Reggio Emilia
Secchi, Cristian	Univ. of Modena & Reggio Emilia
16:39-16:40	TuT31.15
<i>Expressive Path Shape (Swagger): Simple Features That Illustrate a Robot's Attitude Toward Its Goal in Real Time</i> , pp. 1475-1482.	

Knight, Heather	Carnegie Mellon Univ
Theilstrom, Ravenna	Swarthmore Coll
Simmons, Reid	Carnegie Mellon Univ
16:40-16:41	TuT31.16
<i>Enhancing Bilateral Teleoperation Using Camera-Based Online Virtual Fixtures Generation</i> , pp. 1483-1488.	
Selvaggio, Mario	Istituto Italiano Di Tecnologia
Notomista, Gennaro	Univ. Degli Studi Di Napoli "Federico II"
Chen, Fei	Istituto Italiano Di Tecnologia
Gao, Boyang	Istituto Italiano Di Tecnologia
Trapani, Francesco	Istituto Italiano Di Tecnologia
Caldwell, Darwin G.	Istituto Italiano Di Tecnologia
16:41-16:42	TuT31.17
<i>Inferring Human Intent from Video by Sampling Hierarchical Plans</i> , pp. 1489-1496.	
Holtzen, Steven	Univ. of California, Los Angeles
Zhao, Yibiao	UCLA
Gao, Tao	Massachusetts Inst. of Tech
Tenenbaum, Joshua	Massachusetts Inst. of Tech
Zhu, Song-Chun	UCLA
16:42-16:43	TuT31.18
<i>Point-To-Point Safe Navigation of a Mobile Robot Using Stigmergy and RFID Technology</i> , pp. 1497-1504.	
Khalik, Ali Abdul	Örebro Univ
Pecora, Federico	Örebro Univ
Saffiotti, Alessandro	Orebro Univ
16:43-16:44	TuT31.19
<i>Admittance Shaping in Delayed Bilateral Teleoperation Control</i> , pp. 1505-1510.	
Kristalny, Maxim	Tech
Cho, Jang Ho	Korea Inst. of Machinery & Materials
16:44-16:45	TuT31.20
<i>Log-Space Harmonic Function Path Planning</i> , pp. 1511-1516.	
Wray, Kyle	Univ. of Massachusetts Amherst
Ruiken, Dirk	Univ. of Massachusetts
Gruppen, Rod	Univ. of Massachusetts
Zilberstein, Shlomo	Univ. of Massachusetts
16:45-16:46	TuT31.21
<i>Interpretation of Uncertain Information in Mobile Service Robots by Analyzing Surrounding Spatial Arrangement Based on Occupied Density Variation</i> , pp. 1517-1523.	
Muthugala, Muthugala Arachchige Viraj Jagathpriya	Univ. of Moratuwa
Jayasekara, A.G.B.P.	Univ. of Moratuwa
16:46-16:47	TuT31.22
<i>Development of the Human Interactive Autonomy for the Shared Teleoperation of Mobile Robots</i> , pp. 1524-1529.	
Lee, Kwang-Hyun	Korea Univ. of Tech
Mehmood, Usman	Korea Univ. of Tech. and Education
Ryu, Jee-Hwan	Korea Univ. of Tech. and Education
16:47-16:48	TuT31.23
<i>A Scene-Based Dependable Indoor Navigation System</i> , pp. 1530-1537.	
Ko, Dong Wook	Hanyang Univ
Kim, Yong Nyeon	Hanyang Univ
Lee, Jin Han	Hanyang Univ
Suh, Il Hong	Hanyang Univ
16:48-16:49	TuT31.24
<i>A Humanoid Doing an Artistic Work - Graffiti on the Wall</i> , pp. 1538-1543.	
Jun, Youngbum	Univ. of Nevada Las Vegas
Jang, Giho	Hanyang Univ
Cho, Baek-Kyu	Kookmin Univ

Trubatch, Joel	Univ. of Nevada Las Vegas
Kim, Inhyeok	NAVER
Seo, Sang-Duck	Univ. of Nevada Las Vegas
Oh, Paul Y.	Univ. of Nevada, Las Vegas (UNLV)
16:49-16:50	TuT31.25
<i>Efficient Learning of Stand-Up Motion for Humanoid Robots with Bilateral Symmetry</i> , pp. 1544-1549.	
Jeong, Heejin	Univ. of Pennsylvania
Lee, Daniel D.	Univ. of Pennsylvania
TuT32	#112
Unmanned Aerial Vehicle (Teaser Session)	
Chair: Sanfeliu, Alberto	Univ. Pol. De Catalunya
Co-Chair: Lee, Dongjun	Seoul National Univ
16:25-16:26	TuT32.1
<i>Minimum-Time Trajectories for Quadrotor UAVs in Complex Environments</i> , pp. 1550-1555.	
Jamieson, Jonathan	Univ. of Strathclyde
Biggs, James	Dipartimento Di Scienze E Tecnologie Aerospaziali, Pol. D
16:26-16:27	TuT32.2
<i>Vision-Based Unmanned Aerial Vehicle Detection and Tracking for Sense and Avoid Systems</i> , pp. 1556-1561.	
Sapkota, Krishna	École Pol. Fédérale De Lausanne
Roelofsen, Steven	EPFL
Rozantsev, Artem	EPFL
Lepetit, Vincent	EPFL
Gillet, Denis	Swiss Federal Inst. of Tech. in Lausanne (EPFL)
Fua, Pascal	EPFL
Martinoli, Alcherio	EPFL
16:27-16:28	TuT32.3
<i>Persistent Aerial Tracking System for UAVs</i> , pp. 1562-1569.	
Mueller, Matthias	KAUST
Sharma, Gopal	Indian Inst. of Tech
Smith, Neil	King Abdullah Univ. of Science & Tech
Ghanem, Bernard	King Abdullah Univ. of Science and Tech
16:28-16:29	TuT32.4
<i>Design, Modeling and Control of Omni-Directional Aerial Robot</i> , pp. 1570-1575.	
Park, Sangyul	Seoul National Univ
Her, Jongbeom	Seoul National Univ
Kim, Juhyeok	Seoul National Univ
Lee, Dongjun	Seoul National Univ
16:29-16:30	TuT32.5
<i>A Drone with Insect-Inspired Folding Wings</i> , pp. 1576-1581.	
Dufour, Louis	Ec. Pol. Fédérale De Lausanne -EPFL
Owen, Kevin	École Pol. Fédérale
Mintchev, Stefano	École Pol. Fédérale De Lausanne
Floreano, Dario	Ec. Pol. Federal, Lausanne
16:30-16:31	TuT32.6
<i>Real-Time Path Generation for Multicopters in Environments with Obstacles</i> , pp. 1582-1588.	
Nguyen, Dong Hai Phuong	DIBRIS, Univ. of Genova
Recchiuto, Carmine Tommaso	Univ. of Genova
Sgorbissa, Antonio	Univ. of Genova
16:31-16:32	TuT32.7
<i>Learning the Hidden Human Knowledge of UAV Pilots When Navigating in a Cluttered Environment for Improving Path Planning</i> , pp. 1589-1594.	
Alzugaray, Ignacio	Univ. Pol. De Catalunya
Sanfeliu, Alberto	Univ. Pol. De Catalunya

16:32-16:33		TuT32.8
<i>Aerial Torsional Manipulation Employing Multirotor Flying Robot</i> , pp. 1595-1600.		
Shimahara, Syohei		Ritsumeikan Univ
Leewiwatwong, Suphachart		Ritsumeikan Univ
Ladig, Robert		Ritsumeikan Univ
Shimonomura, Kazuhiro		Ritsumeikan Univ
16:33-16:34		TuT32.9
<i>Real-Time Dense Surface Reconstruction for Aerial Manipulation</i> , pp. 1601-1608.		
Karrer, Marco		ETH Zurich
Kamel, Mina	Autonomous Systems Lab, ETH Zurich	
Siegwart, Roland		ETH Zurich
Chli, Margarita		ETH Zurich
16:34-16:35		TuT32.10
<i>SUAV: Q - an Improved Design for a Transformable Solar-Powered UAV</i> , pp. 1609-1615.		
D'Sa, Ruben		Univ. of Minnesota
Jenson, Devon		Cse, Umn
Henderson, Travis		Cse, Umn
Kilian, Jack		Cse, Umn
Schulz, Bobby		Cse, Umn
Calvert, Michael		Cse, Umn
Heller, Thaine		Cse, Umn
Papanikolopoulos, Nikos		Univ. of Minnesota
16:35-16:36		TuT32.11
<i>Efficient Multi-Camera Visual-Inertial SLAM for Micro Aerial Vehicles</i> , pp. 1616-1622.		
Houben, Sebastian		Univ. of Bonn
Quenzel, Jan		Univ. of Bonn
Krombach, Nicola		Univ. of Bonn
Behnke, Sven		Univ. of Bonn
16:36-16:37		TuT32.12
<i>Cooperative Transportation of a Payload Using Quadrotors: A Reconfigurable Cable-Driven Parallel Robot</i> , pp. 1623-1630.		
Masone, Carlo	Max Planck Inst. for Biological Cybernetics	
Buelthoff, Heinrich H.	Max Planck Inst. for Biol. Cybernetics	
Stegagno, Paolo	Max Planck Inst. for Biological Cybernetics	
16:37-16:38		TuT32.13
<i>High Accuracy Visual Servoing for Aerial Manipulation Using a 7 Degrees of Freedom Industrial Manipulator</i> , pp. 1631-1636.		
Laiacker, Maximilian		German Aerospace Center (DLR)
Huber, Felix		German Aerospace Center
Kondak, Konstantin		German Aerospace Center
16:38-16:39		TuT32.14
<i>The Flying Anemometer: Unified Estimation of Wind Velocity from Aerodynamic Power and Wrenches</i> , pp. 1637-1644.		
Tomic, Teodor		German Aerospace Center (DLR)
Schmid, Korbinian		Roboception GmbH
Lutz, Philipp		German Aerospace Center (DLR)
Mathers, Andrew		WindEEE Res. Inst. Western Univ
Haddadin, Sami		Leibniz Univ. Hanover
16:39-16:40		TuT32.15
<i>Self-Organized UAV Traffic in Realistic Environments</i> , pp. 1645-1652.		
Virágh, Csaba		Eötvös Univ. of Budapest
Nagy, Mate	Max Planck Inst. of Ornithology; Univ. Konstanz; MTA-EL	
Gershenson, Carlos		Univ. Nacional Autonoma De Mexico
Vásárhelyi, Gábor		Eötvös Univ
16:40-16:41		TuT32.16
<i>Vision Based Collaborative Localization for Multirotor Vehicles</i> , pp. 1653-1658.		
Vemprala, Sai		Arizona State Univ

Saripalli, Srikanth	Arizona State Univ
16:41-16:42	TuT32.17
<i>Long-Range GPS-Denied Aerial Inertial Navigation with LIDAR Localization</i> , pp. 1659-1666.	
Hemann, Garrett	Carnegie Mellon Univ
Singh, Sanjiv	Carnegie Mellon Univ
Kaess, Michael	Carnegie Mellon Univ
16:42-16:43	TuT32.18
<i>Aerial Robots with Rigid/Elastic-Joint Arms: Single-Joint Controllability Study and Preliminary Experiments</i> , pp. 1667-1672.	
Yuksel, Burak	Max Planck Inst. for Biological Cybernetics
Staub, Nicolas	LAAS-CNRS
Franchi, Antonio	LAAS-CNRS
16:43-16:44	TuT32.19
<i>Human-Interpretable Diagnostic Information for Robotic Planning Systems</i> , pp. 1673-1680.	
Feng, Lu	Univ. of Pennsylvania
Humphrey, Laura	Air Force Res. Lab
Lee, Insup	Univ. of Pennsylvania
Topcu, Ufuk	Univ. of Pennsylvania
16:44-16:45	TuT32.20
<i>A Swarm of Flying Smartphones</i> , pp. 1681-1688.	
Loianno, Giuseppe	Univ. of Pennsylvania
Mulgaonkar, Yash	Univ. of Pennsylvania
Brunner, Chris	Qualcomm
Ahuja, Dheeraj	Qualcomm Tech. Inc
Ramanandan, Arvind	Qualcomm Res
Chari, Murali	Qualcomm Tech. Inc
Diaz, Serafin	Qualcomm Tech. Inc
Kumar, Vijay	Univ. of Pennsylvania
16:45-16:46	TuT32.21
<i>Modeling and Control of FAST-Hex: A Fully-Actuated by Synchronized-Tilting Hexarotor</i> , pp. 1689-1694.	
Ryll, Markus	Lab. for Analysis and Architecture of Systems
Bicego, Davide	LAAS-CNRS
Franchi, Antonio	LAAS-CNRS
16:46-16:47	TuT32.22
<i>Two Meter Solar UAV: Design Approach and Performance Prediction for Autonomous Sensing Applications</i> , pp. 1695-1701.	
Morton, Scott	Univ. of Minnesota
Papanikolopoulos, Nikos	Univ. of Minnesota
16:47-16:48	TuT32.23
<i>Takeoff and Landing on Slopes Via Inclined Hovering with a Tethered Aerial Robot</i> , pp. 1702-1707.	
Tognon, Marco	LAAS-CNRS
Testa, Andrea	Univ. Del Salento
Rossi, Enrica	LAAS-CNRS
Franchi, Antonio	LAAS-CNRS
16:48-16:49	TuT32.24
<i>Improvement of UAV's Flight Performance by Reducing the Drag Force of Spherical Shell</i> , pp. 1708-1714.	
Salaan, Carl John	Tohoku Univ
Okada, Yoshito	Tohoku Univ
Hozumi, Koichi	Japan AerospaceTechnology Foundation
Ohno, Kazunori	Tohoku Univ
Tadokoro, Satoshi	Tohoku Univ
16:49-16:50	TuT32.25
<i>Implementation of Varied Particle Container for Smoothed Particle Hydrodynamics – Based Aggregation for Unmanned Aerial Vehicle Quadrotor Swarm</i> , pp. 1715-1720.	
Bandala, Argel	De La Salle Univ
Faelden, Gerard Ely	De La Salle Univ

Maningo, Jose Martin
 Nakano, Reiichiro Christian
 Vicerra, Ryan Rhay
 Dadios, Elmer P

De La Salle Univ
 De La Salle Univ
 De La Salle Univ
 Dlsu

TuCT1		#101
Motion Planning and Obstacle Avoidance (Regular session)		
Chair: Oh, Songhwai		Seoul National Univ
Co-Chair: Martinoli, Alcherio		EPFL
16:55-17:10		TuCT1.1
<i>Graph-Based Distributed Control for Adaptive Multi-Robot Patrolling through Local Formation Transformation</i> , pp. 1721-1728.		
Wasik, Alicja		EPFL
Pereira, Jose Nuno		Epfl Enac lie Disal
Ventura, Rodrigo		Inst. Superior Técnico
Lima, Pedro U.		Inst. Superior Técnico - Inst. for Systems and Robotics
Martinoli, Alcherio		EPFL
17:10-17:25		TuCT1.2
<i>Towards 3-D Distributed Odor Source Localization: An Extended Graph-Based Formation Control Algorithm for Plume Tracking</i> , pp. 1729-1736.		
Soares, Jorge M.		École Pol. Fédérale De Lausanne
Marjovi, Ali		EPFL
Giezendanner, Jonathan		EPFL
Kodiyar, Anil		EPFL
Aguiar, A. Pedro		Faculty of Engineering, Univ. of Porto (FEUP)
Pascoal, Antonio		Inst. Superior Tecnico
Martinoli, Alcherio		EPFL
17:25-17:40		TuCT1.3
<i>Robust Modeling and Prediction in Dynamic Environments Using Recurrent Flow Networks</i> , pp. 1737-1742.		
Choi, Sungjoon		Seoul National Univ
Lee, Kyungjae		Seoul National Univ
Oh, Songhwai		Seoul National Univ
17:40-17:55		TuCT1.4
<i>Introspective Perception: Learning to Predict Failures in Vision Systems</i> , pp. 1743-1750.		
Daftry, Shreyansh		Carnegie Mellon Univ
Zeng, Sam		Carnegie Mellon Univ
Bagnell, James		Carnegie Mellon Univ
Hebert, Martial		CMU
17:55-18:10		TuCT1.5
<i>Performance Level Profiles: A Formal Language for Describing the Expected Performance of Functional Modules</i> , pp. 1751-1756.		
Brafman, Ronen		Ben-Gurion Univ
Bar-Sinai, Michael		Ben-Gurion Univ
Ashkenazi, Maor		Ben-Gurion Univ

TuCT2		#102
Robot Vision (Regular session)		
Chair: Ling, Yonggen		The Hong Kong Univ. of Science and Tech
Co-Chair: Sandini, Giulio		Italian Inst. of Tech
16:55-17:10		TuCT2.1
<i>Fast Joint Compatibility Branch and Bound for Feature Cloud Matching</i> , pp. 1757-1764.		
Shen, Xiaotong		National Univ. of Singapore
Frazzoli, Emilio		Massachusetts Inst. of Tech
Rus, Daniela		MIT
Ang Jr, Marcelo H		National Univ. of Singapore
17:10-17:25		TuCT2.2

<i>Rigid Scene Flow for 3D LiDAR Scans</i> , pp. 1765-1770.		
Dewan, Ayush		Univ. of Freiburg
Caselitz, Tim		Univ. of Freiburg
Tipaldi, Gian Diego		Univ. of Freiburg
Burgard, Wolfram		Univ. of Freiburg
17:25-17:40		TuCT2.3
<i>High-Precision Online Markerless Stereo Extrinsic Calibration</i> , pp. 1771-1778.		
Ling, Yonggen		The Hong Kong Univ. of Science and Tech
Shen, Shaojie		Hong Kong Univ. of Science and Tech
17:40-17:55		TuCT2.4
<i>Self-Supervised Monocular Distance Learning on a Lightweight Micro Air Vehicle</i> , pp. 1779-1784.		
Lamers, Kevin		Delft Univ. of Tech
Tijmons, Sjoerd		Delft Univ. of Tech
De Wagter, Christophe		Delft Univ. of Tech
de Croon, Guido		TU Delft / ESA
17:55-18:10		TuCT2.5
<i>Scene Flow Propagation for Semantic Mapping and Object Discovery in Dynamic Street Scenes</i> , pp. 1785-1792.		
Kochanov, Deyvid		RWTH Aachen Univ
Osep, Aljosa		RWTH Aachen Univ
Stückler, Jörg		RWTH Aachen Univ
Leibe, Bastian		RWTH Aachen Univ
TuCT3		#103
Sensor-Based Planning (Regular session)		
Chair: Indelman, Vadim		Tech. - Israel Inst. of Tech
Co-Chair: Bayat, Behzad		EPFL École Pol. Fédérale De Lausanne
16:55-17:10		TuCT3.1
<i>Computationally Efficient Decision Making under Uncertainty in High-Dimensional State Spaces</i> , pp. 1793-1800.		
Kopitkov, Dmitry		Tech. - Israel Inst. of Tech
Indelman, Vadim		Tech. - Israel Inst. of Tech
17:10-17:25		TuCT3.2
<i>Optimal Search Strategies for Pollutant Source Localization</i> , pp. 1801-1807.		
Bayat, Behzad		EPFL École Pol. Fédérale De Lausanne
Crasta, Naveena		Inst. Superior Tecnico (IST), Univ. of Lisbon
Li, Howard		Univ. of New Brunswick
Ijspeert, Auke		EPFL
17:25-17:40		TuCT3.3
<i>Sampling-Based View Planning for 3D Visual Coverage Task with Unmanned Aerial Vehicle</i> , pp. 1808-1815.		
Jing, Wei		Carnegie Mellon Univ
Polden, Joseph		Singapore Inst. of Manufacturing Tech. (SIMTech)
Lin, Wei		SIMTech, A*STAR
Shimada, Kenji		Carnegie Mellon Univ
17:40-17:55		TuCT3.4
<i>Information-Theoretic Exploration with Bayesian Optimization</i> , pp. 1816-1822.		
Bai, Shi		Stevens Inst. of Tech
Wang, Jinkun		Stevens Inst. of Tech
Chen, Fanfei		Stevens Inst. of Tech
Englot, Brendan		Stevens Inst. of Tech
17:55-18:10		TuCT3.5
<i>Mutual Information Based Communication Aware Path Planning: A Game Theoretic Perspective</i> , pp. 1823-1828.		
Ramaswamy, Vinod		Univ. of Colorado, Boulder
Moon, Sangwoo		Univ. of Colorado Boulder
Frew, Eric W.		Univ. of Colorado
Ahmed, Nisar		Univ. of Colorado Boulder

TuCT4		#104
Medical Robot and Systems 3 (Regular session)		
Chair: Burgard, Wolfram		Univ. of Freiburg
Co-Chair: Haouchine, Nazim		INRIA
16:55-17:10		TuCT4.1
<i>An Egocentric Computer Vision Based Co-Robot Wheelchair</i> , pp. 1829-1836.		
Li, Haoxiang		Adobe Res
Kutbi, Mohammed		Stevens Inst. of Tech
Li, Xin		Stevens Inst. of Tech
Cai, Changjiang		Stevens Inst. of Tech
Mordohai, Philippos		Stevens Inst. of Tech
Hua, Gang		Stevens Inst. of Tech
17:10-17:25		TuCT4.2
<i>Making Robots Mill Bone More Like Human Surgeons: Using Bone Density and Anatomic Information to Mill Safely and Efficiently</i> , pp. 1837-1843.		
Dillon, Neal P		Vanderbilt Univ
Fichera, Loris		Vanderbilt Univ
Wellborn, Patrick		Vanderbilt Univ
Labadie, Robert F		Vanderbilt Univ
Webster III, Robert James		Vanderbilt Univ
17:25-17:40		TuCT4.3
<i>Automatic Channel Selection in Neural Microprobes: A Combinatorial Multi-Armed Bandit Approach</i> , pp. 1844-1850.		
Gordillo Chaves, Camilo Andres		Univ. of Freiburg
Frank, Barbara		Univ. of Freiburg
Istvan, Ulbert		Univ. of Budapest
Paul, Oliver		Univ. of Freiburg
Ruther, Patrick		Univ. of Freiburg
Burgard, Wolfram		Univ. of Freiburg
17:40-17:55		TuCT4.4
<i>A Probabilistic Approach Based on Random Forests to Estimating Similarity of Human Motion in the Context of Parkinson's Disease</i> , pp. 1851-1856.		
Kuhner, Andreas		Univ. Freiburg
Schubert, Tobias		AIS Univ. Freiburg
Cenciarini, Massimo		Univ. Medical Center Freiburg
Maurer, Christoph		Univ. of Freiburg Medical Center
Burgard, Wolfram		Univ. of Freiburg
17:55-18:10		TuCT4.5
<i>AutoHydrate: A Wearable Hydration Monitoring System</i> , pp. 1857-1862.		
Mengistu, Yehenew		Oklahoma State Univ
Pham, Minh		Oklahoma State Univ
Do, Ha Manh		Oklahoma State Univ
Sheng, Weihua		Oklahoma State Univ
TuCT5		#105
Multiple Robot Path Planning (Regular session)		
Chair: Dudek, Gregory		McGill Univ
Co-Chair: Lodi Rizzini, Dario		Univ. of Parma
16:55-17:10		TuCT5.1
<i>Occlusion-Aware Multi-Robot 3D Tracking</i> , pp. 1863-1870.		
Hausman, Karol		Univ. of Southern California
Kahn, Gregory		Univ. of California, Berkeley
Patil, Sachin		Univ. of California Berkeley
Mueller, Joerg		Robert Bosch LLC

Goldberg, Ken	UC Berkeley
Abbeel, Pieter	UC Berkeley
Sukhatme, Gaurav	Univ. of Southern California
17:10-17:25	TuCT5.2
<i>Dynamic Multi-Target Coverage with Robotic Cameras</i> , pp. 1871-1878.	
Hoenig, Wolfgang	Univ. of Southern California
Ayanian, Nora	Univ. of Southern California
17:25-17:40	TuCT5.3
<i>Multi-Robot Search for a Moving Target: Integrating World Modeling, Task Assignment and Context</i> , pp. 1879-1886.	
Riccio, Francesco	Sapienza Univ. of Rome
Borzi, Emanuele	Sapienza Univ. of Rome
Gemignani, Guglielmo	Sapienza Univ. Rome
Nardi, Daniele	Sapienza Univ. of Rome
17:40-17:55	TuCT5.4
<i>Fast and Efficient Rendezvous in Street Networks</i> , pp. 1887-1893.	
Mehjani, Malika	McGill Univ
Manjanna, Sandeep	McGill Univ
Dudek, Gregory	McGill Univ
17:55-18:10	TuCT5.5
<i>Safe and Complete Trajectory Generation for Robot Teams with Higher-Order Dynamics</i> , pp. 1894-1901.	
Tang, Sarah	Univ. of Pennsylvania
Kumar, Vijay	Univ. of Pennsylvania
TuCT6	#106
Localization (Regular session)	
Chair: Rekleitis, Ioannis	Univ. of South Carolina
Co-Chair: Beetz, Michael	Univ. of Bremen
16:55-17:10	TuCT6.1
<i>Active Localization with Dynamic Obstacles</i> , pp. 1902-1909.	
Quattrini Li, Alberto	Univ. of South Carolina
Xanthidis, Marios	Univ. of South Carolina
O'Kane, Jason	Univ. of South Carolina
Rekleitis, Ioannis	Univ. of South Carolina
17:10-17:25	TuCT6.2
<i>Keyframe Based Large-Scale Indoor Localisation Using Geomagnetic Field and Motion Pattern</i> , pp. 1910-1917.	
Wang, Sen	Univ. of Oxford
Wen, Hongkai	Univ. of Oxford
Clark, Ronald	Univ. of Oxford
Trigoni, Niki	Univ. of Oxford
17:25-17:40	TuCT6.3
<i>Bridging the Appearance Gap: Multi-Experience Localization for Long-Term Visual Teach & Repeat</i> , pp. 1918-1925.	
Paton, Michael	Univ. of Toronto
MacTavish, Kirk Andrew	Univ. of Toronto
Warren, Michael	Univ. of Toronto
Barfoot, Timothy	Univ. of Toronto
17:40-17:55	TuCT6.4
<i>Monocular Camera Localization in 3D LiDAR Maps</i> , pp. 1926-1931.	
Caselitz, Tim	Univ. of Freiburg
Steder, Bastian	Univ. of Freiburg
Ruhnke, Michael	Univ. of Freiburg
Burgard, Wolfram	Univ. of Freiburg
17:55-18:10	TuCT6.5
<i>FLAT2D: Fast Localization from Approximate Transformation into 2D</i> , pp. 1932-1939.	

Goeddel, Robert
 Kershaw, Carl
 Serafin, Jacopo
 Olson, Edwin

Univ. of Michigan
 Univ. of Michigan
 Univ. Sapienza of Rome
 Univ. of Michigan

TuCT7 #107

Grasping (Regular session)

Chair: Brock, Oliver Tech. Univ. Berlin
 Co-Chair: Schaal, Stefan MPI Intelligent Systems & Univ. of Southern California

16:55-17:10 TuCT7.1

Synergy-Based Policy Improvement with Path Integrals for Anthropomorphic Hands, pp. 1940-1945.

Ficuciello, Fanny Univ. Di Napoli Federico II
 Zaccara, Damiano Univ. Di Napoli Federico II
 Siciliano, Bruno Univ. Napoli Federico II

17:10-17:25 TuCT7.2

Grasp Quality Evaluation in Underactuated Robotic Hands, pp. 1946-1953.

Pozzi, Maria Univ. of Siena
 Sundaram, Ashok M. German Aerospace Center (DLR)
 Malvezzi, Monica Univ. of Siena
 Prattichizzo, Domenico Univ. of Siena
 Roa, Maximo A. German Aerospace Center, DLR

17:25-17:40 TuCT7.3

A Compact Representation of Human Single-Object Grasping, pp. 1954-1959.

Puhlmann, Steffen TU Berlin
 Heinemann, Fabian TU Berlin
 Brock, Oliver Tech. Univ. Berlin
 Maertens, Marianne Tech. Univ

17:40-17:55 TuCT7.4

Self-Supervised Regrasping Using Spatio-Temporal Tactile Features and Reinforcement Learning, pp. 1960-1966.

Chebotar, Yevgen Univ. of Southern California
 Hausman, Karol Univ. of Southern California
 Su, Zhe Univ. of Southern California
 Sukhatme, Gaurav Univ. of Southern California
 Schaal, Stefan MPI Intelligent Systems & Univ. of Southern California

17:55-18:10 TuCT7.5

Unscented Bayesian Optimization for Safe Robot Grasping, pp. 1967-1972.

Nogueira, Jose Inst. Superior Técnico
 Martinez-Cantin, Ruben Centro Univ. De La Defensa
 Bernardino, Alexandre IST - Técnico Lisboa
 Jamone, Lorenzo Inst. Superior Tecnico

TuCT8 #108

Robot Audition (Regular session)

Chair: Nakadai, Kazuhiro Honda Res. Inst. Japan Co., Ltd
 Co-Chair: Bertin, Nancy Cnrs, Irisa

16:55-17:10 TuCT8.1

Online Simultaneous Localization and Mapping of Multiple Sound Sources and Asynchronous Microphone Arrays, pp. 1973-1979.

Sekiguchi, Kouhei Kyoto Univ
 Bando, Yoshiaki Kyoto Univ
 Nakamura, Keisuke Honda Res. Inst. Japan Co., Ltd
 Nakadai, Kazuhiro Honda Res. Inst. Japan Co., Ltd
 Itoyama, Katsutoshi Kyoto Univ
 Yoshii, Kazuyoshi Kyoto Univ

17:10-17:25		TuCT8.2
<i>Position Estimation of Sound Source on Ground by Multirotor Helicopter with Microphone Array</i> , pp. 1980-1985.		
Washizaki, Kai		Kumamoto Univ
Wakabayashi, Mizuho		Kumamoto Univ
Kumon, Makoto		Graduate School of Science and Tech. Kumamoto
17:25-17:40		TuCT8.3
<i>Localizing an Intermittent and Moving Sound Source Using a Mobile Robot</i> , pp. 1986-1991.		
Nguyen, Van Quan		INRIA
Colas, Francis		Inria Nancy Grand Est
Vincent, Emmanuel		Inria
Charpillat, Francois		INRIA, Loria
17:40-17:55		TuCT8.4
<i>Audio-Based Robot Control from Interchannel Level Difference and Absolute Sound Energy</i> , pp. 1992-1999.		
Magassouba, Aly		Univ. Rennes 1, Inria
Bertin, Nancy		Cnrs, Irisa
Chaumette, Francois		Inria Rennes-Bretagne Atlantique
17:55-18:10		TuCT8.5
<i>Split Conditional Independent Mapping for Sound Source Localisation with Inverse-Depth Parametrisation</i> , pp. 2000-2006.		
Su, Daobilige		Univ. of Tech. Sydney
Vidal-Calleja, Teresa A.		Univ. of Tech. Sydney
Valls Miro, Jaime		Univ. of Tech. Sydney
TuCT9		#204~205
Marine Robots 2 (Regular session)		
Chair: Johnson-Roberson, Matthew		Univ. of Michigan
Co-Chair: Duda, Alexander		DFKI
16:55-17:10		TuCT9.1
<i>A Nonlinear Disturbance Observer Using Delayed Estimates -Its Application to Motion Control of an Underwater Vehicle-Manipulator System—</i> , pp. 2007-2013.		
Sugiyama, Noboru		Tokyo Univ. of Marine Science and Tech
Toda, Masayoshi		Tokyo Univ. of Marine Science and Tech
17:10-17:25		TuCT9.2
<i>Towards Real-Time Underwater 3D Reconstruction with Plenoptic Cameras</i> , pp. 2014-2021.		
Skinner, Katherine A.		Univ. of Michigan
Johnson-Roberson, Matthew		Univ. of Michigan
17:25-17:40		TuCT9.3
<i>Refractive Forward Projection for Underwater Flat Port Cameras</i> , pp. 2022-2027.		
Duda, Alexander		DFKI
Gaudig, Christopher		DFKI (German Res. Center for Artificial Intelligence)
17:40-17:55		TuCT9.4
<i>A Preliminary Survey of Underwater Robotic Vehicle Design and Navigation for Under-Ice Operations</i> , pp. 2028-2035.		
Barker, Laughlin David Laird		Johns Hopkins Univ
Whitcomb, Louis		The Johns Hopkins Univ
17:55-18:10		TuCT9.5
<i>An Underwater Laser Vision System for Relative 3-D Posture Estimation to Mesh-Like Targets</i> , pp. 2036-2041.		
Constantinou, Christos		Cyprus Univ. of Tech
Loizou, Savvas		Cyprus Univ. of Tech
Georgiades, George		Cyprus Univ. of Tech
TuCT10		#206~208
Legged Robots 1 (Regular session)		
Chair: Lin, Pei-Chun		National Taiwan Univ
Co-Chair: Kottege, Navinda		CSIRO

16:55-17:10		TuCT10.1
<i>Proprioceptive Control of an Over-Actuated Hexapod Robot in Unstructured Terrain</i> , pp. 2042-2049.		
Bjelonic, Marko		Tech. Univ. Darmstadt
Kottege, Navinda		CSIRO
Beckerle, Philipp		Tech. Univ. Darmstadt
17:10-17:25		TuCT10.2
<i>Generation of Underactuated Bipedal Gait Completing in One Step</i> , pp. 2050-2055.		
Asano, Fumihiko	Japan Advanced Inst. of Science and Tech	
Zheng, Yanqiu	Japan Advanced Inst. of Science and Tech	
Xiao, Xuan		Tsinghua Univ
17:25-17:40		TuCT10.3
<i>Model-Based Bounding in a Quadruped Robot with Waist Actuation</i> , pp. 2056-2061.		
Chen, Chung-Li		National Taiwan Univ
Wang, Tso-Kang		National Taiwan Univ
Hu, Chia-Jui	Department of Mechanical Engineering,	National Taiwan Univ
Lin, Pei-Chun		National Taiwan Univ
17:40-17:55		TuCT10.4
<i>Task-Based Limb Optimization for Legged Robots</i> , pp. 2062-2068.		
Ha, Sehoon		Disney Res
Coros, Stelian		Disney Res. Zurich
Alspach, Alexander		Disney Res
Kim, Joohyung		Disney Res
Yamane, Katsu		Disney
17:55-18:10		TuCT10.5
<i>Adaptive Locomotion by Two Types of Legged Robots with an Actuator Network System</i> , pp. 2069-2074.		
Ryu, Hideyuki		Osaka Univ
Nakata, Yoshihiro	Graduate School of Engineering Science,	Osaka Univ
Nakamura, Yutaka		Osaka Univ
Ishiguro, Hiroshi		Osaka Univ

Technical Program for Wednesday October 12, 2016

WeH1	#111
Highlight 3: Motion and Path Planning (Highlight Session)	
Chair: Kyung, Ki-UK	ETRI
10:00-10:05	WeH1.1
<i>A Probabilistic Approach to Liquid Level Detection in Cups Using an RGB-D Camera</i> , pp. 2075-2080.	
Do, Chau	Albert-Ludwigs-Univ. Freiburg
Schubert, Tobias	ALS Univ. Freiburg
Burgard, Wolfram	Univ. of Freiburg
10:05-10:10	WeH1.2
<i>Multirobot Sequential Composition</i> , pp. 2081-2088.	
Wagner, Glenn	Carnegie Mellon
Choset, Howie	Carnegie Mellon Univ
Siravuru, Avinash	Carnegie Mellon Univ
10:10-10:15	WeH1.3
<i>Watch This: Scalable Cost-Function Learning for Path Planning in Urban Environments</i> , pp. 2089-2095.	
Wulfmeier, Markus	Univ. of Oxford
Wang, Dominic Zeng	Univ. of Oxford
Posner, Ingmar	Oxford Univ
10:15-10:20	WeH1.4
<i>Predicting Actions to Act Predictably: Cooperative Partial Motion Planning with Maximum Entropy Models</i> , pp. 2096-2101.	
Pfeiffer, Mark	ETH Zurich
Schwesinger, Ulrich	ETH Zurich
Sommer, Hannes	ETH Zürich
Galceran, Enric	ETH Zurich
Sieglwart, Roland	ETH Zurich
10:20-10:25	WeH1.5
<i>An Information-Driven and Disturbance-Aware Planning Method for Long-Term Ocean Monitoring</i> , pp. 2102-2108.	
Ma, Kai-Chieh	Univ. of Southern California
Liu, Lantao	Univ. of Southern California
Sukhatme, Gaurav	Univ. of Southern California
WeH2	#112
Highlight 4: Bio-Related and Medical Robotics (Highlight Session)	
Chair: Yi, Byung-Ju	Hanyang Univ
10:00-10:05	WeH2.1
<i>Mroberto: A Modular Millirobot for Swarm-Behavior Studies</i> , pp. 2109-2114.	
Kim, Justin Yonghui	Univ. of Toronto
Colaco, Tyler	Univ. of Toronto
Kashino, Zendai	Univ. of Toronto
Nejat, Goldie	Univ. of Toronto
Benhabib, Beno	Univ. of Toronto
10:05-10:10	WeH2.2
<i>Design of a Multilink-Articulated Wheeled Inspection Robot for Winding Pipelines: AIRo-II</i> , pp. 2115-2121.	
Kakogawa, Atsushi	Ritsumeikan Univ
Ma, Shugen	Ritsumeikan Univ
10:10-10:15	WeH2.3
<i>New Kinematic Multi-Section Model for Catheter Contact Force Estimation and Steering</i> , pp. 2122-2127.	
Back, Jungwhan	King's Coll. London
Lindenroth, Lukas	King's Coll. London
Karim, Rashed	King's Coll. London
Althoefer, Kaspar	King's Coll. London

Rhode, Kawal	King's Coll. London
Liu, Hongbin	Department of Informatics
10:15-10:20	WeH2.4
<i>Cockroach-Inspired Winged Robot Reveals Principles of Ground-Based Dynamic Self-Righting</i> , pp. 2128-2134.	
Li, Chen	Johns Hopkins Univ
Kessens, Chad C.	United States Army Res. Lab
Young, Austin	Univ. of California, Berkeley
Fearing, Ronald	Univ. of California at Berkeley
Full, Robert	Univ. of California at Berkeley
10:20-10:25	WeH2.5
<i>Skeletal Structure with Artificial Perspiration for Cooling by Latent Heat for Musculoskeletal Humanoid Kengoro</i> , pp. 2135-2140.	
Kozuki, Toyotaka	Univ. of Tokyo
Hirose, Toshinori	Panasonic Corp. / the Univ. of Tokyo
Shirai, Takuma	Tokyo Univ
Nakashima, Shinsuke	The Univ. of Tokyo
Asano, Yuki	The Univ. of Tokyo
Kakiuchi, Yohei	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo
WeT11	#111
Advanced Automation/Sensor Fusion (Teaser Session)	
Chair: Maeda, Yusuke	Yokohama National Univ
Co-Chair: Bachrach, Jonathan	Uc Berkeley
10:30-10:31	WeT11.1
<i>A Novel Online Model-Based Wind Estimation Approach for Quadrotor Micro Air Vehicles Using Low Cost MEMS IMUs</i> , pp. 2141-2146.	
Sikkel, Lodewijk Nicolaas Constantijn	Delft Univ. of Tech
de Croon, Guido	TU Delft / ESA
De Wagter, Christophe	Delft Univ. of Tech
Chu, Qi Ping	Delft Univ. of Tech
10:31-10:32	WeT11.2
<i>Urban Scene Segmentation with Laser-Constrained CRFs</i> , pp. 2147-2154.	
De Alvis, Charika	Univ. of Sydney
Ott, Lionel	Univ. of Sydney
Ramos, Fabio	Univ. of Sydney
10:32-10:33	WeT11.3
<i>Delta DLP 3D Printing with Large Size</i> , pp. 2155-2160.	
Wu, Chenming	Tsinghua Univ
Yi, Ran	Tsinghua Univ
Liu, Yong-Jin	Tsinghua Univ
He, Ying	Nanyang Tech. Univ
Wang, Charlie C.L.	Delft Univ. of Tech
10:33-10:34	WeT11.4
<i>Pole-Based Localization for Autonomous Vehicles in Urban Scenarios</i> , pp. 2161-2166.	
Spangenberg, Robert	Freie Univ. Berlin
Goehring, Daniel	Freie Univ. Berlin
Rojas, Raul	Freie Univ. Berlin
10:34-10:35	WeT11.5
<i>From CAD Models to Toy Brick Sculptures: A 3D Block Printer</i> , pp. 2167-2172.	
Maeda, Yusuke	Yokohama National Univ
Nakano, Ojiro	Yokohama National Univ
Maekawa, Takashi	Yokohama National Univ
Maruo, Shoji	Yokohama National Univ
10:35-10:36	WeT11.6

<i>Interlocking Structure Assembly with Voxels</i> , pp. 2173-2180.		
Zhang, Yinan		Dartmouth Coll
Balkcom, Devin		Dartmouth Coll
10:36-10:37		WeT11.7
<i>Real-Time Probabilistic Fusion of Sparse 3D LIDAR and Dense Stereo</i> , pp. 2181-2188.		
Maddern, Will		Univ. of Oxford
Newman, Paul		Oxford Univ
10:37-10:38		WeT11.8
<i>A Nonparametric Belief Solution to the Bayes Tree</i> , pp. 2189-2196.		
Fourie, Dehann	Massachusetts Inst. of Tech. and Woods Hole Oceanograph	
Leonard, John	MIT	
Kaess, Michael	Carnegie Mellon Univ	
10:38-10:39		WeT11.9
<i>A Novel Contouring Error Estimation for Position-Loop Cross-Coupled Control of Biaxial Servo Systems</i> , pp. 2197-2202.		
Shi, Ran	School of Mechatronics Engineering and Automation, Harbin Inst	
Lou, Yunjiang	Harbin Inst. of Tech. Shenzhen Graduate School	
Shao, Yongqi	School of Mechatronics Engineering and Automation, Harbin Inst	
Li, Jiangang	Harbin Inst. of Tech. Shenzhen Graduate School	
Chen, Haoyao	Harbin Inst. of Tech	
10:39-10:40		WeT11.10
<i>Event-Driven Ball Detection and Gaze Fixation in Clutter</i> , pp. 2203-2208.		
Glover, Arren		Istituto Italiano Di Tecnologia
Bartolozzi, Chiara		Istituto Italiano Di Tecnologia
10:40-10:41		WeT11.11
<i>Need-Based Coordination for Decentralized High-Level Robot Control</i> , pp. 2209-2216.		
Wong, Kai Weng		Cornell Univ
Kress-Gazit, Hadas		Cornell Univ
10:41-10:42		WeT11.12
<i>Automatic Configuration of ROS Applications for Near-Optimal Performance</i> , pp. 2217-2223.		
Cano, José		The Univ. of Edinburgh
Bordallo, Alejandro		The Univ. of Edinburgh
Nagarajan, Vijay		Univ. of Edinburgh
Ramamoorthy, Subramanian		The Univ. of Edinburgh
Vijayakumar, Sethu		Univ. of Edinburgh
10:42-10:43		WeT11.13
<i>Enabling Intelligent Energy Management for Robots Using Publicly Available Maps</i> , pp. 2224-2229.		
Bartlett, Oliver		Oxford Univ
Gurau, Corina		Oxford Univ
Marchegiani, Letizia		Oxford Univ
Posner, Ingmar		Oxford Univ
10:43-10:44		WeT11.14
<i>JITPCB</i> , pp. 2230-2236.		
Bachrach, Jonathan		Uc Berkeley
Haldane, Duncan		Univ. of California, Berkeley
Biancolin, David		UC Berkeley
Lin, Richard		UC Berkeley
Buchan, Austin D		UC Berkeley
10:44-10:45		WeT11.15
<i>Duo-VIO: Fast, Light-Weight, Stereo Inertial Odometry</i> , pp. 2237-2242.		
de Palezieux, Nicolas		ETH
Naegeli, Tobias		ETH
Hilliges, Otmar		ETH Zurich
10:45-10:46		WeT11.16
<i>Context-Based Detection of Pedestrian Crossing Intention for Autonomous Driving in Urban Environments</i> , pp. 2243-2248.		

Schneemann, Friederike	Audi Electronics Venture GmbH, Gaimersheim
Heinemann, Patrick	Audi Electronics Venture GmbH, Gaimersheim
10:46-10:47	WeT11.17
<i>Real-Time Contamination Modeling for Robotic Health Care Support</i> , pp. 2249-2254.	
Kraft, Kory	Oregon State Univ
Chu, Tiffany	California State Univ. Stanislaus
Hansen, Patrick	Univ. of Notre Dame
Smart, William	Oregon State Univ
10:47-10:48	WeT11.18
<i>A CRF That Combines Touch and Vision for Haptic Mapping</i> , pp. 2255-2262.	
Shenoi, Ashwin A	Georgia Inst. of Tech
Bhattacharjee, Tapomayukh	Georgia-Tech
Kemp, Charlie	Georgia Inst. of Tech
10:48-10:49	WeT11.19
<i>Strategy-Based Robotic Item Picking from Shelves</i> , pp. 2263-2270.	
Zhu, Haifei	Nanyang Tech. Univ
Kok, Yuan Yik	NANYANG Tech. Univ
Causo, Albert	Nanyang Tech. Univ
Chee, Keai Jiang	Nanyang Tech. Univ
Zou, Yuhua	Nanyang Tech. Univ
Al-Jufry, Sayyed Omar Kamal	Nanyang Tech. Univ
Liang, Conghui	Nanyang Tech. Univ
Chen, I-Ming	Nanyang Tech. Univ
Cheah, C. C.	Nanyang Tech. Univ
Low, K. H.	Nanyang Tech. Univ
10:49-10:50	WeT11.20
<i>Real Time Rotation Estimation for Dense Depth Sensors in Piece-Wise Planar Environments</i> , pp. 2271-2278.	
Zhou, Yi	Australian National Univ
Kneip, Laurent	ANU
Li, Hongdong	Australian National Univ. and NICTA
10:50-10:51	WeT11.21
<i>Pose Estimation of Texture-Less Cylindrical Objects in Bin Picking Using Sensor Fusion</i> , pp. 2279-2284.	
Roy, Mayank	Indian Inst. of Tech. Delhi
Abraham Bobby, Riby	IIT Delhi
Chaudhary, Shraddha	Indian Inst. of Tech. Delhi
Chaudhury, Santanu	IIT Delhi
Dutta Roy, Sumantra	Indian Inst. of Tech. Delhi
Saha, Subir Kumar	Indian Inst. of Tech. Delhi
10:51-10:52	WeT11.22
<i>Dynamic Arrival Rate Estimation for Campus Mobility on Demand Network Graphs</i> , pp. 2285-2292.	
Miller, Justin	MIT
Hasfura, Andres	MIT
Liu, Shih-Yuan	U.C. Berkeley
How, Jonathan Patrick	Massachusetts Inst. of Tech
10:52-10:53	WeT11.23
<i>Intuitive Instruction of Industrial Robots: Semantic Process Descriptions for Small Lot Production</i> , pp. 2293-2300.	
Perzylo, Alexander Clifford	Fortiss GmbH - An-Inst. Tech. Univ. Muenchen
Somani, Nikhil	Tech. Univ. München
Profanter, Stefan	Fortiss GmbH - An-Inst. Tech. Univ. Muenchen
Kessler, Ingmar	Fortiss GmbH
Rickert, Markus	Fortiss GmbH
Knoll, Alois	Tech. Univ. Muenchen TUM
10:53-10:54	WeT11.24
<i>EureCar Turbo: A Self-Driving Car That Can Handle Adverse Weather Conditions</i> , pp. 2301-2306.	

Lee, Unghui	KAIST
Jung, Jiwon	KAIST
Shin, Seunghak	KAIST
Jeong, Yongseop	Korea Advanced Inst. of Science and Tech
Park, Kibaek	KAIST
Shim, David Hyunchul	KAIST
Kweon, In So	KAIST

10:54-10:55 WeT11.25

UAV Based Target Finding and Tracking in GPS-Denied and Cluttered Environments, pp. 2307-2313.

Vanegas, Fernando	Queensland Univ. of Tech
Gonzalez, Felipe	Queensland Univ. of Tech
Campbell, Duncan	Queensland Univ. of Tech
Eich, Markus	Queensland Univ. of Tech

WeT12 #112

Bio-Related and Medical Robotics (Teaser Session)

Chair: Fu, Li-Chen	National Taiwan Univ
Co-Chair: Kamegawa, Tetsushi	Okayama Univ

10:30-10:31 WeT12.1

A Progressive Multidimensional Particle Swarm Optimizer for Magnetic Core Placement in Dipole Field Navigation, pp. 2314-2320.

Latulippe, Maxime	Pol. Montréal
Martel, Sylvain	Pol. Montreal

10:31-10:32 WeT12.2

A New Robotic Ultrasound System for Tracking a Catheter with an Active Piezoelectric Element, pp. 2321-2328.

Ma, Qianli	The Johns Hopkins Univ
Davis, Joshua	Johns Hopkins Univ
Cheng, Alexis	Johns Hopkins Univ
Kim, Younsu	The Johns Hopkins Univ
Chirikjian, Gregory	Johns Hopkins Univ
Boctor, Emad	Johns Hopkins Univ

10:32-10:33 WeT12.3

Influence of Wing Morphological and Inertial Parameters on Flapping Flight Performance, pp. 2329-2336.

Chen, YuFeng	Microrobotics Lab. School of Applied Sciences and Enginee
Ma, Kevin	Harvard Univ
Wood, Robert	Harvard Univ

10:33-10:34 WeT12.4

Partitioned Camera-OCT Based 6 DOF Visual Servoing for Automatic Repetitive Optical Biopsies, pp. 2337-2342.

Ourak, Mouloud	FEMTO-ST Inst. Univ. De Franche Comté/CNRS/ENSMM/UTBM
Tamadazte, Brahim	Cnrs, Ufc/ensmm/utbm
Andreff, Nicolas	Univ. De Franche Comté

10:34-10:35 WeT12.5

Virtual Fixture Assistance for Needle Passing and Knot Tying, pp. 2343-2350.

Chen, Zihan	Johns Hopkins Univ
Malpani, Anand	Johns Hopkins Univ
Chalasanani, Preetham	Johns Hopkins Univ
Deguet, Anton	Johns Hopkins Univ
Vedula, S. Swaroop	Johns Hopkins Univ
Kazanides, Peter	Johns Hopkins Univ
Taylor, Russell H.	The Johns Hopkins Univ

10:35-10:36 WeT12.6

Cleavage-Stage Embryo Rotation Tracking and Automated Micropipette Control: Towards Automated Single Cell Manipulation, pp. 2351-2356.

Wong, Christopher Yee	Univ. of Toronto
Mills, James K.	Univ. of Toronto

10:36-10:37		WeT12.7
<i>Automatic Palpation for Quantitative Ultrasound Elastography by Visual Servoing and Force Control</i> , pp. 2357-2362.		
Patlan Rosales, Pedro Alfonso	INRIA Rennes - Bretagne Atlantique, Univ. De Rennes I	
Krupa, Alexandre	INRIA Rennes - Bretagne Atlantique	
10:37-10:38		WeT12.8
<i>4-DoF Spherical Parallel Wrist with Embedded Grasping Capability for Minimally Invasive Surgery</i> , pp. 2363-2368.		
Haouas, Wissem	Femto-St	
Dahmouche, Redwan	Univ. De Franche Comté	
Le Fort-Piat, Nadine	FEMTO-ST	
Laurent, Guillaume J.	FEMTO-ST Inst. - CNRS - ENSMM - Univ. Defranche-Comté	
10:38-10:39		WeT12.9
<i>Development of Instantaneously Puncture System for CT Fluoroscopy-Guided Interventional Radiology</i> , pp. 2369-2374.		
Heya, Akira	Osaka Univ	
Kamegawa, Tetsushi	Okayama Univ	
Matsuno, Takayuki	Okayama Univ	
Hiraki, Takao	Okayama Univ. Medical School	
Gofuku, Akio	Okayama Univ	
10:39-10:40		WeT12.10
<i>Online Prediction of Needle Shape Deformation in Moving Soft Tissues from Visual Feedback</i> , pp. 2375-2380.		
Chevrie, Jason	IRISA	
Krupa, Alexandre	INRIA Rennes - Bretagne Atlantique	
Babel, Marie	IRISA UMR CNRS 6074 - INRIA - INSA Rennes	
10:40-10:41		WeT12.11
<i>Kinetostatic Design of Asymmetric Notch Joints for Surgical Robots</i> , pp. 2381-2387.		
Eastwood, Kyle	The Hospital for Sick Children	
Azimian, Hamidreza	Hospital for Sick Children	
Carrillo, Brian	The Hospital for Sick Children	
Looi, Thomas	Hospital for Sick Children	
Naguib, Hani E.	Univ. of Toronto	
Drake, James	Hospital for Sick Children, Univ. of Toronto	
10:41-10:42		WeT12.12
<i>A Magnetic Soft Endoscopic Capsule for Non-Surgical Overweight and Obese Treatments</i> , pp. 2388-2393.		
Do, Thanhnhho	Ntu	
Phan, Phuoc Thien	Nanyang Tech. Univ	
Khek Yu Ho, Khek	Yu Ho	
Phee, Louis	Nanyang Tech. Univ	
10:42-10:43		WeT12.13
<i>A Novel Global and Local Saliency Coding Method for Polyp Recognition in WCE Videos</i> , pp. 2394-2399.		
Yuan, Yixuan	The Chinese Univ. of Hong Kong	
Meng, Max Q.-H.	The Chinese Univ. of Hong Kong	
10:43-10:44		WeT12.14
<i>Toward On-Line Parameter Estimation of Concentric Tube Robots Using a Mechanics-Based Kinematic Model</i> , pp. 2400-2405.		
Jang, Cheongjae	Seoul National Univ	
Ha, Junhyoung	Seoul National Univ	
Dupont, Pierre	Children's Hospital Boston, Harvard Medical School	
Park, Frank	Seoul National Univ	
10:44-10:45		WeT12.15
<i>Active Control with Force Sensor and Shoulder Circumduction Implemented on Exoskeleton Robot NTUH-II</i> , pp. 2406-2411.		
Li, Hao-Ying	Department of Electrical Engineering, National Taiwan Univ	
Chien, Li Yu	National Taiwan Univ	
Hong, Heng-Yi	Department of Electrical Engineering, National Taiwan Univ	
Pan, Shang-Heh	National Taiwan Univ	
Chiao, Chi-Lun	Department of Physical Therapy, National Taiwan Univ. (NTU)	
Chen, Hung-Wen	National Taiwan Univ	

Fu, Li-Chen	National Taiwan Univ
Lai, Jin-Shin	National Taiwan Univ
10:45-10:46	WeT12.16
<i>Resonance Principle for the Design of Flapping Wing Micro Air Vehicles</i> , pp. 2412-2418.	
Zhang, Jian	Purdue Univ
Deng, Xinyan	Purdue Univ
10:46-10:47	WeT12.17
<i>Human Mimetic Foot Structure with Multi-DOFs and Multi-Sensors for Musculoskeletal Humanoid Kengoro</i> , pp. 2419-2424.	
Asano, Yuki	The Univ. of Tokyo
Nakashima, Shinsuke	The Univ. of Tokyo
Kozuki, Toyotaka	Univ. of Tokyo
Ookubo, Soichi	The Univ. of Tokyo
Yanokura, Iori	Univ. of Tokyo
Kakiuchi, Yohei	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo
10:47-10:48	WeT12.18
<i>Cat-Inspired Mechanical Design of Self-Adaptive Toes for a Legged Robot</i> , pp. 2425-2430.	
Liu, Huaxin	Beijing Inst. of Tech
Huang, Qiang	Beijing Inst. of Tech
Zhang, Weimin	Beijing Inst. of Tech
Chen, Xuechao	Beijing Insititute of Tech
Yu, Zhangguo	Beijing Inst. of Tech
Meng, Libo	Beijing Inst. of Tech
Bao, Lei	Beijing Insititute of Tech
Ming, Aiguo	The Univ. of Electro-Communications
Huang, Yan	Peking Univ
Hashimoto, Kenji	Waseda Univ
Takanishi, Atsuo	Waseda Univ
10:48-10:49	WeT12.19
<i>Intention Recognition for Gaze Controlled Robotic Minimally Invasive Laser Ablation</i> , pp. 2431-2437.	
Gras, Gauthier	Imperial Coll. London
Yang, Guang-Zhong	Imperial Coll. London
10:49-10:50	WeT12.20
<i>Locomotion and Gait Analysis of Multi-Limb Soft Robots Driven by Smart Actuators</i> , pp. 2438-2443.	
Mao, Shixin	Univ. of Science and Tech. of China
Dong, Erbao	Univ. of Science and Tech. of China
Jin, Hu	Univ. of Science and Tech. of China
Xu, Min	Univ. of Science & Tech. of China
Low, K. H.	Nanyang Tech. Univ
10:50-10:51	WeT12.21
<i>Design and Characterization of a Novel Mechanism of Multiple Joint Stiffness(MMJS)</i> , pp. 2444-2451.	
Medina Hernandez, José	Univ. Carlos III De Madrid
Lozano Vallés, Pedro Francisco	Univ. Carlos III De Madrid
Jardon Huete, Alberto	Univ. CARLOS III DE MADRID
Balaguer, Carlos	Univ. Carlos III De Madrid
10:51-10:52	WeT12.22
<i>A Low-Cost Tele-Presence Wheelchair System</i> , pp. 2452-2457.	
Shen, Jiajun	Beijing Inst. of Tech
Xu, Bin	Beijing Inst. of Tech
Pei, Mingtao	Beijing Inst. of Tech
Jia, Yunde	Beijing Inst. of Tech
10:52-10:53	WeT12.23
<i>Stiffness-Based Modelling of a Hydraulically-Actuated Soft Robotics Manipulator</i> , pp. 2458-2463.	

Lindenroth, Lukas	King's Coll. London
Back, Jungwhan	King's Coll. London
Schoisengeier, Adrian	King's Coll. London
Noh, Yohan	King's Coll. London
Wurdemann, Helge Arne	Univ. Coll. London
Althoefer, Kaspar	King's Coll. London
Liu, Hongbin	Department of Informatics

10:53-10:54 WeT12.24

A Convolutional Neural Network for Robotic Arm Guidance Using Semg Based Frequency-Features, pp. 2464-2470.

Côté Allard, Ulysse	Univ. Laval
Nougarou, François	Laval Univ
Fall, Cheikh Latyr	Univ. Laval
Giguere, Philippe	Univ. Laval
Gosselin, Clement	Univ. Laval
Laviolette, François	Univ. Laval
Gosselin, Benoit	Univ. Laval

10:54-10:55 WeT12.25

Hands-On Reconfigurable Robotic Arm for Surgical Instruments, pp. 2471-2476.

Wisanuvej, Piyamate	Imperial Coll. London
Leibrandt, Konrad	Imperial Coll. London
Liu, Jindong	Imperial Coll. London
Yang, Guang-Zhong	Imperial Coll. London

WeAT1 #101

Robot Calibration and Modeling (Regular session)

Chair: Christensen, Henrik Iskov	Georgia Inst. of Tech
Co-Chair: Stoyanov, Danail	Univ. Coll. London

11:00-11:15 WeAT1.1

Performances of Observability Indices for Industrial Robot Calibration, pp. 2477-2484.

Joubair, Ahmed	École De Tech. Supérieure
Tahan, Souheil-Antoine	École De Tech. Supérieure (ÉTS)
Bonev, Ilian	École De Tech. Supérieure

11:15-11:30 WeAT1.2

Hand-Eye Calibration for Robotic Assisted Minimally Invasive Surgery without a Calibration Object, pp. 2485-2491.

Pachtrachai, Krittin	Univ. Coll. London
Allan, Max	UCL
Pawar, Vijay	Univ. Coll. London
Hailes, Stephen	Univ. Coll. London , Dept. of Computer Science , Gower S
Stoyanov, Danail	Univ. Coll. London

11:30-11:45 WeAT1.3

Stereo Vision-Based Localization for Hexapod Walking Robots Operating in Rough Terrains, pp. 2492-2497.

Fischer, Thomas	UBA
Pire, Taihú	Facultad De Ciencias Exactas Y Naturales, Univ. De Buenos
Cizek, Petr	Czech Tech. Univ. in Prague, Faculty of Electrical Engi
De Cristóforis, Pablo	Facultad De Ciencias Exactas Y Naturales, Univ. De Buenos
Faigl, Jan	Czech Tech. Univ. in Prague

11:45-12:00 WeAT1.4

Active Planning Based Extrinsic Calibration of Exteroceptive Sensors in Unkown Environments, pp. 2498-2505.

Murali, Varun	Georgia Inst. of Tech
Nieto-Granda, Carlos	Georgia Inst. of Tech
Choudhary, Siddharth	Georgia Inst. of Tech
Christensen, Henrik Iskov	Georgia Inst. of Tech

WeAT2 #102

Omnidirectional Vision (Regular session)

Chair: Miraldo, Pedro	Inst. Superior Técnico, Univ. of Lisbon
Co-Chair: Benseddik, Housseem-Eddine	IBISC Laboratory Evry Univ
11:00-11:15	WeAT2.1
<i>Towards an Omnidirectional Catadioptric RGB-D Camera</i> , pp. 2506-2513.	
Iglesias, José	Inst. Superior Técnico
Miraldo, Pedro	Inst. Superior Técnico, Univ. of Lisbon
Ventura, Rodrigo	Inst. Superior Técnico
11:15-11:30	WeAT2.2
<i>Camera Rotation Estimation Using 3D Mesh Surfaces Representation of Spherical Images</i> , pp. 2514-2520.	
Benseddik, Housseem-Eddine	IBISC Laboratory Evry Univ
Hadj-Abdelkader, Hicham	IBISC
Bouchafa, Samia	Univ. Paris XI
Cherki, Brahim	Tlemcen Univ
11:30-11:45	WeAT2.3
<i>Spatial Layout and Surface Reconstruction from Omnidirectional Images</i> , pp. 2521-2527.	
Posada, Luis Felipe	Univ. EAFIT
Velasquez-Lopez, Alejandro	Univ. EAFIT
11:45-12:00	WeAT2.4
<i>GUMS: A Generalized Unified Model for Stereo Omnidirectional Vision (Demonstrated Via a Folded Catadioptric System)</i> , pp. 2528-2533.	
Jaramillo, Carlos	The City Coll. of New York
Valenti, Roberto G.	The City Coll. City Univ. of New York
Xiao, Jizhong	The City Coll. of New York

WeAT3

#103

Manipulation (Regular session)

Chair: Harada, Kensuke	Osaka Univ
Co-Chair: Sadigh, Dorsa	Univ. of California, Berkeley
11:00-11:15	WeAT3.1
<i>Learning Task-Specific Models for Dexterous, In-Hand Manipulation with Simple, Adaptive Robot Hands</i> , pp. 2534-2541.	
Liarokapis, Minas	Yale Univ
Dollar, Aaron	Yale Univ
11:15-11:30	WeAT3.2
<i>Position-Force Combination Control with Passive Flexibility for Versatile In-Hand Manipulation Based on Posture Interpolation</i> , pp. 2542-2547.	
Or, Keung	Waseda Univ
Tomura, Mami	Waseda Univ
Schmitz, Alexander	Waseda Univ
Funabashi, Satoshi	Waseda Univ. Sugano Lab
Sugano, Shigeki	Waseda Univ
11:30-11:45	WeAT3.3
<i>An Empirical Comparison among the Effect of Different Supports in Sequential Robotic Manipulation</i> , pp. 2548-2553.	
Cao, Chao	The Univ. of Hong Kong
Wan, Weiwei	National Inst. of AIST
Pan, Jia	The City Univ. of Hong Kong
Harada, Kensuke	Osaka Univ
11:45-12:00	WeAT3.4
<i>Data-Driven Statistical Modeling of a Cube Regrasp</i> , pp. 2554-2560.	
Paolini, Robert	Carnegie Mellon Univ
Mason, Matthew T.	Carnegie Mellon Univ

WeAT4

#104

Cell Manipulation (Regular session)

Chair: Sun, Dong	City Univ. of Hong Kong
Co-Chair: Arai, Tatsuo	Osaka Univ
11:00-11:15	WeAT4.1
<i>Automated In-Vivo Transportation of Biological Cells with a Disturbance Compensation Controller</i> , pp. 2561-2566.	
Li, Xiao Jian	Univ. of Science and Tech. of China
Liu, Chi Chi	City Univ. of Hong Kong
Chen, Shuxun	City Univ. of Hong Kong
Wang, Yong	Univ. of Science and Tech. of China
Cheng, Shuk Han	City Univ. of Hong Kong
Sun, Dong	City Univ. of Hong Kong
11:15-11:30	WeAT4.2
<i>Localizing a Needle Tip Using 2D Microscope Images and Detecting Vertical Approach of a Needle Based on Focus Measures for Intracellular Microneedle Insertion</i> , pp. 2567-2571.	
Park, Seongsik	POSTECH
Chung, Wan Kyun	POSTECH
11:30-11:45	WeAT4.3
<i>Accurate Releasing of Biological Cells Using Two Release Methods Generated by High Speed Motion of an End Effector</i> , pp. 2572-2577.	
Kim, Eunhye	Osaka Univ
Kojima, Masaru	Osaka Univ
Kamiyama, Kazuto	Osaka Univ
Horade, Mitsuhiro	Osaka Univ
Mae, Yasushi	Osaka Univ
Arai, Tatsuo	Osaka Univ
11:45-12:00	WeAT4.4
<i>Self-Assembly of Toroidal Magnetic Microstructures towards in Vitro Cell Structures</i> , pp. 2578-2583.	
Takeuchi, Masaru	Nagoya Univ
Hattori, Mamoru	Meijo Univ
Ichikawa, Akihiko	Meijo Univ
Ohara, Kenichi	Meijo Univ
Nakajima, Masahiro	Nagoya Univ
Fukuda, Toshio	Meijo Univ
Hasegawa, Yasuhisa	Nagoya Univ
Huang, Qiang	Intelligent Robotics Inst. Beijing Inst. of Tech
WeAT5	#105
Search and Rescue Robots (Regular session)	
Chair: Wang, Dangxiao	Beihang Univ
Co-Chair: Tadokoro, Satoshi	Tohoku Univ
11:00-11:15	WeAT5.1
<i>WALS-Robot: A Compact and Transformable Wheel-Arm-Leg-Sucker Hybrid Robot</i> , pp. 2584-2589.	
Zhang, Dandan	Beihang Univ
Wang, Dangxiao	Beihang Univ
11:15-11:30	WeAT5.2
<i>The Design and Experiments of a Small Wheel-Legged Mobile Robot System with Two Robotic Arms</i> , pp. 2590-2595.	
Chang, Qingkai	Harbin Inst. of Tech. Shenzhen Graduate School
Liu, Xiaolong	Harbin Inst. of Tech. Shenzhen Graduate School
Xu, Wenfu	Harbin Inst. of Tech
Yan, Lei	Harbin Inst. of Tech. Shenzhen Graduate School
Yang, Bingsong	Harbin Inst. of Technology
11:30-11:45	WeAT5.3
<i>Multi-Target Rendezvous Search</i> , pp. 2596-2603.	
Meghjani, Malika	McGill Univ
Manjanna, Sandeep	McGill Univ
Dudek, Gregory	McGill Univ

11:45-12:00	WeAT5.4
<i>Development of a Spherical Tether-Handling Device with a Coupled Differential Mechanism for Tethered Teleoperated Robots</i> , pp. 2604-2609.	
Ichimura, Tomoya	Tohoku Univ
Tadakuma, Kenjiro	Tohoku Univ
Takane, Eri	Tohoku Univ
Konyo, Masashi	Tohoku Univ
Tadokoro, Satoshi	Tohoku Univ
WeAT6	#106
Industrial Robot (Regular session)	
Chair: MacCurdy, Robert	MIT
Co-Chair: Yuan, Peijiang	Beihang Univ
11:00-11:15	WeAT6.1
<i>Object Detection and Motion Planning for Automated Welding of Tubular Joints</i> , pp. 2610-2615.	
Ahmed, Mariam	National Univ. of Singapore
Tan, Yan Zhi	National Univ. of Singapore
Lee, Gim Hee	National Univ. of Singapore
Chew, Chee Meng	National Univ. of Singapore
Pang, Chee Khiang	National Univ. of Singapore
11:15-11:30	WeAT6.2
<i>Perpendicularity Adjustment End Effector for Aeronautical Drilling Robot</i> , pp. 2616-2621.	
Chen, Dongdong	Beihang Univ
Yuan, Peijiang	Beihang Univ
Wang, Tianmiao	Beijing Univ. of Aeronautics and Astronautics
Shi, Zhenyun	Beihang Univ
Liu, Yuanwei	Beihang Univ
Lin, Mingqing	Beihang Univ
11:30-11:45	WeAT6.3
<i>Vibration Control of Multilink Flexible Robotic Arm with Impulse Spectrum</i> , pp. 2622-2627.	
Zhang, Wenxi	Shanghai Jiao Tong Univ
11:45-12:00	WeAT6.4
<i>Printable Programmable Viscoelastic Materials for Robots</i> , pp. 2628-2635.	
MacCurdy, Robert	MIT
Lipton, Jeffrey	MIT
Li, Shuguang	Massachusetts Inst. of Tech
Rus, Daniela	MIT
WeAT7	#107
Robot Learning (Regular session)	
Chair: Nagai, Takayuki	Univ. of Electro-Communications
Co-Chair: Howard, Thomas	Univ. of Rochester
11:00-11:15	WeAT7.1
<i>Online Joint Learning of Object Concepts and Language Model Using Multimodal Hierarchical Dirichlet Process</i> , pp. 2636-2642.	
Aoki, Tatsuya	The Univ. of Electro-Communications
Nishihara, Joe	The Univ. of Electro-Communications
Nakamura, Tomoaki	The Univ. of Electro-Communications
Nagai, Takayuki	Univ. of Electro-Communications
11:15-11:30	WeAT7.2
<i>Non-Parametric Contextual Stochastic Search</i> , pp. 2643-2648.	
Abdolmaleki, Abbas	Campus Univ. De Santiago
Lau, Nuno	Aveiro Univ
Reis, Luís Paulo	Univ. of Minho
Neumann, Gerhard	TU Darmstadt

11:30-11:45	WeAT7.3
<i>A Model for Verifiable Grounding and Execution of Complex Natural Language Instructions</i> , pp. 2649-2654.	
Boteanu, Adrian	Cornell Univ
Howard, Thomas	Univ. of Rochester
Arkin, Jacob	Univ. of Rochester
Kress-Gazit, Hadas	Cornell Univ

11:45-12:00	WeAT7.4
<i>Functional Object-Oriented Network for Manipulation Learning</i> , pp. 2655-2662.	
Paulius, David A.	Univ. of South Florida
Huang, Yongqiang	Univ. of South Florida
Milton, Roger	Univ. of South Florida
Buchanan, William	Univ. of South Florida
Sam, Jeanine	Univ. of South Florida
Sun, Yu	Univ. of South Florida

WeAT8	#108
Physical Human-Robot Interaction (Regular session)	

Chair: Tomizuka, Masayoshi	Univ. of California
Co-Chair: Ajoudani, Arash	Advanced Robotics Department

11:00-11:15	WeAT8.1
<i>Towards Multi-Modal Intention Interfaces for Human-Robot Co-Manipulation</i> , pp. 2663-2669.	
Peternel, Luka	Istituto Italiano Di Tecnologia
Tsagarakis, Nikos	Istituto Italiano Di Tecnologia
Ajoudani, Arash	Advanced Robotics Department

11:15-11:30	WeAT8.2
<i>Implementation of Haptic Communication in Comanipulative Tasks: A Statistical State Machine Model</i> , pp. 2670-2675.	
Lucas, Roche	Univ. Pierre Et Marie Curie
Saint-Bauzel, Ludovic	Univ. Pierre Et Marie Curie-Paris6

11:30-11:45	WeAT8.3
<i>Human Guidance Programming on a 6-DoF Robot with Collision Avoidance</i> , pp. 2676-2681.	
Lin, Hsien-Chung	Univ. of California, Berkeley
Fan, Yongxiang	Univ. of California, Berkeley
Tang, Te	Univ. of California, Berkeley
Tomizuka, Masayoshi	Univ. of California

11:45-12:00	WeAT8.4
<i>A Sensorimotor Reinforcement Learning Framework for Physical Human-Robot Interaction</i> , pp. 2682-2688.	
Ghadirzadeh, Ali	Computer Vision and Active Perception (CVAP) Lab, CSC KTH Royal
Bütepage, Judith	KTH Royal Inst. of Tech
Maki, Atsuto	KTH Royal Inst. of Tech
Kragic, Danica	KTH
Björkman, Mårten	KTH

WeAT9	#204~205
Force Control 1 (Regular session)	

Chair: Yu, Ningbo	NanKai Univ
Co-Chair: Righetti, Ludovic	Max-Planck Inst. for Intelligent Systems

11:00-11:15	WeAT9.1
<i>Robotic Manipulation of Deformable Objects by Tangent Space Mapping and Non-Rigid Registration</i> , pp. 2689-2696.	
Tang, Te	Univ. of California, Berkeley
Liu, Changliu	Univ. of California, Berkeley
Chen, Wenjie	FANUC Corp
Tomizuka, Masayoshi	Univ. of California

11:15-11:30	WeAT9.2
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Coordinated Compliance Control of Dual-Arm Robot for Payload Manipulation: Master-Slave and Shared Force Control, pp. 2697-2702.
 Yan, Lei Harbin Inst. of Tech. Shenzhen Graduate School
 Mu, Zonggao Harbin Inst. of Tech
 Xu, Wenfu Harbin Inst. of Tech
 Yang, Bingsong Harbin Inst. of Tecnology

11:30-11:45 WeAT9.3

Structured Contact Force Optimization for Kino-Dynamic Motion Generation, pp. 2703-2710.
 Herzog, Alexander Max-Planck-Inst. for Intelligent Systems, Tuebingen
 Schaal, Stefan MPI Intelligent Systems & Univ. of Southern California
 Righetti, Ludovic Max-Planck Inst. for Intelligent Systems

11:45-12:00 WeAT9.4

Deformation Control of a Multijoint Manipulator Based on Maxwell and Voigt Models, pp. 2711-2716.
 Senoo, Taku Univ. of Tokyo
 Jinnai, Gaku Univ. of Tokyo
 Murakami, Kenichi Univ. of Tokyo
 Ishikawa, Masatoshi Univ. of Tokyo

WeAT10 #206~208

Animation and Simulation (Regular session)
 Chair: Magnanimo, Vito Kuka Roboter GmbH
 Co-Chair: Corke, Peter QUT

11:00-11:15 WeAT10.1

Inverse Real-Time Finite Element Simulation for Robotic Control of Flexible Needle Insertion in Deformable Tissues, pp. 2717-2722.
 Adagolodjo, Yinoussa Univ. of Strasbourg
 Goffin, Laurent Unistra, ICube
 de Mathelin, Michel Univ. of Strasbourg
 Courtecuisse, Hadrien AVR, CNRS Strasbourg

11:15-11:30 WeAT10.2

Integrating Realistic Simulation Engines within the MORSE Framework, pp. 2723-2728.
 Degroote, Arnaud ISAE
 Koch, Pierrick LAAS-CNRS
 Lacroix, Simon LAAS/CNRS

11:30-11:45 WeAT10.3

Simulation-Based Design of Dynamic Controllers for Humanoid Balancing, pp. 2729-2736.
 Tan, Jie Georgia Inst. of Tech
 Xie, Zhaoming Georgia Inst. of Tech
 Boots, Byron Georgia Inst. of Tech
 Liu, Karen Georgia Tech

11:45-12:00 WeAT10.4

High-Fidelity Simulation for Evaluating Robotic Vision Performance, pp. 2737-2744.
 Skinner, John Robert Queensland Univ. of Tech
 Garg, Sourav Queensland Univ. of Tech
 Sünderhauf, Niko Queensland Univ. of Tech
 Corke, Peter QUT
 Upcroft, Ben Queensland Univ. of Tech
 Milford, Michael J Queensland Univ. of Tech

WeT21 #111

AI-Based Robot Systems (Teaser Session)
 Chair: Lima, Pedro U. Inst. Superior Técnico - Inst. for Systems and Robotics
 Co-Chair: Piater, Justus Univ. of Innsbruck

14:05-14:06 WeT21.1

Efficient Object Search for Mobile Robots in Dynamic Environments: Semantic Map As an Input for the Decision Maker, pp. 2745-2750.

Veiga, Tiago	Inst. Superior Técnico - Inst. for Systems and Robotics
Miraldo, Pedro	Inst. Superior Técnico, Univ. of Lisbon
Ventura, Rodrigo	Inst. Superior Técnico
Lima, Pedro U.	Inst. Superior Técnico - Inst. for Systems and Robotics
14:06-14:07	WeT21.2
<i>Task-Conversions for Integrating Human and Machine Perception in a Unified Task</i> , pp. 2751-2758.	
Lee, Hyungtae	US Army Res. Lab
Kwon, Heesung	U.S. Army Res. Lab
Robinson, Ryan	Army Res. Lab
Donavanik, Daniel	Army Res. Lab
Nothwang, William	Army Res. Lab
Marathe, Amar	U.S. Army Res. Lab
14:07-14:08	WeT21.3
<i>A Deep-Network Solution towards Model-Less Obstacle Avoidance</i> , pp. 2759-2764.	
Tai, Lei	City Univ. of Hong Kong
Li, Shaohua	The Hong Kong Univ. of Science and Tech
Liu, Ming	City Univ. of Hong Kong
14:08-14:09	WeT21.4
<i>Detecting Object Affordances with Convolutional Neural Networks</i> , pp. 2765-2770.	
Nguyen, Anh	Inst. Italiano Di Tech
Kanoulas, Dimitrios	Inst. Italiano Di Tech
Caldwell, Darwin G.	Istituto Italiano Di Tecnologia
Tsagarakis, Nikos	Istituto Italiano Di Tecnologia
14:09-14:10	WeT21.5
<i>Robust Sound Source Mapping Using Three-Layered Selective Audio Rays for Mobile Robots</i> , pp. 2771-2777.	
Su, Daobilige	Univ. of Tech. Sydney
Nakamura, Keisuke	Honda Res. Inst. Japan Co., Ltd
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd
Valls Miro, Jaime	Univ. of Tech. Sydney
14:10-14:11	WeT21.6
<i>Characterization and Validation of a Novel Robotic System for Fluid-Mediated Programmable Stochastic Self-Assembly</i> , pp. 2778-2783.	
Haghighat, Bahar	EPFL
Martinoli, Alcherio	EPFL
14:11-14:12	WeT21.7
<i>Reducing Adaptation Latency for Multi-Concept Visual Perception in Outdoor Environments</i> , pp. 2784-2791.	
Wigness, Maggie	U.S. Army Res. Lab
Rogers III, John G.	US Army Res. Lab
Navarro-Serment, Luis E.	Carnegie Mellon Univ
Suppe, Arne	Carnegie Mellon Univ
Draper, Bruce	Colorado State Univ
14:12-14:13	WeT21.8
<i>Online Learning of Visibility and Appearance for Object Pose Estimation</i> , pp. 2792-2798.	
Lee, Bhoram	Univ. of Pennsylvania
Lee, Daniel D.	Univ. of Pennsylvania
14:13-14:14	WeT21.9
<i>Robotic Playing for Hierarchical Complex Skill Learning</i> , pp. 2799-2804.	
Hangl, Simon	Univ. of Innsbruck
Ugur, Emre	Bogazici Univ
Szedmak, Sandor	Univ. of Innsbruck
Piater, Justus	Univ. of Innsbruck
14:14-14:15	WeT21.10
<i>Mixed Initiative Controller for Simultaneous Intervention, a Model Predictive Control Formulation</i> , pp. 2805-2810.	
Shang, Chengsi	Beijing Inst. of Tech
Fang, Hao	Beijing Inst. of Tech

Cai, Tao	Beijing Inst. of Tech
Chen, Chen	Beijing Inst. of Tech
Chen, Wenjie	Beijing Inst. of Tech
Wu, Chu	Beijing Inst. of Tech
14:15-14:16	WeT21.11
<i>Active Boundary Component Models for Robotic Dressing Assistance</i> , pp. 2811-2818.	
Twardon, Lukas	Bielefeld Univ
Ritter, Helge Joachim	Bielefeld Univ
14:16-14:17	WeT21.12
<i>Reverberant Sound Localization with a Robot Head Based on Direct-Path Relative Transfer Function</i> , pp. 2819-2826.	
Li, Xiaofei	INRIA Grenoble Rhone-Alpes
Girin, Laurent	Univ. Grenoble Alpes
Badeig, Fabien	INRIA Grenoble Rhone-Alpes
Horaud, Radu	INRIA Grenoble Rhone-Alpes
14:17-14:18	WeT21.13
<i>Real-Time Pose Estimation and Obstacle Avoidance for Multi-Segment Continuum Manipulator in Dynamic Environments</i> , pp. 2827-2832.	
Ataka, Ahmad	King's Coll. London
Qi, Peng	National Univ. of Singapore
Shiva, Ali	King's Coll. London
Shafti, Ali	King's Coll. London
Wurdemann, Helge Arne	Univ. Coll. London
Liu, Hongbin	Department of Informatics
Althoefer, Kaspar	King's Coll. London
14:18-14:19	WeT21.14
<i>Action Recognition and Interpretation from Virtual Demonstrations</i> , pp. 2833-2838.	
Haidu, Andrei	Univ. Bremen
Beetz, Michael	Univ. of Bremen
14:19-14:20	WeT21.15
<i>Towards a Hierarchy of Loco-Manipulation Affordances</i> , pp. 2839-2846.	
Kaiser, Peter	Karlsruhe Inst. of Tech. (KIT)
Aksoy, Eren Erdal	Karlsruhe Inst. for Tech. (KIT)
Grotz, Markus	Karlsruhe Inst. of Tech. (KIT)
Asfour, Tamim	Karlsruhe Inst. of Tech. (KIT)
14:20-14:21	WeT21.16
<i>Mobile Robots As Remote Sensors for Spatial Point Process Models</i> , pp. 2847-2852.	
Reverdy, Paul	Univ. of Pennsylvania
Koditschek, Daniel	Univ. of Pennsylvania
14:21-14:22	WeT21.17
<i>Contingency Planning for Automated Vehicles</i> , pp. 2853-2858.	
Salvado, João	Inst. for Systems and Robotics (ISR/IST), LARSyS, Inst
Custódio, Luis	Inst. for Systems and Robotics (ISR/IST), LARSyS, Inst
Hess, Daniel	Deutsches Zentrum F{"u}r Luft Und Raumfahrt E.v. (DLR), Inst
14:22-14:23	WeT21.18
<i>Collaborative Navigation for Flying and Walking Robots</i> , pp. 2859-2866.	
Fankhauser, Péter	ETH Zurich
Bloesch, Michael	ETH Zurich
Krüsi, Philipp Andreas	ETH Zurich
Diethelm, Remo	ETH Zurich
Wermelinger, Martin	ETH Zurich
Schneider, Thomas	ETH Zürich
Dymczyk, Marcin Tomasz	ETH Zurich, Autonomous Systems Lab
Hutter, Marco	ETH Zurich
Siegwart, Roland	ETH Zurich
14:23-14:24	WeT21.19

A Perception System for Detecting Brake Levers in Outdoor Rail Yard Environments, pp. 2867-2873.

Li, Shuai	RPI
Jain, Arpit	GE Global Res. Center
Sharma, Pramod	GE Global Res. Center
Sen, Shiraj	General Electric

14:24-14:25 WeT21.20

Anticipation and Attention for Robust Object Recognition with RGBD-Data in an Industrial Application Scenario, pp. 2874-2880.

Vaskevicius, Narunas	Jacobs Univ. Bremen
Pathak, Kaustubh	Jacobs Univ. Bremen
Birk, Andreas	Jacobs Univ

14:25-14:26 WeT21.21

Active Vision for Dexterous Grasping of Novel Objects, pp. 2881-2888.

Arruda, Ermano Ardiles	Univ. of Birmingham
Wyatt, Jeremy	Univ. of Birmingham
Kopicki, Marek	Univ. of Birmingham

14:26-14:27 WeT21.22

Autonomous Flipper Control with Safety Constraints, pp. 2889-2894.

Pecka, Martin	Czech Tech. Univ. in Prague
Salansky, Vojtech	Faculty of Electrical Engineering, Czech Tech. Univ. In
Zimmermann, Karel	Czech Tech. Univ. Prague
Svoboda, Tomas	Faculty of Electrical Engineering

14:27-14:28 WeT21.23

Learning to Grasp Familiar Objects Using Object View Recognition and Template Matching, pp. 2895-2900.

Shafii, Nima	Univ. of Aveiro
Mohades Kasaei, Seyed Hamidreza	Univ. De Aveiro
Seabra Lopes, Luis	Univ. De Aveiro

14:28-14:29 WeT21.24

Visual Programming for Mobile Robot Navigation Using High-Level Landmarks, pp. 2901-2906.

Lee, Joseph	Texas A&M Univ
Lu, Yan	Honda Res. Inst. USA
Xu, Yiliang	Apple Inc
Song, Dezhen	Texas A&M Univ

14:29-14:30 WeT21.25

A Self-Stabilizing Algorithm for the Foraging Problem in Swarm Robotic Systems, pp. 2907-2912.

Zhou, Guang	Univ. of Texas at Dallas
Farokh, Bastani	Univ. of Texas at Dallas
Zhu, Wei	Univ. of Texas at Dallas
I-Ling, Yen	Univ. of Texas at Dallas

WeT22 #112

Robotic Applications (Teaser Session)

Chair: Abderrahim, Mohamed	Carlos III Univ
Co-Chair: Luo, Ren	National Taiwan Univ

14:05-14:06 WeT22.1

Autonomous 6D-Docking and Manipulation with Non-Stationary-Base Using Self-Reconfigurable Modular Robots, pp. 2913-2919.

Barrios, Luenin	Univ. of Southern California
Collins, Thomas Joseph	Univ. of Southern California
Kovac, Robert	Jet Propulsion Lab
Shen, Wei-Min	USC Information Science Inst

14:06-14:07 WeT22.2

A Rigid and Flexible Structures Combined Deployable Boom for Space Exploration, pp. 2920-2926.

Zhang, Jun	Southeast Univ
Song, Aiguo	Southeast Univ
Xu, Xiaonong	Southeast Univ

Lu, Wei	Nanjing Agricultural Univ
14:07-14:08	WeT22.3
<i>A Self-Competitive Method for the Development of an Educational Robot for Children</i> , pp. 2927-2933.	
Tanaka, Fumihide	Univ. of Tsukuba
Matsuzoe, Shizuko	Univ. of Tsukuba
14:08-14:09	WeT22.4
<i>Co-Diagnosing Configuration Failures in Co-Robotic Systems</i> , pp. 2934-2939.	
Taylor, Adam	Univ. of Nebraska - Lincoln
Elbaum, Sebastian	Univ. of Nebraska - Lincoln
Detweiler, Carrick	Univ. of Nebraska-Lincoln
14:09-14:10	WeT22.5
<i>Electroencephalogram Signal Analysis As Basis for Effective Evaluation of Robotic Therapeutic Massage</i> , pp. 2940-2945.	
Luo, Ren	National Taiwan Univ
Hsu, Chien-Wei	National Taiwan Univ
Chen, ShenYu	National Taiwan Univ
14:10-14:11	WeT22.6
<i>Visual Servoing in Orchard Settings</i> , pp. 2946-2953.	
Haeni, Nicolai	Zurich Univ. of Applied Sciences
Isler, Volkan	Univ. of Minnesota
14:11-14:12	WeT22.7
<i>Optimal Non-Bernoulli Modeling Method for Experimental Hydraulic Robots</i> , pp. 2954-2959.	
Sakai, Satoru	Shinshu Univ
Nabana, Yusuke	Shinshu Univ
14:12-14:13	WeT22.8
<i>Road Traversability Analysis Using Network Properties of Roadmaps</i> , pp. 2960-2965.	
Khan, Muhammad Mudassir	Lahore Univ. of Management Sciences
Ali, Haider	German Aerospace Centre (DLR)
Berns, Karsten	Univ. of Kaiserslautern
Muhammad, Abubakr	Lahore Univ. of Management Sciences (LUMS)
14:13-14:14	WeT22.9
<i>A Rotary-Percussive Ultrasonic Drill for Planetary Rock Sampling</i> , pp. 2966-2971.	
Wang, Yinchao	Harbin Inst. of Tech
Quan, Qiquan	Harbin Inst. of Tech
Yu, Hongying	Harbin Inst. of Tech
Tang, Dewei	Harbin Inst. of Tech
Deng, Zongquan	Harbin Inst. of Tech
14:14-14:15	WeT22.10
<i>Safeguarding a Mobile Manipulator Using Dynamic Safety Fields</i> , pp. 2972-2977.	
Magnanimo, Vito	Kuka Roboter GmbH
Walther, Steffen	Kuka Roboter GmbH
Tecchia, Luigi	Second Univ. of Naples
Natale, Ciro	Seconda Univ. Degli Studi Di Napoli
Guhl, Tim	KUKA Lab. GmbH
14:15-14:16	WeT22.11
<i>Modeling and Stochastic Optimization of Complete Coverage under Uncertainties in Multi-Robot Base Placements</i> , pp. 2978-2984.	
Hassan, Mahdi	Univ. of Tech. Sydney
Liu, Dikai	Univ. of Tech. Sydney
Paul, Gavin	Univ. of Tech. Sydney
14:16-14:17	WeT22.12
<i>Robot Body Design Including Degrees of Freedom and Link Parameters Maximizing Ball Throwing Performance</i> , pp. 2985-2991.	
Miyazaki, Tetsuro	Yokohama National Univ
Sanada, Kazushi	Yokohama National Univ
14:17-14:18	WeT22.13

<i>Robotic Simulation of on Orbit Servicing Including Hard Impacts</i> , pp. 2992-2997.		
Lange, Friedrich		German Aerospace Center (DLR)
Grunwald, Gerhard		German Aerospace Center (DLR)
Albu-Schäffer, Alin		DLR - German Aerospace Center
14:18-14:19		WeT22.14
<i>Robot Artist for Colorful Picture Painting with Visual Control System</i> , pp. 2998-3003.		
Luo, Ren		National Taiwan Univ
Hong, Ming-Jyun		National Taiwan Univ
Chung, Ping-Chang		National Taiwan Univ
14:19-14:20		WeT22.15
<i>CASPR: A Comprehensive Cable-Robot Analysis and Simulation Platform for the Research of Cable-Driven Parallel Robots</i> , pp. 3004-3011.		
Lau, Darwin		The Chinese Univ. of Hong Kong
Eden, Jonathan Paul		The Univ. of Melbourne
Tan, Ying		The Univ. of Melbourne
Oetomo, Denny		The Univ. of Melbourne
14:20-14:21		WeT22.16
<i>Map-Optimized Probabilistic Traffic Rule Evaluation</i> , pp. 3012-3017.		
Wellhausen, Lorenz		ETH Zürich
Jacob, Mithun		Robert Bosch LLC
14:21-14:22		WeT22.17
<i>A Symbolic Geometric Formulation of Branched Articulated Multibody Systems Based on Graphs and Lie Groups</i> , pp. 3018-3023.		
Escalera, Juan Antonio		Univ. Carlos III De Madrid
Abu-Dakka, Fares J.		Carlos III Univ. of Madrid
Abderrahim, Mohamed		Carlos III Univ
14:22-14:23		WeT22.18
<i>The CableRobot Simulator - Large Scale Motion Platform Based on Cable Robot Technology</i> , pp. 3024-3029.		
Miermeister, Philipp		Fraunhofer IPA
Masone, Carlo		Max Planck Inst. for Biological Cybernetics
Pott, Andreas		Fraunhofer-Gesellschaft
Buelthoff, Heinrich H.		Max Planck Inst. for Biol. Cybernetics
Tesch, Joachim		Max Planck Inst. for Biological Cybernetics
14:23-14:24		WeT22.19
<i>On the Gyroscopic Force in Mechanical Manipulators and Its Artificial Shaping for Taskspace Movement Coordination</i> , pp. 3030-3035.		
Wei, Nan		Univ. of Waterloo
Jeon, Soo		Univ. of Waterloo
14:24-14:25		WeT22.20
<i>Gravity-Assist: A Series Elastic Body Weight Support System with Inertia Compensation</i> , pp. 3036-3041.		
Munawar, Hammad		Sabanci Univ
Patoglu, Volkan		Sabanci Univ
14:25-14:26		WeT22.21
<i>Communicating Intent on the Road through Human-Inspired Control Schemes</i> , pp. 3042-3047.		
Driggs-Campbell, Katherine Rose		Univ. of California, Berkeley
Bajcsy, Ruzena		Univ. of California, Berkeley
14:26-14:27		WeT22.22
<i>Cyclic Hydraulic Actuation for Soft Robotic Devices</i> , pp. 3048-3055.		
Katzschmann, Robert		Massachusetts Inst. of Tech
de Maille, Austin		Massachusetts Inst. of Tech
Dorhout, David		Massachusetts Inst. of Tech
Rus, Daniela		MIT
14:27-14:28		WeT22.23
<i>Internal Localization Algorithm Based on Relative Positions for Cubic-Lattice Modular-Robotic Ensembles</i> , pp. 3056-3062.		
Holobut, Pawel		Inst. of Fundamental Tech. Res. Pol. Acad
Chodkiewicz, Pawel		Faculty of Automotive and Construction Machinery Engineering, Wa
Macios, Anna		-

14:28-14:29 WeT22.24

On Robust Classification of Hemodynamic Signals for BCIs Via Multiple Kernel ν -SVM, pp. 3063-3068.Abibullaev, Berdakh
An, JinungNazarbayev Univ
DGIST

14:29-14:30 WeT22.25

Cellular Space Robot and Its Interactive Model Identification for Spacecraft Takeover Control, pp. 3069-3074.Chang, Haitao
Huang, Panfeng
Lu, Zhenyu
Meng, Zhongjie
Liu, Zhengxiong
Zhang, YizhaiNorthwestern Pol. Univ
Northwestern Pol. Univ
Northwest Pol. Univ
Northwestern Pol. Univ
Northwest Pol. Univ
Northwestern Pol. Univ**WeBT1**

#101

Field Robots 1 (Regular session)

Chair: Lenain, Roland

Irstea

Co-Chair: Auat Cheein, Fernando

Univ. Tecnica Federico Santa Maria

14:35-14:50 WeBT1.1

Automatic Driving Control by Robotic Driver Considering the Lack of a Driving Force at Changing Gears, pp. 3075-3080.Mizutani, Naoto
Ishida, Yuya
Matsui, Hirokazu
Yano, Ken'ichi
Takahashi, ToshimichiMie Univ
Mie Univ
Mie Univ
Mie Univ
MEIDENSHA Corp

14:50-15:05 WeBT1.2

High Precision Marker Based Localization and Movement on the Ceiling Employing an Aerial Robot with Top Mounted Omni Wheel Drive System, pp. 3081-3086.Ladig, Robert
Shimonomura, KazuhiroRitsumeikan Univ
Ritsumeikan Univ

15:05-15:20 WeBT1.3

High Speed Path Tracking Application in Harsh Conditions : Predictive Speed Control to Restrict the Lateral Deviation to Some Threshold, pp. 3087-3094.Braconnier, Jean-Baptiste
Lenain, Roland
Thuilot, Benoit
Rousseau, VincentIrstea
Irstea
Clermont-Ferrand Univ
IRSTEA

15:20-15:35 WeBT1.4

Probabilistic Approaches for Self-Tuning Path Tracking Controllers Using Prior Knowledge of the Terrain, pp. 3095-3100.Prado, Romo
Auat Cheein, Fernando
Torres-Torriti, MiguelUniv. Tecnica Federico Santa Maria
Univ. Tecnica Federico Santa Maria
Pontificia Univ. Catolica De Chile

15:35-15:50 WeBT1.5

Stochastic Modeling and Control for Tracking the Periodic Movement of Marine Animals Via AUVs, pp. 3101-3107.Smith, Kevin D.
Hsiung, Shih-Chieh
White, Connor
Lowe, Christopher G.
Clark, Christopher M.Harvey Mudd Coll
Harvey Mudd Coll
California State Univ. Long Beach
California State Univ. Long Beach
Harvey Mudd Coll**WeBT2**

#102

Sensor Fusion (Regular session)

Chair: Abramov, Alexey

Continental Teves AG

Co-Chair: Loy, Claudia

Continental Teves AG

14:35-14:50	WeBT2.1
<i>Multi-Lane Perception Using Feature Fusion Based on GraphSLAM</i> , pp. 3108-3115.	
Abramov, Alexey	Continental Teves AG
Bayer, Christopher	Continental Teves AG
Heller, Claudio	Continental Teves AG
Loy, Claudia	Continental Teves AG
14:50-15:05	WeBT2.2
<i>Pose Fusion with Chain Pose Graphs for Automated Driving</i> , pp. 3116-3123.	
Merfels, Christian	Univ. of Bonn
Stachniss, Cyrill	Univ. of Bonn
15:05-15:20	WeBT2.3
<i>Generalized Information Filtering for MAV Parameter Estimation</i> , pp. 3124-3130.	
Burri, Michael	ETH Zuerich
Bloesch, Michael	ETH Zurich
Schindler, Dominik	ETH Zurich
Gilitschenski, Igor	ETH Zurich
Taylor, Zachary Jeremy	Univ. of Sydney, Australian Centre for Field Robotics
Siegwart, Roland	ETH Zurich
15:20-15:35	WeBT2.4
<i>Constrained Sampling of 2.5D Probabilistic Maps for Augmented Inference</i> , pp. 3131-3136.	
Shi, Lei	Univ. of Tech. Sydney
Valls Miro, Jaime	Univ. of Tech. Sydney
Zhang, Teng	Univ. of Tech. Sydney
Vidal-Calleja, Teresa A.	Univ. of Tech. Sydney
Sun, Liye	Univ. of Tech. Sydney
Dissanayake, Gamini	Univ. of Tech. Sydney
15:35-15:50	WeBT2.5
<i>Iterative Closest Labeled Point for Tactile Object Shape Recognition</i> , pp. 3137-3142.	
Luo, Shan	King's Coll. London
Mou, Wenxuan	Queen Mary Univ. of London
Althoefer, Kaspar	King's Coll. London
Liu, Hongbin	Department of Informatics
WeBT3	#103
Trajectory Generation 1 (Regular session)	
Chair: Wörgötter, Florentin	Univ. of Göttingen
Co-Chair: Li, Hongdong	Australian National Univ. and NICTA
14:35-14:50	WeBT3.1
<i>Optimal Trajectory Generation for Generalization of Discrete Movements with Boundary Conditions</i> , pp. 3143-3149.	
Herzog, Sebastian	Department of Computational Neuroscience, Univ. of Goetting
Wörgötter, Florentin	Univ. of Göttingen
Kulvicius, Tomas	The Maersk Mc-Kinney Moller Inst. Univ. of Southern De
14:50-15:05	WeBT3.2
<i>Planning Longest Pitch Trajectories for Compliant Serial Manipulators</i> , pp. 3150-3155.	
Kolyubin, Sergey	NTNU
Shiriaev, Anton	Norwegian Univ. of Science and Tech
15:05-15:20	WeBT3.3
<i>Warping the Workspace Geometry with Electric Potentials for Motion Optimization of Manipulation Tasks</i> , pp. 3156-3163.	
Mainprice, Jim	Max Planck Inst
Ratliff, Nathan	Lula Robotics Inc
Schaal, Stefan	MPI Intelligent Systems & Univ. of Southern California
15:20-15:35	WeBT3.4
<i>Multi-Robot Path Planning for Budgeted Active Perception with Self-Organising Maps</i> , pp. 3164-3171.	

Best, Graeme	The Univ. of Sydney
Faigl, Jan	Czech Tech. Univ. in Prague
Fitch, Robert	The Univ. of Sydney

15:35-15:50 WeBT3.5

Non-Iterative, Fast SE(3) Path Smoothing, pp. 3172-3179.

Ng, Yonhon	Australian National Univ
Jiang, Bomin	Massachusetts Inst. of Tech
Yu, Changbin (Brad)	The Australian National Univ
Li, Hongdong	Australian National Univ. and NICTA

WeBT4 #104

Rehabilitation Robotics (Regular session)

Chair: Yoon, Jungwon	Gyeongsang National Univ
Co-Chair: Lee, Jongwoo	Korea Inst. of Science and Tech

14:35-14:50 WeBT4.1

Online Estimation of Rollator User Condition Using Spatiotemporal Gait Parameters, pp. 3180-3185.

Ballesteros, Joaquin	Univ. of Malaga
Urdiales, Cristina	Univ. De Málaga
Antonio B., Martinez	Tech. Univ. of Cataluña
Tirado, Marina	UGC Rehabilitación, Hospital Regional De Málaga

14:50-15:05 WeBT4.2

Design and Functional Evaluation of an Epidermal Strain Sensing System for Hand Tracking, pp. 3186-3191.

Michaud, Hadrien Olivier	EPFL
Dejace, Laurent	EPFL
De Mulatier, Séverine Claire Marie	EPFL
Lacour, Stéphanie P.	EPFL

15:05-15:20 WeBT4.3

A Robotic Human Body Model with Joint Limits for Simulation of Upper Limb Prosthesis Users, pp. 3192-3197.

Menychtas, Dimitrios	Univ. of South Florida
Carey, Stephanie	Univ. of South Florida
Dubey, Rajiv	Univ. of South Florida
Lura, Derek	Univ. of South Florida

15:20-15:35 WeBT4.4

Haptic Based Gait Rehabilitation System for Stroke Patients, pp. 3198-3203.

Afzal, Muhammad Raheel	Gyeongsang National Univ
Pyo, Sanghun	Gyeongsang National Univ
Oh, Min-Kyun	Gyeongsang National Univ. Hospital
Park, Young Sook	Sungkyunkwan Univ
Lee, Beom-Chan	Univ. of Houston
Yoon, Jungwon	Gyeongsang National Univ

15:35-15:50 WeBT4.5

Upslope Walking with Transfemoral Prosthesis Using Optimization Based Spline Generation, pp. 3204-3211.

Paredes, Victor	Texas A&M Univ
Hong, Woolim	TEXAS A&M Univ
Patrick, Shawanee	Texas A&M
Hur, Pilwon	Texas A&M Univ

WeBT5 #105

Motion and Path Planning 1 (Regular session)

Chair: Scholz, Jonathan	Google Deepmind
Co-Chair: Waslander, Steven Lake	Univ. of Waterloo

14:35-14:50 WeBT5.1

Motion Planning for Persistent Traveling Solar-Powered Unmanned Ground Vehicles, pp. 3212-3218.

Kaplan, Adam	Iowa State Univ
Kingry, Nathaniel	Iowa State Univ
Van Den Top, Justin	Iowa State Univ
Patel, Kishan	Iowa State Univ
Dai, Ran	Iowa State Univ
Grymin, David	Air Force Res. Lab
14:50-15:05	WeBT5.2
<i>Local Multiresolution Trajectory Optimization for Micro Aerial Vehicles Employing Continuous Curvature Transitions</i> , pp. 3219-3224.	
Nieuwenhuisen, Matthias	Univ. of Bonn
Behnke, Sven	Univ. of Bonn
15:05-15:20	WeBT5.3
<i>Batting Flying Objects to the Target in 2D</i> , pp. 3225-3232.	
Gardner, Matthew	Iowa State Univ
Jia, Yan-Bin	Iowa State Univ
Lin, Huan	Iowa State Univ
15:20-15:35	WeBT5.4
<i>The Constriction Decomposition Method for Coverage Path Planning</i> , pp. 3233-3238.	
Brown, Stanley	Univ. of Waterloo
Waslander, Steven Lake	Univ. of Waterloo
15:35-15:50	WeBT5.5
<i>A Path Planning Algorithm for Single-Ended Continuous Planar Robotic Ribbon Folding</i> , pp. 3239-3246.	
Nagabandi, Anusha	UC Berkeley
Wang, Liyu	Univ. of California at Berkeley
Fearing, Ronald	Univ. of California at Berkeley
WeBT6	#106
Mapping (Regular session)	
Chair: Ramos, Fabio	Univ. of Sydney
Co-Chair: Liu, Yunhui	Chinese Univ. of Hong Kong
14:35-14:50	WeBT6.1
<i>Large-Scale 3D Scene Reconstruction with Hilbert Maps</i> , pp. 3247-3254.	
Guizilini, Vitor	Univ. of Sydney
Ramos, Fabio	Univ. of Sydney
14:50-15:05	WeBT6.2
<i>Pose Graph Optimization with Hierarchical Conditionally Independent Graph Partitioning</i> , pp. 3255-3260.	
Tang, Hengbo	The Chinese Univ. of Hong Kong
Liu, Yunhui	Chinese Univ. of Hong Kong
Li, Luyang	The Chinese Univ. of Hong Kong
15:05-15:20	WeBT6.3
<i>Robust Map Generation for Fixed-Wing UAVs with Low-Cost Highly-Oblique Monocular Cameras</i> , pp. 3261-3268.	
Hinzmann, Timo	Swiss Federal Inst. of Tech. / ETH Zurich
Schneider, Thomas	ETH Zürich
Dymczyk, Marcin Tomasz	ETH Zurich, Autonomous Systems Lab
Melzer, Amir	ETH Zurich
Mantel, Thomas	ETH Zurich
Siegwart, Roland	ETH Zurich
Gilitschenski, Igor	ETH Zurich
15:20-15:35	WeBT6.4
<i>Long-Term Place Recognition Using Multi-Level Words of Spatial Densities</i> , pp. 3269-3274.	
Maffei, Renan	Univ. Federal Do Rio Grande Do Sul
Jorge, Vitor	Univ. Federal Do Rio Grande Do Sul
Fortes Rey, Vitor	UFRGS
Kolberg, Mariana	UFRGS
Prestes, Edson	UFRGS

15:35-15:50	WeBT6.5
<i>Decoupled, Consistent Node Removal and Edge Sparsification for Graph-Based SLAM</i> , pp. 3275-3282.	
Eckenhoff, Kevin	Univ. of Delaware
Paull, Liam	Massachusetts Inst. of Tech
Huang, Guoquan	Univ. of Delaware

WeBT7	#107
(Special Session) Robotics Software Engineering (Regular session)	
Chair: MacDonald, Bruce	Univ. of Auckland
Co-Chair: Smart, William	Oregon State Univ

14:35-14:50	WeBT7.1
<i>RAFCON: A Graphical Tool for Engineering Complex, Robotic Tasks</i> , pp. 3283-3290.	
Brunner, Sebastian Georg	German Aerospace Center, Robotics and Mechatronics Center
Steinmetz, Franz	German Aerospace Center (DLR)
Belder, Rico	German Aerospace Center
Dömel, Andreas	German Aerospace Center (DLR)

14:50-15:05	WeBT7.2
<i>Autonomous Fault Detection for Performance Bugs in Component-Based Robotic Systems</i> , pp. 3291-3297.	
Wienke, Johannes	Bielefeld Univ
Wrede, Sebastian	Bielefeld Univ

15:05-15:20	WeBT7.3
<i>Towards Automated System and Experiment Reproduction in Robotics</i> , pp. 3298-3305.	
Lier, Florian Hans Michael	Cognitive Interaction Tech. - Center of Excellence
Hanheide, Marc	Univ. of Lincoln
Natale, Lorenzo	Istituto Italiano Di Tecnologia
Schulz, Simon	Bielefeld Univ. - Cognitive Interaction Tech. - Center
Weisz, Jonathan	Columbia Univ
Wachsmuth, Sven	Bielefeld Univ
Wrede, Sebastian	Bielefeld Univ

15:20-15:35	WeBT7.4
<i>Measurement-Based Real-Time Analysis of Robotic Software Architectures</i> , pp. 3306-3311.	
Gobillot, Nicolas	ONERA
Guet, Fabrice	ONERA
Doose, David	Onera - the French Aerospace Lab
Grand, Christophe	ONERA
Lesire, Charles	ONERA
Santinelli, Luca	ONERA

WeBT8	#108
Robot Companions and Social Human-Robot Interaction (Regular session)	
Chair: O'Sullivan, Carol	The Walt Disney Company
Co-Chair: Minato, Takashi	ATR

14:35-14:50	WeBT8.1
<i>Maintaining Efficient Collaboration with Trust-Seeking Robots</i> , pp. 3312-3319.	
Xu, Anqi	McGill Univ
Dudek, Gregory	McGill Univ

14:50-15:05	WeBT8.2
<i>HI Robot: Human Intention-Aware Robot Planning for Safe and Efficient Navigation in Crowds</i> , pp. 3320-3326.	
Park, Chonhyon	Univ. of North Carolina at Chapel Hill
Ondrej, Jan	Disney Res
Gilbert, Max	Disney Res
Freeman, Kyle	Disney
O'Sullivan, Carol	The Walt Disney Company

15:05-15:20	WeBT8.3
<i>Motion Generation in Android Robots During Laughing Speech</i> , pp. 3327-3332.	
Ishi, Carlos Toshinori	ATR
Funayama, Tomo	Osaka Univ
Minato, Takashi	ATR
Ishiguro, Hiroshi	Osaka Univ
15:20-15:35	WeBT8.4
<i>Autonomous Mapping between Motions and Labels</i> , pp. 3333-3338.	
Tay, Junyun	Carnegie Mellon Univ
Chen, I-Ming	Nanyang Tech. Univ
Veloso, Manuela	Carnegie Mellon Univ
15:35-15:50	WeBT8.5
<i>Validation of Cognitive Models for Collaborative Hybrid Systems with Discrete Human Input</i> , pp. 3339-3346.	
P. Vinod, Abraham	Univ. of New Mexico
Tang, Yuqing	Carnegie Mellon Univ
Oishi, Meeko	Univ. of New Mexico
Sycara, Katia	Carnegie Mellon Univ
Lebiere, Christian	Carnegie Mellon Univ
Lewis, Michael	Univ. of Pittsburgh
WeBT9	#204~205
Force Control 2 (Regular session)	
Chair: Gonzales Marin, Antonio	Robotics and Mechatronics Center (DLR)
Co-Chair: Yu, Ningbo	NanKai Univ
14:35-14:50	WeBT9.1
<i>Impedance Control of a Cable-Driven Series Elastic Actuator with the 2-DOF Control Structure</i> , pp. 3347-3352.	
Zou, Wulin	Nankai Univ
Yang, Zhuo	Nankai Univ
Tan, Wen	Nankai Univ
Wang, Meng	Nankai Univ
Liu, Jingtai	Nankai Univ
Yu, Ningbo	NanKai Univ
14:50-15:05	WeBT9.2
<i>Unified Impedance and Hybrid Force-Position Controller with Kinestatic Filtering</i> , pp. 3353-3359.	
Gonzales Marin, Antonio	Robotics and Mechatronics Center (DLR)
Weitschat, Roman	Robotics and Mechatronics Center (DLR)
15:05-15:20	WeBT9.3
<i>Soft Robotics for the Hydraulic Atlas Arms: Joint Impedance Control with Collision Detection and Disturbance Compensation</i> , pp. 3360-3367.	
Vorndamme, Jonathan	Inst. for Automatic Control, Leibniz Univ. Hannover
Schappler, Moritz	Inst. for Automatic Control, Leibniz Univ. Hannover
Tödtheide, Alexander	Leibniz Univ. Hannover, Inst. of Automatic Control
Haddadin, Sami	Leibniz Univ. Hannover
15:20-15:35	WeBT9.4
<i>Performance Improvement of Implicit Integral Robot Force Control through Constraint-Based Optimization</i> , pp. 3368-3373.	
Parigi-Polverini, Matteo	Pol. Di Milano
Rossi, Roberto	Pol. Di Milano
Bascetta, Luca	Pol. Di Milano
Zanchettin, Andrea Maria	Pol. Di Milano
Rocco, Paolo	Pol. Di Milano
Morandi, Giacomo	Pol. Di Milano
15:35-15:50	WeBT9.5
<i>Touch-Based Admittance Control of a Robotic Arm Using Neural Learning of an Artificial Skin</i> , pp. 3374-3380.	
Pugach, Ganna	ETIS - UMR CNRS 8051, ENSEA - Univ. of Cergy-Pontoise - CNR
Melnyk, Artem	Univ. De Cergy-Pontoise

Tolochko, Olga
Pitti, Alexandre
Gaussier, Philippe

National Tech. Univ. of Ukraine "Kyiv Pol. Inst
Univ. of Cergy Pontoise
CNRS UMR 8051, ENSEA, Cergy-Pontoise Univ

WeBT10		#206~208
Legged Robots 2 (Regular session)		
Chair: Schmiedeler, James		Univ. of Notre Dame
Co-Chair: Choi, Hyouk Ryeol		Sungkyunkwan Univ
14:35-14:50		WeBT10.1
<i>Fault-Tolerant Adaptive Gait Generation for Multi-Limbed Robot</i> , pp. 3381-3386.		
Kawata, Takeyuki		Osaka Univ
Kamiyama, Kazuto		Osaka Univ
Kojima, Masaru		Osaka Univ
Horade, Mitsuhiro		Osaka Univ
Mae, Yasushi		Osaka Univ
Arai, Tatsuo		Osaka Univ
14:50-15:05		WeBT10.2
<i>Hybrid Quadruped Bounding with a Passive Compliant Spine and Asymmetric Segmented Body</i> , pp. 3387-3392.		
Phan, Luong Tin		Sungkyunkwan Univ
Lee, Yoon Haeng		Sungkyunkwan Univ
Kim, Dong Youn	School of Mechanical Engineering,	Sungkyunkwan Univ
Lee, Hyunyoung		Sungkyunkwan Univ
Choi, Hyouk Ryeol		Sungkyunkwan Univ
15:05-15:20		WeBT10.3
<i>Gait Transitions and Disturbance Response for Planar Bipedes with Reaction Wheel Actuation</i> , pp. 3393-3398.		
Brown, Travis		Univ. of Notre Dame
Schmiedeler, James		Univ. of Notre Dame
15:20-15:35		WeBT10.4
<i>Optimized Energy Addition for a Planar SLIP Model with Redundant Joints</i> , pp. 3399-3405.		
Palmer III, Luther R.		Wright State Univ
Ashley, Kyle		Univ. of South Florida
Eaton, Caitrin		Univ. of California, Irvine
15:35-15:50		WeBT10.5
<i>On Passive Quadrupedal Bounding with Translational Spinal Joint</i> , pp. 3406-3411.		
Koutsoukis, Konstantinos		National Tech. Univ. of Athens
Papadopoulos, Evangelos		National Tech. Univ. of Athens
WeCI1		#111
Poster Session 1 (Poster session)		
Chair: Seo, TaeWon		Yeungnam Univ
16:05-17:20		WeCI1.1
<i>Motion Planning for a Multi-Section Cable-Driven Continuum Surgical Manipulator by Learning from Demonstrations</i> , N/A		
Chen, Jie		The Univ. of Hong Kong
Qu, Tingyu		THE UNIV. OF HONG KONG
Lau, Henry Y.K.		Univ. of Hong Kong
16:05-17:20		WeCI1.2
<i>V-BTSLIP Model: Stabilization of the Biped Trunk-SLIP Walking Model Using Variable Stiffness</i> , N/A		
Vu, Nhat Minh	Univ. of Science and Tech. Korea Inst. of Science	
Lee, Jongwoo		Korea Inst. of Science and Tech
Oh, Yonghwan		Korea Inst. of Science & Tech. (KIST)
16:05-17:20		WeCI1.3
<i>Effective Suppression of Residual Vibration by a Systematic MZ Shaper Design</i> , N/A		
Kang, Chul-Goo		Konkuk Univ

Ha, Manh-Tuan	Konkuk Univ
Yoo, Jae Seon	Dukin Co
Lee, Sang-Kyu	Dukin Co
16:05-17:20	WeCI1.4
<i>Jumping Robot Design with a Compliant Pole, N/A</i>	
Choi, JaeNeung	Yeungnam Univ
Jeong, Kyungmin	KAERI
Seo, TaeWon	Yeungnam Univ
16:05-17:20	WeCI1.5
<i>Development of a Light-Weight 4-DOF Gravity-Compensated Robot Manipulator, N/A</i>	
Lee, Dong Gyu	Yeunnam Univ
Seo, TaeWon	Yeungnam Univ
16:05-17:20	WeCI1.6
<i>Reference Compensated Neuro-Sliding Mode Control for Robot Manipulators, N/A</i>	
Jung, Seul	Chungnam National Univ
Oh, M. S.	Chungnam National Univ
16:05-17:20	WeCI1.7
<i>Turning Motion Control of a Spherical Robot Based on a Gyroscopic Actuation: G-Sphere, N/A</i>	
Lee, Sangdeok	Chungnam National Univ
Jung, Seul	Chungnam National Univ
16:05-17:20	WeCI1.8
<i>Contact Force Estimation for Multiple Points of Contact, N/A</i>	
Kutsuzawa, Kyo	Saitama Univ
Sakaino, Sho	Saitama Univ
Tsuji, Toshiaki	Saitama Univ
16:05-17:20	WeCI1.9
<i>Disassembly Robotic Tasks for Circular Economy: A Preliminary Study, N/A</i>	
Morachioli, Annagiulia	Istituto Di Biorobotica
Strazzulla, Ilaria	Scuola Superiore Sant'Anna
Bonsignorio, Fabio Paolo	Heron Robots Srl and the Biorobotics Insitute Scuola Superiore S
Dario, Paolo	Scuola Superiore Sant'Anna
16:05-17:20	WeCI1.10
<i>Realizing Natural Springy Motion of a Robotic Leg by Cancelling the Undesired Damping Factors, N/A</i>	
Cho, Jungsoo	Sogang Univ
Kong, Kyoungchul	Sogang Univ
16:05-17:20	WeCI1.11
<i>Early Results in Underwater Mobile Manipulation Optimization by Belief Space Planning of the Reaching Movement, N/A</i>	
Zereik, Enrica	CNR - National Res. Council
Di Paola, Donato	National Res. Council (CNR)
Petitti, Antonio	National Council of Res
Colella, Roberto	Cnr Issia
Bibuli, Marco	CNR
Bruzzone, Gabriele	C.N.R
Bonsignorio, Fabio Paolo	Heron Robots Srl and the Biorobotics Insitute Scuola Superiore S
16:05-17:20	WeCI1.12
<i>Designing Human-Robot Exercise Games for Baxter, N/A</i>	
Fitter, Naomi T.	Univ. of Pennsylvania
Hawkes, Dylan T.	Univ. of Pennsylvania
Johnson, Michelle J.	Univ. of Pennsylvania
Kuchenbecker, Katherine J.	Univ. of Pennsylvania
16:05-17:20	WeCI1.13
<i>Robotic Assembly of Solar Array Modules: Hardware Verification, N/A</i>	
Adhikari, Shaurav	Univ. of Michigan
Glassner, Samantha	Northeastern Univ

Kishen, Ashwin Komendera, Erik	Univ. of Pennsylvania NASA Langley Res. Center
16:05-17:20	WeCl1.14
<i>IMU-Mediated Real-Time Human-Baxter Hand-Clapping Interaction,</i> N/A	
Fitter, Naomi T.	Univ. of Pennsylvania
Huang, Yi-Lin Eileen	Univ. of Pennsylvania
Mayer, Jamie P.	Univ. of Sussex
Kuchenbecker, Katherine J.	Univ. of Pennsylvania
16:05-17:20	WeCl1.15
<i>Compliance Control Based on Motor Current for Wafer Handling Robot,</i> N/A	
Song, Jilai	Univ. of Chinese Acad. of Sciences,
Xu, Fang	SIASUN Robot & Automation Co., Ltd
Zou, Fengshan	Siasun
Chen, Shouliang	SIASUN
16:05-17:20	WeCl1.16
<i>Optimal Formation of Mobile Robots Transporting a 6-DOF Payload through Tight Spaces,</i> N/A	
Tallamraju, Rahul	International Inst. of Information Tech. Hyderabad
Sripada, Venkatesh	International Inst. of Informtion Tech. Hyderabad
Shah, Suril Vijaykumar	Indian Inst. of Tech. Jodhpur
16:05-17:20	WeCl1.17
<i>Mechanism Design and Impedance Control of Fully Series Elastic Actuator Driven Bi-Articular Robotic Arm,</i> N/A	
Lee, Chan	DGIST (Daegu Gyeongbuk Inst. of Science and Tech
Oh, Sehoon	DGIST (Daegu Gyeongbuk Inst. of Science and Tech
16:05-17:20	WeCl1.18
<i>Influence of Passivity of Trunk Mechanism and Active Swinging Arms on Behavior of Bipedal Locomotion,</i> N/A	
Takuma, Takashi	Osaka Inst. of Tech
16:05-17:20	WeCl1.19
<i>Design, Fabrication and Kinematics of a 3D-Motion Soft Robotic Arm,</i> N/A	
Gong, Zheyuan	Beihang Univ
Xie, ZheXin	Beijing Univ. of Aeronautics and Astronautics
Yang, Xingbang	Beihang Univ
Wang, Tianmiao	Beihang Univ
Li, Wen	Beihang Univ
16:05-17:20	WeCl1.20
<i>Crazyswarm: A Large Nano-Quadcopter Swarm,</i> N/A	
Preiss, James	USC
Hoenig, Wolfgang	Univ. of Southern California
Sukhatme, Gaurav	Univ. of Southern California
Ayanian, Nora	Univ. of Southern California
16:05-17:20	WeCl1.21
<i>Expanded Guide Circle Method through Ego-Kinematic Transformation of the Obstacle Avoidance for Non-Holonomic Mobile Robots,</i> N/A	
Kim, Gon-Woo	Chungbuk National Univ
Shim, Young Bo	Chungbuk National Univ
16:05-17:20	WeCl1.22
<i>Group Decision Making Problems in Robotics Design,</i> N/A	
Grazioso, Stanislao	Univ. of Naples Federico II
Gospodarczyk, Mateusz	Univ. of Rome Tor Vergata
Di Gironimo, Giuseppe	Univ. of Napoli Federico II
16:05-17:20	WeCl1.23
<i>Versatile Encountered-Type Haptic Display for VR Environment Using a 7-DoF Manipulator,</i> N/A	
Kim, Yaesol	Ewha Womans Univ
Kim, Young J.	Ewha Womans Univ
16:05-17:20	WeCl1.24

<i>Evaluation of Gimbal-Type End-Effector of Rehabilitation Robot for Reaching Movement Training, N/A</i>		
Kim, Jongbum		DGIST
Kim, Jonghyun		DGIST
16:05-17:20		WeC11.25
<i>Motion Planning and Control of Maneuverable Human-Powered Exoskeleton Systems, N/A</i>		
I. A. Ahmed, Abusabah		UESTC
Cheng, Hong		Univ. of Electronic Science and Tech
Lin, Xichuan		Univ. of Electronic Science and Tech. of China
Huang, Rui		Univ. of Electronic Science and Tech. of China
16:05-17:20		WeC11.26
<i>Collision-Free T-S Fuzzy Formation Tracking Control for Multi-Robot Systems, N/A</i>		
Chang, Yeong-Hwa		Chang Gung Univ
Wu, Chun-I		Chang Gung Univ
Lin, Hung-Wei		Lee-Ming Inst. of Tech
16:05-17:20		WeC11.27
<i>Light-Weight Exoskeleton for Haptic Feedback, N/A</i>		
Kim, Hubert		Virginia Tech
Asbeck, Alan		Virginia Tech
16:05-17:20		WeC11.28
<i>Design and Concept of the Sediment Sampling Robot and Dynamic Buoy, N/A</i>		
Bae, Jun Han		Purdue Univ
Lee, Dong Hun		Purdue Univ
Min, Byung-Cheol		Purdue Univ
16:05-17:20		WeC11.29
<i>Inverse Kinematics Refinement for a Wire-Driven Serpentine Surgical Manipulator Based on Policy Gradient Methods, N/A</i>		
Chen, Jie		The Univ. of Hong Kong
Lau, Henry Y.K.		Univ. of Hong Kong
16:05-17:20		WeC11.30
<i>Fabrication of Two Stage Pressure Switch for Robot Using Pressure Sensitive Rubber, N/A</i>		
Woo, Sam-Yong		Korea Res. Inst. of Standards and Science
Yang, Tae-Heon		KRISS
Song, Han Wook		KRISS
Han, Moo-Pil		PDK
16:05-17:20		WeC11.31
<i>Collaborative UAV Type Robotic System for Mosquito Habitat Puddle Searching and Larvicide Spray, N/A</i>		
Kim, Kyukwang		KAIST (Korea Adv. Inst. Sci. & Tech
Lim, Hwijoon		KAIST (Korea Adv. Inst. Sci. & Tech
Kim, Whimin		Korea Adv. Inst. Sci. & Tech
Choi, Duckyu		KAIST (Korea Adv. Inst. Sci. & Tech
Jung, Sungwook		KAIST(Korea Advanced Inst. of Science and Tech
Myung, Hyun		KAIST (Korea Adv. Inst. Sci. & Tech
16:05-17:20		WeC11.32
<i>Wire-Tension Control Using Compact Planetary Geared Elastic Actuator, N/A</i>		
Kwak, Jihoo		DGIST (Daegu Gyeongbuk Inst. of Science of Tech
Lee, Chan		DGIST (Daegu Gyeongbuk Inst. of Science and Tech
Oh, Sehoon		DGIST (Daegu Gyeongbuk Inst. of Science and Tech
16:05-17:20		WeC11.33
<i>On the Modelling of Flexible Manipulators with Finite Elements, N/A</i>		
Grazioso, Stanislao		Univ. of Naples Federico II
Sonneville, Valentin		Univ. De Liège, Department of Aerospace and Mechanical Engi
16:05-17:20		WeC11.34
<i>Reactions and Continuous Adaptation in Collaborative Robots, N/A</i>		
Ratliff, Nathan		Lula Robotics Inc
Kappler, Daniel		Max-Planck Inst. for Intelligent Systems

Meier, Franziska	Univ. of Southern California
Issac, Jan	Max Planck Inst. for Intelligent Systems
Mainprice, Jim	Max Planck Inst
Wüthrich, Manuel	Max-Planck-Inst. for Intelligent Systems
Garcia Cifuentes, Cristina	Max Planck Inst. for Intelligent Systems
Berenz, Vincent	Max Planck Inst. for Intelligent Systems
Fox, Dieter	Univ. of Washington
Bohg, Jeannette	Max-Planck Inst. for Intelligent Systems
Schaal, Stefan	MPI Intelligent Systems & Univ. of Southern California

16:05-17:20 WeCI1.35

Kinematic Design Optimization of Anthropomorphic Robot Hand Using a Novel Performance Index, N/A

You, Won Suk	Sungkyunkwan
Lee, Young Hun	Sungkyunkwan Univ
Kang, Gitae	Sungkyunkwan Univ
Oh, Hyun Seok	Sungkyunkwan Univ
Choi, Hyouk Ryeol	Sungkyunkwan Univ

16:05-17:20 WeCI1.36

Quick Target Position Command for Quadrotor in 3D Indoor Map of Disaster Accident Management Using Robot System, N/A

Kim, Dong Yeop	KETI (Korea Electronics Tech. Inst
Lee, Jae Min	KETI (Korea Electronics Tech. Inst
Shin, Dong-In	KETI
Shin, Seol	KETI
Hwang, Jung-Hoon	Korea Eletronics Tech. Inst
Kim, YoungOuk	Korea Electronics Tech. Inst

16:05-17:20 WeCI1.37

Body-Powered Prosthetic Index Finger for Self-Adaptive Grasping, N/A

Yoon, Dukchan	Hanyang Univ
Lee, Geon	Hanyang Univ
Choi, Youngjin	Hanyang Univ

16:05-17:20 WeCI1.38

Robotic Transfemoral Prosthesis Capable of Walking Pattern Recognition and Posture Stabilization, N/A

Lee, Seok-Hoon	SEOUL NATIONAL Univ. OF SCIENCE AND Tech
Kim, Jung-Yup	Seoul National Univ. of Science & Tech

16:05-17:20 WeCI1.39

Design of a Robot Arm Based on Joint Modules with Torque Sensors, N/A

Min, Jae-Kyung	Korea Univ
Zietz, Maximilian	Korea Univ
Lee, Won-Bum	Korea Univ. Intelligence Robotics Lab
Song, Jae-Bok	Korea Univ

16:05-17:20 WeCI1.40

Onboard Real-Time Object Recognition Based High-Level Landmark Extraction for RGB-D SLAM in Indoor Navigation, N/A

Chae, Hee-Won	Korea Univ
Yu, Hyejun	Korea Univ. Intelligent Robotics Lab
Kim, Jihwan	Korea Univ
Song, Jae-Bok	Korea Univ

WeCI2 #112

Poster Session 2 (Poster session)

Chair: Kwak, Sonya Sona	Ewha Womans Univ
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16:05-17:20 WeCI2.1

A Telepresence Robot System for Triggering Informal Communication, N/A

Xu, Jianfeng	KDDI R&D Lab. Inc
Sakazawa, Shigeyuki	KDDI R&D Lab. Inc
Ariyoshi, Ryohei	Tsukuba Univ

Kuzuoka, Hideaki Harada, Etsuko,T.	Univ. of Tsukuba Univ. of Tsukuba
16:05-17:20	WeCI2.2
<i>Autonomous Robotic Manipulation Tasks with Programming by Demonstrations and Robot-Assisted Large-Scale Direct SLAM,</i> N/A	
Chen, Jie Sun, Peng Lau, Henry Y.K.	The Univ. of Hong Kong Hong Kong Univ Univ. of Hong Kong
16:05-17:20	WeCI2.3
<i>Automatic Fall Detection Monitoring System Using Thermal Camera,</i> N/A	
Kim, Dae-Eon Nho, Young-Hoon Kwon, Dong-Soo	KAIST KAIST, HRI Res. Center KAIST
16:05-17:20	WeCI2.4
<i>A Teaching Method for a Life-Support Robot by Real-World Click - Proposal of Real Object Position Management Database,</i> N/A	
Sato, Kenjiro Hidaka, Yuta Iwaki, Satoshi Ikeda, Tetsushi	Hiroshima City Univ Hiroshima City Univ Hiroshima City Univ Hiroshima City Univ
16:05-17:20	WeCI2.5
<i>Safety Evaluation for Object Motion Detection Systems,</i> N/A	
Kim, Bong Keun Sumi, Yasushi Yamada, Yoji	National Inst. of Advanced Industrial Science and Tech National Inst. of Advanced Industrial ScienceandTechnology(A Nagoya Univ
16:05-17:20	WeCI2.6
<i>Control of a Two-Wheel Mobile Robot by Hand Gestures Learned from Images of a Kinect Sensor,</i> N/A	
Kim, Hyunwoo Jung, Seul	Chungnam National Univ Chungnam National Univ
16:05-17:20	WeCI2.7
<i>Morphological Computation in Tactile Sensing: A New Approach in Implementation,</i> N/A	
Yamashita, Hideyasu Ho, Van Shibuya, Koji Hirai, Shinichi	Ryukoku Univ Ryukoku Univ Ryukoku Univ Ritsumeikan Univ
16:05-17:20	WeCI2.8
<i>How Much Do I Look Like a Human?: The Impact of the Response Types on People's Perception of a Robot,</i> N/A	
Choi, Jung Ju Kang, Hyemee Song, Sekyong Yun, Jung Sik Kwak, Sonya Sona	Ewha Womans Univ Ewha Womans Univ FutureRobot DesignMU Ewha Womans Univ
16:05-17:20	WeCI2.9
<i>Intent Recognition for Robot-Aided, Active Training in Early Stage Stroke Rehabilitation,</i> N/A	
Bai, Ou	FIU
16:05-17:20	WeCI2.10
<i>The SLAM Constructor Framework for ROS,</i> N/A	
Krinkin, Kirill Huletski, Arthur Kartashov, Dmitriy	Saint-Petersburg Electrotechnical Univ The Acad. Univ. Saint-Petersburg The Acad. Univ
16:05-17:20	WeCI2.11
<i>A Novel Laser-Based Perception System for UGV's Navigation in GPS-Denied Environments,</i> N/A	
Wang, Fei He, Guojian Yan, Fei	Dalian Univ. of Tech Dalian Univ. of Tech Dalian Univ. of Tech

Zhuang, Yan	Dalian Univ. of Tech
Xu, Fang	SIASUN Robot & Automation Co., Ltd
Yang, Qifeng	SIASUN Robot & Automation Co., Ltd
16:05-17:20	WeCI2.12
<i>Cross-Domain Self-Localization Using NBNN Scene Descriptor</i> , N/A	
Murase, Tomoya	Univ. of FUKUI
Tsukamoto, Taisho	Univ. of Fukui
Tanaka, Kanji	Univ. of Fukui
16:05-17:20	WeCI2.13
<i>Fly a Drone Freely: A Concept of the Single-Handed Remote Control</i> , N/A	
Cho, Kwangsu	Yonsei Univ
Jeon, Jongwoo	Graduate Program in Cognitive Science, Yonsei Univ
Yu, Sanghyeong	Yonsei Univ
16:05-17:20	WeCI2.14
<i>A Study of Gesture Design for Controlling Drone</i> , N/A	
Cho, Kwangsu	Yonsei Univ
Yoo, Young Jae	Yonsei Univ
Kim, Yunjung	Yonsei Univ
16:05-17:20	WeCI2.15
<i>Achieving Robust Auditory Scene Analysis by Aerial Robot under Ego Noise Environment</i> , N/A	
Mun, Seongkyu	Korea Univ
Ko, Hanseok	Korea Univ
16:05-17:20	WeCI2.16
<i>Action Generation As Conceptual Processing</i> , N/A	
Olier, Juan Sebastian	Eindhoven Univ. of Tech
Barakova, Emilia I.	Eindhoven Univ. of Tech
Regazzoni, Carlo	Univ. of Genoa
Rauterberg, Matthias	Eindhoven Univ. of Tech
16:05-17:20	WeCI2.17
<i>OTP: Novel Point Cloud Parameterization for ND-Based Sweep Matching</i> , N/A	
Ryu, Soo-Hyun	Korea Univ
Kang, Jaehyeon	Korea Univ
Choi, Hyunga	Korea Univ
Cho, HyunGi	Korea Univ
Doh, Nakju	Korea Univ
16:05-17:20	WeCI2.18
<i>Factor Graph Based Visual SLAM with Geometric Pose Estimation of a Rectangle Feature</i> , N/A	
Lee, Jae-Min	Chungbuk National Univ
Yoo, Jooung Sun	Chungbuk National Univ
Kim, Gon-Woo	Chungbuk National Univ
16:05-17:20	WeCI2.19
<i>Dynamic Window Navigation for a Quadrotor Using RGBD Sensor</i> , N/A	
Lee, Daewon	UPENN
Di Cicco, Maurilio	Sapienza Univ. of Rome
Grisetti, Giorgio	Sapienza Univ. of Rome
Lee, Daniel D.	Univ. of Pennsylvania
16:05-17:20	WeCI2.20
<i>Distributed Shapete-Formation Control for Robotic Swarms and ROS-Based Simulations</i> , N/A	
Liu, Yang	Case Western Res. Univ
Lee, Kiju	Case Western Res. Univ
16:05-17:20	WeCI2.21
<i>High-Accuracy Preintegration for Visual-Inertial Navigation</i> , N/A	
Eckenhoff, Kevin	Univ. of Delaware
Huang, Guoquan	Univ. of Delaware

Geneva, Patrick	Univ. of Delaware
16:05-17:20	WeCI2.22
<i>Logical Conjunction Based 3D Line Segments Matching between Observed Line Segments and Pre-Constructed 3D Wire Frame Model, N/A</i>	
Kaneko, Naoshi	Aoyama Gakuin Univ
Takahashi, Junji	Aoyama Gakuin Univ
Yoshida, Takeshi	Aoyama Gakuin Univ
16:05-17:20	WeCI2.23
<i>Human Motion Recognition Based on Topic Model, N/A</i>	
Ogura, Tadashi	The Graduate Univ. for Advanced Studies
Sakato, Tatsuya	National Inst. of Informatics
Inamura, Tetsunari	National Inst. of Informatics
16:05-17:20	WeCI2.24
<i>Human Motion Recognition Based on Dynamic Topic Model, N/A</i>	
Sakato, Tatsuya	National Inst. of Informatics
Ogura, Tadashi	The Graduate Univ. for Advanced Studies
Inamura, Tetsunari	National Inst. of Informatics
16:05-17:20	WeCI2.25
<i>Expansion of LRF Measurement Range for Application to a Desktop Interface Robot, N/A</i>	
Shimoyama, Mirai	Shibaura Inst. of Tech
Matsuhira, Nobuto	Shibaura Inst. of Tech
16:05-17:20	WeCI2.26
<i>Image-Based Algal Blooms Detection Using Local Binary Pattern, N/A</i>	
Jung, Sungwook	KAIST(Korea Advanced Inst. of Science and Tech
Kim, Donghoon	KAIST(Korea Advanced Inst. of Science and Tech
Kim, Kyukwang	KAIST (Korea Adv. Inst. Sci. & Tech
Myung, Hyun	KAIST (Korea Adv. Inst. Sci. & Tech
16:05-17:20	WeCI2.27
<i>4D Optical Coherence Tomography Imaging Guided SMART Handheld Microsurgical System, N/A</i>	
Song, Cheol	DGIST
Park, Taiwoo	Michigan State Univ
Koo, Dongwoo	DGIST
16:05-17:20	WeCI2.28
<i>April Tag Detection: Calculating Distance Use ROS Transform Package, N/A</i>	
Tadesse, Kirubel	Jackson State Univ
Fricke, George Matthew	The Univ. of New Mexico
Hecker, Joshua Peter	Univ. of New Mexico
Moses, Melanie	Univ. of New Mexico
16:05-17:20	WeCI2.29
<i>Human-Robot Emotional Interaction Framework with Consensus-Based Approach, N/A</i>	
Park, Chung Hyuk	George Washington Univ
16:05-17:20	WeCI2.30
<i>Multiple Drones Driven Hexagonally Partitioned Area Exploration Using Reverse Nearest Neighbors: Simulation and Evaluation, N/A</i>	
Datta, Ayush	International Inst. of Information Tech. Hyderabad
Karlapalem, Kamalakar	IIT-Hyderabad/IIT Gandhinagar
Tallamraju, Rahul	International Inst. of Information Tech. Hyderabad
16:05-17:20	WeCI2.31
<i>Understanding the Adoption of Robot in Medical Field with Socio-Technical Systems Framework, N/A</i>	
Jang, Seojeong	Hanyang Univ
Kwon, Gyu Hyun	Hanyang Univ
16:05-17:20	WeCI2.32
<i>Human Body Digitization Using INBODY, N/A</i>	
Grazioso, Stanislao	Univ. of Naples Federico II

16:05-17:20		WeCI2.33
<i>Trajectory Planning of Mobile Robot under Existence of Moving Obstacles Using Improved Potential Field Approach, N/A</i>		
Xu, Hao		Anhui Univ. of Tech
Li, Yan		Anhui Univ. of Tech
Xu, Xiangrong		Anhui Univ. of Tech
16:05-17:20		WeCI2.34
<i>Distributed Intelligent Ball-Type Robots Supporting Seamless Network Connectivity for Search and Rescue Mission, N/A</i>		
Lee, Chang-Eun		ETRI
Cho, Young-Jo	Electronics and Telecommunications Res. Inst	
Sung, Tae-Kyung		Chungnam National Univ
16:05-17:20		WeCI2.35
<i>Autonomous T-Branch Navigation Control of Hyper-Redundant In-Pipe Robot, N/A</i>		
Lee, Geonuk		Sungkyunkwan Univ
Koo, Ja Choon		Sungkyunkwan Univ
Choi, Hyouk Ryeol		Sungkyunkwan Univ
Moon, Hyungpil		Sungkyunkwan Univ
16:05-17:20		WeCI2.36
<i>Speed Evaluation of the Kinect for Rescue Robot System Using ICP Cloud Registration, N/A</i>		
Shin, Seol		KETI
Shin, Dong-In		KETI
Kim, Dong Yeop	KETI (Korea Electronics Tech. Inst	
Hwang, Jung-Hoon		Korea Eletronics Tech. Inst
16:05-17:20		WeCI2.37
<i>Auto-Balancing Stackable Mechanism in Presence of Variable Payload, N/A</i>		
Yi, Byung-Ju		Hanyang Univ
Woo, Jae Hong		Hanyang Univ
Seo, Jong Tae		Hanyang Univ
Kang, Long		Hanyang Univ
16:05-17:20		WeCI2.38
<i>Development of a Wire-Driven End-Effector Device for Frozen Shoulder Treatment, N/A</i>		
Park, Chulmin		Korea Univ
Kwon, Seong-il		Korea Inst. of Science and Tech
Kang, Sungchul		Korea Inst. of Science & Tech
Hong, Hanpyo	Asan Medical Center, Ulsan Univ. School of Medicine	
Jeon, In-Ho	Asan Medical Center, Ulsan Univ. School of Medicine	
Park, Shinsuk		Korea Univ
Kim, Keri		Korea Inst. of Science and Tech
16:05-17:20		WeCI2.39
<i>Design of Genderless Connection Mechanism for Modular Manipulator, N/A</i>		
Hong, SeongHun		Korea Inst. of Science and Tech
Kim, KangGyun		Korea Inst. of Science and Tech
Choi, Wooseok		Korea Inst. of Science and Tech
Kang, Sungchul		Korea Inst. of Science & Tech
Lee, Woosub		Korea Inst. of Science and Tech
16:05-17:20		WeCI2.40
<i>Novel Mechanism with Torque-Coil Driven Wrist Toward 2mm-Diameter Minimally Invasive Surgery, N/A</i>		
Kim, Jongwoo		Seoul National Univ
Cho, Kyu-Jin		Seoul National Univ. Biorobotics Lab

WeCT1

#101

Field Robots 2 (Regular session)

Chair: Dubey, Rajiv

Univ. of South Florida

Co-Chair: Clark, Christopher M.

Harvey Mudd Coll

16:05-16:20	WeCT1.1
<i>Vision-Guided State Estimation and Control of Robotic Manipulators Which Lack Proprioceptive Sensors</i> , pp. 3567-3574.	
Ortenzi, Valerio	Univ. of Birmingham
Marturi, Naresh	Univ. of Birmingham
Stolkin, Rustam	Univ. of Birmingham
Jeffrey, Kuo	National Nuclear Lab
Mistry, Michael	Univ. of Birmingham
16:20-16:35	WeCT1.2
<i>Blade-Type Crawler Vehicle with Wings in Ground Effect for Traversing Uneven Terrain at High Speed</i> , pp. 3575-3580.	
Yamada, Yasuyuki	Chuo Univ
Endo, Gen	Tokyo Inst. of Tech
Nakamura, Taro	Chuo Univ
16:35-16:50	WeCT1.3
<i>Experimental Analysis of a Variable Autonomy Framework for Controlling a Remotely Operating Mobile Robot</i> , pp. 3581-3588.	
Chiou, Manolis	Univ. of Birmingham
Stolkin, Rustam	Univ. of Birmingham
Bieksaite, Goda	Univ. of Birmingham
Hawes, Nick	Univ. of Birmingham
Shapiro, Kimron	Univ. of Birmingham
Harrison, Timothy	Defense Science and Tech. Lab
16:50-17:05	WeCT1.4
<i>Robust Motion Planning Methodology for Autonomous Tracked Vehicles in Rough Environment Using Online Slip Estimation</i> , pp. 3589-3594.	
Lee, Sang Uk	Massachusetts Inst. of Tech
Iagnemma, Karl	MIT
17:05-17:20	WeCT1.5
<i>A Kinematic-Based Rough Terrain Control for Traction and Energy Saving of an Exploration Rover</i> , pp. 3595-3600.	
Kim, Jayoung	Chungnam Univ
Lee, Jihong	Chungnam National Univ
WeCT2	#102
Visual Odometry and Navigation (Regular session)	
Chair: Abramov, Alexey	Continental Teves AG
Co-Chair: Taylor, Camillo Jose	Univ. of Pennsylvania
16:05-16:20	WeCT2.1
<i>Inertial Aided Dense and Semi-Dense Methods for Robust Direct Visual Odometry</i> , pp. 3601-3607.	
Falquez, Juan	Univ. of Colorado - Boulder
Kasper, Michael	Univ. of Colorado, Boulder
Sibley, Gabe	Univ. of Colorado
16:20-16:35	WeCT2.2
<i>Terrain-Adaptive Obstacle Detection</i> , pp. 3608-3613.	
Suger, Benjamin	Univ. of Freiburg
Steder, Bastian	Univ. of Freiburg
Burgard, Wolfram	Univ. of Freiburg
16:35-16:50	WeCT2.3
<i>Performance Evaluation in Obstacle Avoidance</i> , pp. 3614-3619.	
Nous, Clint Wilhelmus Maria	TU Delft
Meertens, Roland	TU Delft
De Wagter, Christophe	Delft Univ. of Tech
de Croon, Guido	TU Delft / ESA
16:50-17:05	WeCT2.4
<i>The Path Less Taken: A Fast Variational Approach for Scene Segmentation Used for Closed Loop Control</i> , pp. 3620-3626.	
Suleymanov, Tarlan	Univ. of Oxford
Paz, Lina Maria	Univ. of Oxford

Pinies, Pedro	Univ. of Oxford
Geoff, Hester	Univ. of Oxford
Newman, Paul	Oxford Univ

17:05-17:20 WeCT2.5

Recovering Relative Orientation and Scale from Visual Odometry and Ranging Radio Measurements, pp. 3627-3633.

Shariati, Armon	Univ. of Pennsylvania
Mohta, Kartik	Univ. of Pennsylvania
Taylor, Camillo Jose	Univ. of Pennsylvania

WeCT3 #103

Trajectory Generation 2 (Regular session)

Chair: Zanchettin, Andrea Maria	Pol. Di Milano
Co-Chair: Rubenstein, Michael	Northwestern Univ

16:05-16:20 WeCT3.1

Robust Constraint-Based Control of Robot Manipulators: An Application to a Visual Aided Grasping Task, pp. 3634-3639.

Zanchettin, Andrea Maria	Pol. Di Milano
Rocco, Paolo	Pol. Di Milano

16:20-16:35 WeCT3.2

Numerical Search for Local (Partial) Differential Flatness, pp. 3640-3646.

Sferrazza, Carmelo	ETH Zurich
Pardo, Diego	ETH Zurich
Buchli, Jonas	ETH Zurich

16:35-16:50 WeCT3.3

Autonomous Mobile Robot with Independent Control and Externally Driven Actuation, pp. 3647-3652.

Wang, Hanlin	Northwestern Univ
Rubenstein, Michael	Northwestern Univ

16:50-17:05 WeCT3.4

Design of a Nonlinear Adaptive Natural Oscillator: Towards Natural Dynamics Exploitation in Cyclic Tasks, pp. 3653-3658.

Nasiri, Rezvan	Univ. of Tehran
Khoramshahi, Mahdi	Univ. of Tehran
Nili Ahmadabadi, Majid	Univ. of Tehran

WeCT4 #104

Surgical Robotics 1 (Regular session)

Chair: Yang, Guang-Zhong	Imperial Coll. London
Co-Chair: Kang, Sungchul	Korea Inst. of Science & Tech

16:05-16:20 WeCT4.1

Needle-Tissue Interaction Force State Estimation for Robotic Surgical Suturing, pp. 3659-3664.

Jackson, Russell	Case Western Res. Univ
Desai, Viraj	Case Western Res. Univ
Castillo, Jean Pierre	Case Western Res. Univ
Cavusoglu, M. Cenk	Case Western Res. Univ

16:20-16:35 WeCT4.2

3-D Force Measurement Using Single Axis Force Sensors in a New Single Port Parallel Kinematics Surgical Manipulator, pp. 3665-3670.

Matich, Sebastian	Tech. Univ. Darmstadt
Neupert, Carsten	Tech. Univ. Darmstadt
Kirschniak, Andreas	Univ. Hospital Tuebingen
Schlaak, Helmut F.	Tech. Univ. Darmstadt
Pott, Peter	Tech. Univ. Darmstadt

16:35-16:50 WeCT4.3

Expeditious Design Optimization of a Concentric Tube Robot with a Heat-Shrink Plastic Tube, pp. 3671-3676.

Noh, Gunwoo	Korea Inst. of Science and Tech
Yoon, Si Yeop	Korea Univ. of Science and Tech

Yoon, Sung	Yonsei Univ
Kim, Keri	Korea Inst. of Science and Tech
Lee, Woosub	Korea Inst. of Science and Tech
Kang, Sungchul	Korea Inst. of Science & Tech
Lee, Deukhee	KIST
16:50-17:05	WeCT4.4
<i>Design of a Smart 3D-Printed Wristed Robotic Surgical Instrument with Embedded Force Sensing and Modularity</i> , pp. 3677-3683.	
Seneci, Carlo Alberto	Imperial Coll. London
Leibrandt, Konrad	Imperial Coll. London
Wisanuvej, Piyamate	Imperial Coll. London
Shang, Jianzhong	Imperial Coll. London
Darzi, Ara	Imperial Coll. London
Yang, Guang-Zhong	Imperial Coll. London
17:05-17:20	WeCT4.5
<i>Development of Surgical Forceps Integrated with Multi-Axial Force Sensor for Minimally Invasive Robotic Surgery</i> , pp. 3684-3689.	
Kim, Uikyum	SungKyunKwan Univ
Kim, Yong Bum	Sungskyunkwan Univ
Seok, Dong-Yeop	Sungkyunkwan Univ
So, JinHo	Sungkyunkwan Univ
Choi, Hyouk Ryeol	Sungkyunkwan Univ
WeCT5	#105
Motion and Path Planning 2 (Regular session)	
Chair: Amato, Nancy	Texas A&M Univ
Co-Chair: Whittaker, William	Carnegie Mellon Univ
16:05-16:20	WeCT5.1
<i>Motion Planning for a Reversing General 2-Trailer Configuration Using Closed-Loop RRT</i> , pp. 3690-3697.	
Evestedt, Niclas	Linköpings Univ
Ljungqvist, Oskar	Linköping Univ. ISY, Automatic Control
Axehill, Daniel	Linköping Univ
16:20-16:35	WeCT5.2
<i>Redundancy Embedding for Search Space Reduction Using Deep Auto-Encoder: Application to Collision-Free Posture Generation</i> , pp. 3698-3705.	
Noda, Shintaro	The Univ. of Tokyo
Nozawa, Shunichi	The Univ. of Tokyo
Kakiuchi, Yohei	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo
16:35-16:50	WeCT5.3
<i>Navigation among Movable Obstacles with Learned Dynamic Constraints</i> , pp. 3706-3713.	
Scholz, Jonathan	Google Deepmind
Jindal, Nehchal	Georgia Inst. of Tech
Levihh, Martin	Georgia Inst. of Tech
Isbell, Charles	Georgia Inst. of Tech
Christensen, Henrik Iskov	Georgia Inst. of Tech
16:50-17:05	WeCT5.4
<i>BI²RRT*: An Efficient Sampling-Based Path Planning Framework for Task-Constrained Mobile Manipulation</i> , pp. 3714-3721.	
Burget, Felix	Univ. of Freiburg
Bennewitz, Maren	Univ. of Bonn
Burgard, Wolfram	Univ. of Freiburg
17:05-17:20	WeCT5.5
<i>Computationally Efficient Information-Theoretic Exploration of Pits and Caves</i> , pp. 3722-3727.	
Tabib, Wennie	Carnegie Mellon Univ
Corah, Micah	Carnegie Mellon Univ

WeCT6		#106
Optimal Control and Optimization (Regular session)		
Chair: Wahrburg, Arne	ABB AG, Corp. Res. Germany	
Co-Chair: Peters, Jan	Tech. Univ. Darmstadt	
16:05-16:20		WeCT6.1
<i>Particle Filter Framework for 6D Seam Tracking under Large External Forces Using 2D Laser Sensors</i> , pp. 3728-3734.		
Bagge Carlson, Fredrik		Lund Univ
Karlsson, Martin		Lund Univ
Robertsson, Anders		LTH, Lund Univ
Johansson, Rolf		Lund Univ
16:20-16:35		WeCT6.2
<i>Improving Contact Force Estimation Accuracy by Optimal Redundancy Resolution</i> , pp. 3735-3741.		
Wahrburg, Arne	ABB AG, Corp. Res. Germany	
Robertsson, Anders	LTH, Lund Univ	
Matthias, Björn	ABB AG, Corp. Res. Center Germany	
Dai, Fan	ABB AG, Corp. Res. Germany	
Ding, Hao	ABB Corp. Res. Center Germany	
16:35-16:50		WeCT6.3
<i>Pareto-Optimal Search Over Configuration Space Beliefs for Anytime Motion Planning</i> , pp. 3742-3749.		
Choudhury, Shushman		Carnegie Mellon Univ
Dellin, Christopher		Carnegie Mellon Univ
Srinivasa, Siddhartha		Carnegie Mellon Univ
16:50-17:05		WeCT6.4
<i>A New Trajectory Generation Framework in Robotic Table Tennis</i> , pp. 3750-3756.		
Koc, Okan	Max Planck Inst. for Intelligent Systems	
Maeda, Guilherme Jorge	Tech. Univ. Darmstadt	
Peters, Jan	Tech. Univ. Darmstadt	
17:05-17:20		WeCT6.5
<i>Sequential Alternating Least Squares for Solving High Dimensional Linear Hamilton-Jacobi-Bellman Equation</i> , pp. 3757-3764.		
Stefansson, Elis	KTH Royal Inst. of Tech	
Leong, Yoke Peng	California Inst. of Tech	
WeCT7		#107
Learning from Demonstration (Regular session)		
Chair: Wu, Yan	A*STAR Inst. for Infocomm Res	
Co-Chair: Lesire, Charles	ONERA	
16:05-16:20		WeCT7.1
<i>Dynamic Movement Primitives Plus: For Enhanced Reproduction Quality and Efficient Trajectory Modification Using Truncated Kernels and Local Biases</i> , pp. 3765-3771.		
Wang, Ruohan	A*STAR Inst. of Infocomm Res	
Wu, Yan	A*STAR Inst. for Infocomm Res	
Chan, Wei Liang	Inst. for Infocomm Res	
Tee, Keng Peng	Inst. for Infocomm Res	
16:20-16:35		WeCT7.2
<i>Learning Manipulation Actions from Human Demonstrations</i> , pp. 3772-3777.		
Welschehold, Tim	Albert-Ludwigs-Univ. Freiburg	
Dornhege, Christian	Univ. of Freiburg	
Burgard, Wolfram	Univ. of Freiburg	
16:35-16:50		WeCT7.3
<i>Do What I Want, Not What I Did: Imitation of Skills by Planning Sequences of Actions</i> , pp. 3778-3785.		

Paxton, Chris	Johns Hopkins Univ
Jonathan, Felix	Johns Hopkins Univ
Kobilarov, Marin	Johns Hopkins Univ
Hager, Gregory	Johns Hopkins Univ

16:50-17:05 WeCT7.4

Learning Dexterous Manipulation for a Soft Robotic Hand from Human Demonstrations, pp. 3786-3793.

Gupta, Abhishek	UC Berkeley
Eppner, Clemens	Tech. Univ. Berlin
Levine, Sergey	UC Berkeley
Abbeel, Pieter	UC Berkeley

WeCT8 #108

Swarm Robotics (Regular session)

Chair: Dorigo, Marco	Univ. Libre De Bruxelles
Co-Chair: Chung, Soon-Jo	Caltech

16:05-16:20 WeCT8.1

Buzz: An Extensible Programming Language for Heterogeneous Swarm Robotics, pp. 3794-3800.

Pincioli, Carlo	Ec. Pol. De Montreal
Beltrame, Giovanni	Ec. Pol. De Montreal

16:20-16:35 WeCT8.2

Consensus-Based Data Sharing for Large-Scale Aerial Swarm Coordination in Lossy Communications Environments, pp. 3801-3808.

Davis, Duane	Naval Postgraduate School
Chung, Timothy H.	DARPA
Clement, Michael	Naval Postgraduate School
Day, Michael A.	U.S. Naval Postgraduate School

16:35-16:50 WeCT8.3

Kilogrid: A Modular Virtualization Environment for the Kilobot Robot, pp. 3809-3814.

Antoun, Anthony	Univ. Libre De Bruxelles
Valentini, Gabriele	Univ. Libre De Bruxelles
Hocquard, Etienne	Inst. De Recherche Tech. Jules Verne
Wiandt, Bernát	Budapest Univ. of Tech. and Ec
Trianni, Vito	Consiglio Nazionale Delle Ricerche
Dorigo, Marco	Univ. Libre De Bruxelles

16:50-17:05 WeCT8.4

The MPFA: A Multiple-Place Foraging Algorithm for Biologically-Inspired Robot Swarms, pp. 3815-3821.

Lu, Qi	Univ. of New Mexico
Hecker, Joshua Peter	Univ. of New Mexico
Moses, Melanie	Univ. of New Mexico

17:05-17:20 WeCT8.5

A Probabilistic Eulerian Approach for Motion Planning of a Large-Scale Swarm of Robots, pp. 3822-3829.

Bandyopadhyay, Saptarshi	Univ. of Illinois at Urbana-Champaign
Chung, Soon-Jo	Univ. of Illinois at Urbana-Champaign
Hadaegh, Fred	Jet Propulsion Lab

WeCT9 #204~205

Force Control 3 (Regular session)

Chair: Tsagarakis, Nikos	Istituto Italiano Di Tecnologia
Co-Chair: Inoue, Takahiro	Okayama Prefectural Univ

16:05-16:20 WeCT9.1

Force Control on Antagonistic Twist-Drive Actuator Robot, pp. 3830-3835.

Inoue, Takahiro	Okayama Prefectural Univ
Miyata, Ryuichi	Okayama Prefectural Univ
Hirai, Shinichi	Ritsumeikan Univ

16:20-16:35	WeCT9.2
<i>Force-Mode Control of Rotary Series Elastic Actuators in a Lower Extremity Exoskeleton Using Model-Inverse Time Delay Control (MITDC)</i> , pp. 3836-3841.	
Kim, Suin	Ulsan National Inst. of Science and Tech
Bae, Joonbum	UNIST
16:35-16:50	WeCT9.3
<i>Comparison of Open-Loop and Closed-Loop Disturbance Observers for Series Elastic Actuators</i> , pp. 3842-3847.	
Roozing, Wesley	Istituto Italiano Di Tecnologia
Malzahn, Jörn	Istituto Italiano Di Tecnologia
Caldwell, Darwin G.	Istituto Italiano Di Tecnologia
Tsagarakis, Nikos	Istituto Italiano Di Tecnologia
16:50-17:05	WeCT9.4
<i>Impedance Control of an Aerial-Manipulator: Preliminary Results</i> , pp. 3848-3853.	
Cataldi, Elisabetta	Univ. of Cassino and Southern Lazio
Muscio, Giuseppe	Univ. Degli Studi Della Basilicata
Trujillo, Miguel Angel	Center for Advanced Aerospace Tech
Rodriguez, Yamnia	DLR
Pierrri, Francesco	Univ. Della Basilicata
Antonelli, Gianluca	Univ. of Cassino and Southern Lazio
Caccavale, Fabrizio	Univ. Degli Studi Della Basilicata
Viguria, Antidio	Center for Advanced Aerospace Tech. (CATEC)
Chiaverini, Stefano	Univ. Di Cassino E Del Lazio Meridionale
Ollero, Anibal	Univ. of Seville
17:05-17:20	WeCT9.5
<i>Snake Robots in Contact with the Environment: Influence of the Configuration on the Applied Wrench</i> , pp. 3854-3859.	
Reyes, Fabian	Ritsumeikan Univ
Ma, Shugen	Ritsumeikan Univ
WeCT10	#206~208
Legged Robots 3 (Regular session)	
Chair: Manocha, Dinesh	Univ. of North Carolina at Chapel Hill
Co-Chair: Nili Ahmadabadi, Majid	Univ. of Tehran
16:05-16:20	WeCT10.1
<i>Biped Robot Falling Motion Control with Human-Inspired Active Compliance</i> , pp. 3860-3865.	
Luo, Dingsheng	Peking Univ
Deng, Yian	Peking Univ
Han, Xiaoqiang	School of EECS, Peking Univ
Wu, Xihong	Peking Univ
16:20-16:35	WeCT10.2
<i>Minimum Time Sprinting from Rest in a Planar Quadruped</i> , pp. 3866-3871.	
Steenkamp, Neil Francois	Univ. of Cape Town
Patel, Amir	Univ. of Cape Town
16:35-16:50	WeCT10.3
<i>Probabilistic Foot Contact Estimation by Fusing Information from Dynamics and Differential/Forward Kinematics</i> , pp. 3872-3878.	
Hwangbo, Jemin	Swiss Federal Inst. of Tech. Zurich
Bellicoso, C. Dario	ETH Zurich
Fankhauser, Péter	ETH Zurich
Hutter, Marco	ETH Zurich
16:50-17:05	WeCT10.4
<i>Towards Computationally Efficient Planning of Dynamic Multi-Contact Locomotion</i> , pp. 3879-3886.	
Thomas, Gray	Univ. of Texas at Austin
Sentis, Luis	The Univ. of Texas at Austin
17:05-17:20	WeCT10.5
<i>Tractable Terrain-Aware Motion Planning on Granular Media: An Impulsive Jumping Study</i> , pp. 3887-3892.	

Hubicki, Christian
Aguilar, Jeffrey
Goldman, Daniel
Ames, Aaron

Georgia Inst. of Tech
Georgia Inst. of Tech
Georgia Inst. of Tech
Georgia Inst. of Tech

Technical Program for Thursday October 13, 2016

ThT11	#111
Learning in Robotics (Teaser Session)	
Chair: del Pobil, Angel P.	Jaume-I Univ
Co-Chair: Chatila, Raja	ISIR
10:20-10:21	ThT11.1
<i>Coupled Learning of Action Parameters and Forward Models for Manipulation</i> , pp. 3893-3899.	
Höfer, Sebastian	Tech. Univ. Berlin
Brock, Oliver	Tech. Univ. Berlin
10:21-10:22	ThT11.2
<i>A Shared Control Method for Online Human-In-The-Loop Robot Learning Based on Locally Weighted Regression</i> , pp. 3900-3906.	
Peternel, Luka	Istituto Italiano Di Tecnologia
Oztop, Erhan	Ozyegin Univ
Babic, Jan	Jozef Stefan Inst
10:22-10:23	ThT11.3
<i>Inverse Reinforcement Learning with Leveraged Gaussian Processes</i> , pp. 3907-3912.	
Lee, Kyungjae	Seoul National Univ
Choi, Sungjoon	Seoul National Univ
Oh, Songhwai	Seoul National Univ
10:23-10:24	ThT11.4
<i>Gaussian Processes for Dynamic Movement Primitives with Application in Knowledge-Based Cooperation</i> , pp. 3913-3919.	
Fanger, Yunis	Tech. Univ. München
Umlauf, Jonas	Tech. Univ. München
Hirche, Sandra	Tech. Univ. München
10:24-10:25	ThT11.5
<i>Probabilistic Decomposition of Sequential Force Interaction Tasks into Movement Primitives</i> , pp. 3920-3927.	
Manschitz, Simon	Tech. Univ. Darmstadt
Gienger, Michael	Honda Res. Inst. Europe
Kober, Jens	TU Delft
Peters, Jan	Tech. Univ. Darmstadt
10:25-10:26	ThT11.6
<i>Stable Reinforcement Learning with Autoencoders for Tactile and Visual Data</i> , pp. 3928-3934.	
van Hoof, Herke	TU Darmstadt
Chen, Nutan	Tech. Univ. Munich
Karl, Maximilian	TU Munich
van der Smagt, Patrick	TUM
Peters, Jan	Tech. Univ. Darmstadt
10:26-10:27	ThT11.7
<i>Trajectory Learning from Human Demonstrations Via Manifold Mapping</i> , pp. 3935-3940.	
Hiratsuka, Michihisa	Tokyo Inst. of Tech
Makondo, Ndivhuwo	Tokyo Inst. of Tech
Rosman, Benjamin	CSIR
Hasegawa, Osamu	Tokyo Inst. of Tech
10:27-10:28	ThT11.8
<i>Initial Weight Estimation for Learning the Internal Model Based on the Knowledge of the Robot Morphology</i> , pp. 3941-3946.	
Duran, Angel Juan	Univ. Jaume I
del Pobil, Angel P.	Jaume-I Univ
10:28-10:29	ThT11.9
<i>Improved Deep Reinforcement Learning for Robotics through Distribution-Based Experience Retention</i> , pp. 3947-3952.	
de Bruin, Tim	TU Delft
Kober, Jens	TU Delft
Tuyls, Karl	Univ. of Liverpool
Babuska, Robert	Delft Univ. of Tech

10:29-10:30	ThT11.10
<i>Multimodal Imitation Using Self-Learned Sensorimotor Representations</i> , pp. 3953-3958.	
Zambelli, Martina	Imperial Coll. London
Demiris, Yiannis	Imperial Coll. London
10:30-10:31	ThT11.11
<i>Discovering Affordances through Perception and Manipulation</i> , pp. 3959-3964.	
Chavez-Garcia, R. Omar	Sorbonne Univ. UPMC Univ
Luce-Vayrac, Pierre	Isir, Upmc
Chatila, Raja	ISIR
10:31-10:32	ThT11.12
<i>Modular Active Curiosity-Driven Discovery of Tool Use</i> , pp. 3965-3972.	
Forestier, Sébastien	Inria and Univ. Bordeaux
Oudeyer, Pierre-Yves	Inria and Ensta ParisTech
10:32-10:33	ThT11.13
<i>It&apos;s Like Déjà Vu All Over Again: Learning Place-Dependent Terrain Assessment for Visual Teach and Repeat</i> , pp. 3973-3980.	
Berczi, Laszlo-Peter	Univ. of Toronto
Barfoot, Timothy	Univ. of Toronto
10:33-10:34	ThT11.14
<i>Learning Dynamic Graffiti Strokes with a Compliant Robot</i> , pp. 3981-3986.	
Berio, Daniel	Goldsmiths Coll. Univ. of London
Calinon, Sylvain	Idiap Res. Inst
Fol Leymarie, Frederic	Goldsmiths Coll. Univ. of London
10:34-10:35	ThT11.15
<i>Deep Learning of Structured Environments for Robot Search</i> , pp. 3987-3992.	
Caley, Jeffrey	Oregon State Univ
Lawrance, Nicholas Robert Jonathon	Oregon State Univ
Hollinger, Geoffrey	Oregon State Univ
10:35-10:36	ThT11.16
<i>Lifelong Learning for Disturbance Rejection on Mobile Robots</i> , pp. 3993-3998.	
Isele, David	Univ. of Pennsylvania
Luna, Jose Marcio	Univ. of Pennsylvania
Eaton, Eric	Univ. of Pennsylvania
de la Cruz, Gabriel	Washington State Univ
Irwin, James	Washington State Univ
Kallaher, Brandon	Washington State Univ
Taylor, Matthew	Washington State Univ
10:36-10:37	ThT11.17
<i>Learning Semantic Place Labels from Occupancy Grids Using CNNs</i> , pp. 3999-4004.	
Goeddel, Robert	Univ. of Michigan
Olson, Edwin	Univ. of Michigan
10:37-10:38	ThT11.18
<i>Learning Models for Constraint-Based Motion Parameterization from Interactive Physics-Based Simulation</i> , pp. 4005-4012.	
Fang, Zhou	Inst. of Artificial Intelligence, Univ. of Bremen
Bartels, Georg	Univ. Bremen
Beetz, Michael	Univ. of Bremen
10:38-10:39	ThT11.19
<i>A Poisson-Spectral Model for Modelling the Temporal Patterns in Human Data Observed by a Robot</i> , pp. 4013-4018.	
Jovan, Ferdian	Univ. of Birmingham
Wyatt, Jeremy	Univ. of Birmingham
Hawes, Nick	Univ. of Birmingham
Krajník, Tomáš	Univ. of Lincoln
10:39-10:40	ThT11.20
<i>One-Shot Learning of Manipulation Skills with Online Dynamics Adaptation and Neural Network Priors</i> , pp. 4019-4026.	

Fu, Justin	Univ. of California, Berkeley
Levine, Sergey	UC Berkeley
Abbeel, Pieter	UC Berkeley
10:40-10:41	ThT11.21
<i>Active Constrained Clustering Via Non-Iterative Uncertainty Sampling</i> , pp. 4027-4033.	
Stanitsas, Panagiotis	Univ. of Minnesota
Cherian, Anoop	Australian National Univ
Morellas, Vassilios	U. of Minnesota
Papanikolopoulos, Nikos	Univ. of Minnesota
10:41-10:42	ThT11.22
<i>Towards Robust Online Inverse Dynamics Learning</i> , pp. 4034-4039.	
Meier, Franziska	Univ. of Southern California
Kappler, Daniel	Max-Planck Inst. for Intelligent Systems
Ratliff, Nathan	Lula Robotics Inc
Schaal, Stefan	MPI Intelligent Systems & Univ. of Southern California
10:42-10:43	ThT11.23
<i>Nonparametric Bayesian Models for Unsupervised Activity Recognition and Tracking</i> , pp. 4040-4045.	
Dhir, Neil	Univ. of Oxford
Perov, Yura	Siberian Federal Univ. (Russia, Krasnoyarsk) / EPFL (Switze
10:43-10:44	ThT11.24
<i>Optimal Control and Inverse Optimal Control by Distribution Matching</i> , pp. 4046-4053.	
Arenz, Oleg	TU Darmstadt
Abdulsamad, Hany	TU Darmstadt
Neumann, Gerhard	TU Darmstadt
ThT12	#112
Robot Vision (Teaser Session)	
Chair: Marchand, Eric	Univ. De Rennes 1, IRISA, INRIA Rennes
Co-Chair: Zingg, Simon	ETH Zurich
10:20-10:21	ThT12.1
<i>Low-Obstacle Detection Using Stereo Vision</i> , pp. 4054-4061.	
Bichsel, Robert	ETH Zurich
Borges, Paulo Vinicius Koerich	CSIRO
10:21-10:22	ThT12.2
<i>Fast 6D Pose from a Single RGB Image Using Cascaded Forests Templates</i> , pp. 4062-4069.	
Munoz, Enrique	Istituto Italiano Di Tecnologia
Konishi, Yoshinori	OMRON Corp
Beltran, Carlos	Istituto Italiano Di Tecnologia (IIT)
Murino, Vittorio	Istituto Italiano Di Tecnologia/Univ. Di Verona
Del Bue, Alessio	Istituto Italiano Di Tecnologia
10:22-10:23	ThT12.3
<i>A Multiple Kernel Convolution Score Method for Bin Picking of Plastic Packed Object</i> , pp. 4070-4076.	
Kim, Taewoo	Univ. of Science and Tech
Lee, Jaeyeon	ETRI
Lee, Hooman	Electronics and Telecommunications Res. Inst
Kim, Joong-Bae	Electronics and Telecommunications Res. Inst
10:23-10:24	ThT12.4
<i>Semi-Direct Visual Odometry for a Fisheye-Stereo Camera</i> , pp. 4077-4084.	
Heng, Lionel	DSO National Lab
Choi, Benjamin	DSO National Lab
10:24-10:25	ThT12.5
<i>Recoverable Recommended Keypoint-Aware Visual Tracking Using Coupled-Layer Appearance Modelling</i> , pp. 4085-4091.	
Duan, Ran	Nanyang Tech. Univ

Fu, Changhong	Nanyang Tech. Univ
Kayacan, Erdal	Nanyang Tech. Univ
10:25-10:26	ThT12.6
<i>Point Clouds Registration with Probabilistic Data Association</i> , pp. 4092-4098.	
Fontana, Simone	Univ. of Milano Bicocca
Agamennoni, Gabriel	ETH Zurich
Siegwart, Roland	ETH Zurich
Sorrenti, Domenico G.	Univ. Di Milano - Bicocca
10:26-10:27	ThT12.7
<i>Shearlet-Based vs. Photometric-Based Visual Servoing for Robot-Assisted Medical Applications</i> , pp. 4099-4104.	
Duflot, Lesley-Ann	Inria Rennes Bretagne Atlantique, Femto-St Besançon
Krupa, Alexandre	INRIA Rennes - Bretagne Atlantique
Tamadazte, Brahim	Cnrs, Ufc/ensmm/utbm
Andreff, Nicolas	Univ. De Franche Comté
10:27-10:28	ThT12.8
<i>Fast and Robust 3D Feature Extraction from Sparse Point Clouds</i> , pp. 4105-4112.	
Serafin, Jacopo	Univ. Sapienza of Rome
Olson, Edwin	Univ. of Michigan
Grisetti, Giorgio	Sapienza Univ. of Rome
10:28-10:29	ThT12.9
<i>Iterative Hough Forest with Histogram of Control Points for 6 DoF Object Registration from Depth Images</i> , pp. 4113-4118.	
Sahin, Caner	Imperial Coll. London
Kouskouridas, Rigas	Imperial Coll. London
Kim, Tae-Kyun	Imperial Coll. London
10:29-10:30	ThT12.10
<i>Generic 3D Obstacle Detection for AGVs Using Time-Of-Flight Cameras</i> , pp. 4119-4124.	
Buck, Sebastian	Univ. of Tübingen
Hanten, Richard	Univ. of Tübingen
Bohlmann, Karsten	Eberhard-Karls-Univ. Tübingen
Zell, Andreas	Univ. of Tübingen
10:30-10:31	ThT12.11
<i>RGB-D Multi-View Object Detection with Object Proposals and Shape Context</i> , pp. 4125-4130.	
Georgakis, Georgios	George Mason Univ
Reza, Md	George Mason Univ
Kosecka, Jana	George Mason Univ
10:31-10:32	ThT12.12
<i>Inferring Human Body Posture Information from Reflective Patterns of Protective Work Garments</i> , pp. 4131-4136.	
Mosberger, Rafael	Örebro Univ
Schaffernicht, Erik	Örebro Univ. AASS Res. Center
Andreasson, Henrik	Örebro Univ
Lilienthal, Achim J.	Örebro Univ
10:32-10:33	ThT12.13
<i>Appearance-Based Landmark Selection for Efficient Long-Term Visual Localization</i> , pp. 4137-4143.	
Bürki, Mathias	Autonomous Systems Lab, ETH Zürich
Gilitschenski, Igor	ETH Zurich
Stumm, Elena	ETH Zurich
Siegwart, Roland	ETH Zurich
Nieto, Juan	ETH Zürich
10:33-10:34	ThT12.14
<i>Fast Event-Based Harris Corner Detection Exploiting the Advantages of Event-Driven Cameras</i> , pp. 4144-4149.	
Vasco, Valentina	Istituto Italiano Di Tecnologia
Glover, Arren	Istituto Italiano Di Tecnologia
Bartolozzi, Chiara	Istituto Italiano Di Tecnologia
10:34-10:35	ThT12.15

<i>Measuring the Performance of Single Image Depth Estimation Methods</i> , pp. 4150-4157.		
Cadena Lerma, Cesar Dario		ETH Zurich
Latif, Yasir		Univ. of Adelaide
Reid, Ian		Univ. of Adelaide
10:35-10:36		ThT12.16
<i>An Orthographic Descriptor for 3D Object Learning and Recognition</i> , pp. 4158-4163.		
Mohades Kasaei, Seyed Hamidreza		Univ. De Aveiro
Seabra Lopes, Luis		Univ. De Aveiro
Tomé, Ana Maria		Univ. De Aveiro
Oliveira, Miguel		Univ. of Aveiro
10:36-10:37		ThT12.17
<i>Object Detection and Tracking in RGB-D SLAM Via Hierarchical Feature Grouping</i> , pp. 4164-4171.		
Ataer-Cansizoglu, Esra		Mitsubishi Electric Res. Labs
Taguchi, Yuichi		Mitsubishi Electric Res. Labs
10:37-10:38		ThT12.18
<i>A System Implementation and Evaluation of a Cooperative Fusion and Tracking Algorithm Based on a Gaussian Mixture PHD Filter</i> , pp. 4172-4179.		
Vasic, Milos		EPFL
Mansolino, David		EPFL
Martinoli, Alcherio		EPFL
10:38-10:39		ThT12.19
<i>Particle Filter-Based Direct Visual Servoing</i> , pp. 4180-4186.		
Bateux, Quentin		Univ. De Rennes 1, IRISA, Inria Rennes
Marchand, Eric		Univ. De Rennes 1, IRISA, INRIA Rennes
10:39-10:40		ThT12.20
<i>Person Identification Based on the Matching of Foot Strike Timings Obtained by LRFs and a Smartphone</i> , pp. 4187-4192.		
Koide, Kenji		Toyohashi Univ. of Tech
Miura, Jun		Toyohashi Univ. of Tech
10:40-10:41		ThT12.21
<i>AprilTag 2: Efficient and Robust Fiducial Detection</i> , pp. 4193-4198.		
Wang, John		Univ. of Michigan
Olson, Edwin		Univ. of Michigan
10:41-10:42		ThT12.22
<i>Geometrically Consistent Plane Extraction for Dense Indoor 3D Maps Segmentation</i> , pp. 4199-4204.		
Pham, Trung		The Univ. of Adelaide
Eich, Markus		Queensland Univ. of Tech
Reid, Ian		Univ. of Adelaide
Wyeth, Gordon		Queensland Univ. of Tech
10:42-10:43		ThT12.23
<i>Visibility Maps for Any-Shape Robots</i> , pp. 4205-4210.		
Pereira, Tiago		Carnegie Mellon Univ. & Faculty of Engineering of Univ
Veloso, Manuela		Carnegie Mellon Univ
Moreira, Antonio Paulo		Univ. of Porto, Faculty of Engineering
10:43-10:44		ThT12.24
<i>PL-SVO: Semi-Direct Monocular Visual Odometry by Combining Points and Line Segments</i> , pp. 4211-4216.		
Gomez-Ojeda, Ruben		Univ. of Málaga
Briales, Jesus		Univ. of Málaga
González-Jiménez, Javier		Univ. of Málaga
10:44-10:45		ThT12.25
<i>Calibration and Correction of Vignetting Effects with an Application to 3D Mapping</i> , pp. 4217-4223.		
Alexandrov, Sergey		Vienna Univ. of Tech
Prankl, Johann		Univ. of Tech. Vienna
Zillich, Michael		Vienna Univ. of Tech
Vincze, Markus		Vienna Univ. of Tech

ThAT1		#101
Motion Planning for Manipulators (Regular session)		
Chair: Taïx, Michel	LAAS-CNRS/Univ. Paul Sabatier	
Co-Chair: Mozos, Oscar	Tech. Univ. of Cartagena	
10:55-11:10	ThAT1.1	
<i>Motion Planning for Fluid Manipulation Using Simplified Dynamics</i> , pp. 4224-4231.		
Pan, Zherong	The Univ. of North Carolina at Chapel Hill	
Manocha, Dinesh	Univ. of North Carolina at Chapel Hill	
11:10-11:25	ThAT1.2	
<i>An Anticipative Kinematic Limitation Avoidance Algorithm for Collaborative Robots: Two-Dimensional Case</i> , pp. 4232-4237.		
Campeau-Lecours, Alexandre	Univ. Laval	
Gosselin, Clement	Univ. Laval	
11:25-11:40	ThAT1.3	
<i>Combining Motion Planning and Task Assignment for a Dual-Arm System</i> , pp. 4238-4243.		
Rodriguez Pacheco, Carlos	Univ. Pol. De Catalunya	
Suarez, Raul	Univ. Pol. De Catalunya (UPC)	
11:40-11:55	ThAT1.4	
<i>I-RRT-C : Interactive Motion Planning with Contact</i> , pp. 4244-4249.		
Blin, Nassime Michel	Laas-Cnrs, Lgp-Enit	
Taix, Michel	LAAS-CNRS/Univ. Paul Sabatier	
Fillatreau, Philippe	ENIT Tarbes	
Fourquet, Jean-Yves	ENIT	
ThAT2		#102
Visual Servoing 1 (Regular session)		
Chair: Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)	
Co-Chair: Fumagalli, Matteo	Aalborg Univ	
10:55-11:10	ThAT2.1	
<i>FPGA-Based 6-DoF Pose Estimation with a Monocular Camera Using Non Co-Planer Marker and Application on Micro Quadcopter</i> , pp. 4250-4257.		
Konomura, Ryo	Univ. of Tokyo	
Hori, Koichi	Univ. of Tokyo	
11:10-11:25	ThAT2.2	
<i>Adaptive Repetitive Visual-Servo Control of a Low-Flying Unmanned Aerial Vehicle with an Uncalibrated High-Flying Camera</i> , pp. 4258-4265.		
Guo, Dejun	Univ. of Utah	
Yim, Woosoon	Univ. of Nevada, Las Vegas	
Leang, Kam K.	Univ. of Utah	
11:25-11:40	ThAT2.3	
<i>A Visual-Based Shared Control Architecture for Remote Telemanipulation</i> , pp. 4266-4273.		
Abi-Farraj, Firas	CNRS-Irisa	
Pedemonte, Nicolò	CNRS at Irisa and Inria Rennes Bretagne Atlantique	
Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)	
11:40-11:55	ThAT2.4	
<i>Single Frequency-Based Visual Servoing for Microrobotics Applications</i> , pp. 4274-4279.		
Guelpa, Valérian	FEMTO-ST	
Laurent, Guillaume J.	FEMTO-ST Inst. - CNRS - ENSMM - Univ. Defranche-Comté	
Tamadazte, Brahim	Cnrs, Ufc/ensmm/utbm	
Sandoz, Patrick	FEMTO-ST Inst. - CNRS UMR 6174	
Le Fort-Piat, Nadine	FEMTO-ST	
Clévy, Cédric	Franche-Comté Univ	

ThAT3		#103
Novel Range Sensing (Regular session)		
Chair: Mordohai, Philippos		Stevens Inst. of Tech
Co-Chair: Leutenegger, Stefan		Imperial Coll. London
10:55-11:10		ThAT3.1
<i>Real-Time Height Map Fusion Using Differentiable Rendering</i> , pp. 4280-4287.		
Zienkiewicz, Jacek		Imperial Coll. London
Davison, Andrew J		Imperial Coll. London
Leutenegger, Stefan		Imperial Coll. London
11:10-11:25		ThAT3.2
<i>Underwater Inspection Using Sonar-Based Volumetric Submaps</i> , pp. 4288-4295.		
Vaz Teixeira, Pedro		Massachusetts Inst. of Tech
Kaess, Michael		Carnegie Mellon Univ
Hover, Franz		MIT
Leonard, John		MIT
11:25-11:40		ThAT3.3
<i>Fast Robust Monocular Depth Estimation for Obstacle Detection with Fully Convolutional Networks</i> , pp. 4296-4303.		
Mancini, Michele		Univ. of Perugia
Costante, Gabriele		Univ. of Perugia
Valigi, Paolo		Univ. Di Perugia
Ciarfuglia, Thomas Alessandro		Univ. Degli Studi Di Perugia
11:40-11:55		ThAT3.4
<i>2D and 3D Millimeter-Wave Synthetic Aperture Radar Imaging on a PR2 Platform</i> , pp. 4304-4310.		
Watts, Claire		Univ. of Washington
Lancaster, Patrick		Univ. of Washington
Pedross-Engel, Andreas		Univ. of Washington
Smith, Joshua R.		Univ. of Washington
Reynolds, Matthew		Univ. of Washington
ThAT4		#104
Surgical Robotics 2 (Regular session)		
Chair: Dupont, Pierre		Children's Hospital Boston, Harvard Medical School
Co-Chair: Yang, Guang-Zhong		Imperial Coll. London
10:55-11:10		ThAT4.1
<i>A Dynamic Non-Energy-Storing Guidance Constraint with Motion Redirection for Robot-Assisted Surgery</i> , pp. 4311-4316.		
Enayati, Nima		Pol. Di Milano
Costa, Eva		Univ. of Minho
Ferrigno, Giancarlo		Pol. Di Milano
De Momi, Elena		Pol. Di Milano
11:10-11:25		ThAT4.2
<i>Motor Channelling for Safe and Effective Dynamic Constraints in Minimally Invasive Surgery</i> , pp. 4317-4323.		
Grammatikopoulou, Maria		Imperial Coll. London
Leibrandt, Konrad		Imperial Coll. London
Yang, Guang-Zhong		Imperial Coll. London
11:25-11:40		ThAT4.3
<i>Adaptive Nonparametric Kinematic Modeling of Concentric Tube Robots</i> , pp. 4324-4329.		
Fagogenis, Georgios		Heriot Watt Univ
Bergeles, Christos		Univ. Coll. London
Dupont, Pierre		Children's Hospital Boston, Harvard Medical School
11:40-11:55		ThAT4.4
<i>Reconfigurable Parallel Continuum Robots for Incisionless Surgery</i> , pp. 4330-4336.		
Mahoney, Art		Vanderbilt Univ
Anderson, Patrick		Vanderbilt Univ
Swaney, Philip J.		Vanderbilt Univ

Maldonado, Fabien
Webster III, Robert James

Vanderbilt Univ
Vanderbilt Univ

ThAT5		#105
Mechanisms and Parallel Robots (Regular session)		
Chair: Song, Jae-Bok		Korea Univ
Co-Chair: Amato, Nancy		Texas A&M Univ
10:55-11:10		ThAT5.1
<i>A Generic Numerical Continuation Scheme for Solving the Direct Kinematics of Cable-Driven Parallel Robot with Deformable Cables</i> , pp. 4337-4343.		
Merlet, Jean-Pierre		INRIA
11:10-11:25		ThAT5.2
<i>Reduction in Gravitational Torques of an Industrial Robot Equipped with 2 DOF Passive Counterbalance Mechanisms</i> , pp. 4344-4349.		
Ahn, Kuk Hyun		Korea Univ
Lee, Won-Bum		Korea Univ. Intelligence Robotics Lab
Song, Jae-Bok		Korea Univ
11:25-11:40		ThAT5.3
<i>Improving Cable Driven Parallel Robot Accuracy through Angular Position Sensors</i> , pp. 4350-4355.		
Fortin-Côté, Alexis		Univ. Laval
Cardou, Philippe		Univ. Laval
Campeau-Lecours, Alexandre		Univ. Laval
11:40-11:55		ThAT5.4
<i>Design and Modeling of a Compact Rotational Nonlinear Spring</i> , pp. 4356-4361.		
Jalaly Bidgoly, Hamed		Univ. of Tehran
Nili Ahmadabadi, Majid		Univ. of Tehran
Zakerzadeh, Mohammad Reza		Univ. of Tehran

ThAT6		#106
Space Robotics and Automation (Regular session)		
Chair: Agogino, Alice		Univ. of California Berkeley
Co-Chair: Coltin, Brian		Carnegie Mellon Univ
10:55-11:10		ThAT6.1
<i>Image Space Based Path Planning for Reactionless Manipulation of Redundant Space Robot</i> , pp. 4362-4368.		
Bhargava, Rachit		IIIT Hyderabad
P, Mithun		International Inst. of Information Tech. Hyderabad
Viswanadha Visagakoti, Anurag		IIIT-Hyderabad
Abdul Hafez, A. H.		Hasan Kalyoncu University
Shah, Suril Vijaykumar		Indian Inst. of Tech. Jodhpur
11:10-11:25		ThAT6.2
<i>Hopping and Rolling Locomotion with Spherical Tensegrity Robots</i> , pp. 4369-4376.		
Kim, Kyunam		UC Berkeley
Chen, Lee-Huang		Univ. OF CALIFORNIA BERKELEY
Cera, Brian		UC Berkeley
Daly, Mallory		UC Berkeley
Zhu, Edward		UC Berkeley
Despois, Julien		UC Berkeley
Agogino, Adrian		UC Santa Cruz, NASA Ames Res. Center
SunSpiral, Vytas		SGT Inc. / NASA Ames Res. Center
Agogino, Alice		Univ. of California Berkeley
11:25-11:40		ThAT6.3
<i>Localization from Visual Landmarks on a Free-Flying Robot</i> , pp. 4377-4382.		
Coltin, Brian		Carnegie Mellon Univ
Fusco, Jesse		NASA Ames Res. Center
Moratto, Zachary		Kansas State Univ

Alexandrov, Oleg	NASA Ames Res. Center
Nakamura, Robert	NASA Ames Res. Center
11:40-11:55	ThAT6.4
<i>Space CoBot: Modular Design of an Holonomic Aerial Robot for Indoor Microgravity Environments</i> , pp. 4383-4390.	
Roque, Pedro	Inst. Superior Técnico. Univ. De Lisboa
Ventura, Rodrigo	Inst. Superior Técnico
ThAT7	#107
Human-Robot Interaction 1 (Regular session)	
Chair: Gateau, Thibault	ISAE
Co-Chair: Zhu, Guangming	Xidian Univ
10:55-11:10	ThAT7.1
<i>Considering Human's Non-Deterministic Behavior and His Availability State When Designing a Collaborative Human-Robots System</i> , pp. 4391-4397.	
Gateau, Thibault	ISAE
P. Carvalho Chanel, Caroline	ISAE-SUPAERO
Le, Mai Huy	Univ. Toulouse 3 Paul Sabatier
Dehais, Frederic	ISAE
11:10-11:25	ThAT7.2
<i>Iterative Path Optimisation for Personalised Dressing Assistance Using Vision and Force Information</i> , pp. 4398-4403.	
Gao, Yixing	Imperial Coll. London
Chang, Hyung Jin	Imperial Coll. London
Demiris, Yiannis	Imperial Coll. London
11:25-11:40	ThAT7.3
<i>Human Activity Recognition Based on Weighted Limb Features</i> , pp. 4404-4409.	
Zhang, Liang	Xidian Univ
Yang, WenHan	Xidian Univ
Zhu, Guangming	Xidian Univ
Shen, Peiyi	Xidian Univ
Song, Juan	Xidian Univ
11:40-11:55	ThAT7.4
<i>UAV, Come to Me: End-To-End, Multi-Scale Situated HRI with an Uninstrumented Human and a Distant UAV</i> , pp. 4410-4417.	
Monajjemi, Valiallah (Mani)	Simon Fraser Univ
MohaimenianPour, SeyedMehdi	Simon Fraser Univ
Vaughan, Richard	Simon Fraser Univ
ThAT8	#108
Multi-Robot Systems 1 (Regular session)	
Chair: Sabattini, Lorenzo	Univ. of Modena and Reggio Emilia
Co-Chair: Chung, Jen Jen	Oregon State Univ
10:55-11:10	ThAT8.1
<i>Hierarchical Coordination Strategy for Multi-AGV Systems Based on Dynamic Geodesic Environment Partitioning</i> , pp. 4418-4423.	
Sabattini, Lorenzo	Univ. of Modena and Reggio Emilia
Digani, Valerio	Elettric80 Spa
Secchi, Cristian	Univ. of Modena & Reggio Emilia
Fantuzzi, Cesare	Univ. Di Modena E Reggio Emilia
11:10-11:25	ThAT8.2
<i>D++: Structural Credit Assignment in Tightly Coupled Multiagent Domains</i> , pp. 4424-4429.	
Rahmattalabi, Aida	Oregon State Univ
Chung, Jen Jen	Oregon State Univ
Colby, Mitch	Oregon State Univ
Tumer, Kagan	Oregon State Univ
11:25-11:40	ThAT8.3

A Distributed Deterministic Spiral Search Algorithm for Swarms, pp. 4430-4436.

Fricke, George Matthew	The Univ. of New Mexico
Hecker, Joshua Peter	Univ. of New Mexico
Griego, Antonio	Univ. of New Mexico
Tran, Linh	Univ. of New Mexico
Moses, Melanie	Univ. of New Mexico

11:40-11:55

ThAT8.4

Multi-Agent Push Behaviors for Large Sets of Passive Objects, pp. 4437-4442.

Rodriguez, Samuel	Texas A&M Univ
Morales, Marco	Inst. Tecnológico Autónomo De México
Amato, Nancy	Texas A&M Univ

ThAT9

#204~205

Robotic Manipulation (Regular session)

Chair: Ollero, Anibal	Univ. of Seville
Co-Chair: Yoshida, Ryuta	Kikuchi Seisakusho CO., LTD

10:55-11:10

ThAT9.1

Bezier Curve Model for Efficient Bio-Inspired Locomotion of Low Cost Four Legged Robot, pp. 4443-4448.

Saputra, Azhar Aulia	Tokyo Metropolitan Univ
Tay, Noel Nuo Wi	Tokyo Metropolitan Univ
Toda, Yuichiro	Tokyo Metropolitan Univ
Botzheim, Janos	Tokyo Metropolitan Univ
Kubota, Naoyuki	Tokyo Metropolitan Univ

11:10-11:25

ThAT9.2

Lightweight Compliant Arm with Compliant Finger for Aerial Manipulation and Inspection, pp. 4449-4454.

Suarez, Alejandro	Univ. of Seville
Heredia, Guillermo	Univ. of Seville
Ollero, Anibal	Univ. of Seville

11:25-11:40

ThAT9.3

Kinematic Modeling and Simulation of Active-Caster Robotic Drive with a Ball Transmission (ACROBAT-S), pp. 4455-4460.

Wada, Masayoshi	Tokyo Univ. of Agriculture and Tech
Kato, Kosuke	Tokyo Univ. of Agriculture and Tech

11:40-11:55

ThAT9.4

Deep Learning a Grasp Function for Grasping under Gripper Pose Uncertainty, pp. 4461-4468.

Johns, Edward	Imperial Coll. London
Leutenegger, Stefan	Imperial Coll. London
Davison, Andrew J	Imperial Coll. London

ThAT10

#206~208

Software and Framework (Regular session)

Chair: Dieber, Bernhard	Joanneum Res
Co-Chair: Li, Qingdu	Chongqing Univ. of Posts and Telecommunications

10:55-11:10

ThAT10.1

Invariant Spatial Parametrization of Human Thoracohumeral Kinematics: A Feasibility Study, pp. 4469-4476.

Krishnan, Rakesh	KTH (Royal Inst. of Tech
Björzell, Niclas	Univ. of Gävle
Smith, Claes Christian	KTH Royal Inst. of Tech

11:10-11:25

ThAT10.2

Application-Level Security for ROS-Based Applications, pp. 4477-4482.

Dieber, Bernhard	Joanneum Res
Kacianka, Severin	Tech. Univ. of Munich
Rass, Stefan	Alpen-Adria Univ. Klagenfurt
Schartner, Peter	Alpen-Adria Univ. Klagenfurt

11:25-11:40	ThAT10.3
<i>OpenSwarm: An Event-Driven Embedded Operating System for Miniature Robots</i> , pp. 4483-4490.	
Trenkwalder, Stefan M.	The Univ. of Sheffield
Kaszubowski Lopes, Yuri	The Univ. of Sheffield
Kolling, Andreas	Univ. of Sheffield
Christensen, Anders Lyhne	Univ. Inst. of Lisbon
Prodan, Radu	Univ. of Innsbruck
Gross, Roderich	The Univ. of Sheffield
11:40-11:55	ThAT10.4
<i>A Framework for Quality Assessment of ROS Repositories</i> , pp. 4491-4496.	
Santos, André	Univ. of Minho
Cunha, Alcino	Univ. of Minho
Macedo, Nuno	Univ. of Minho
Lourenço, Cláudio	Univ. of Minho
ThT21	#111
Navigation/SLAM (Teaser Session)	
Chair: He, Bingwei	Fuzhou Univ
Co-Chair: Chaves, Stephen	Univ. of Michigan
14:05-14:06	ThT21.1
<i>Self-Localization from Images with Small Overlap</i> , pp. 4497-4504.	
Tanaka, Kanji	Univ. of Fukui
14:06-14:07	ThT21.2
<i>Incremental Real-Time Multibody VSLAM with Trajectory Optimization Using Stereo Camera</i> , pp. 4505-4510.	
Narapureddy, Dinesh Reddy	International Inst. of Tech. Hyderabad
Mondal, Amit Kumar	Univ. of Petroleum and Energy Studies, Dehradun
Devalla, Vindhya	Univ. of Petroleum and Energy Studies
Abbasnejad, Iman	Cmu, Qut, Mpi
Arrabotu, Sheetal Reddy	International Inst. of Information Tech. Hyderabad
14:07-14:08	ThT21.3
<i>Exploiting Building Information from Publicly Available Maps in Graph-Based SLAM</i> , pp. 4511-4516.	
Vysotska, Olga	Univ. of Bonn
Stachniss, Cyrill	Univ. of Bonn
14:08-14:09	ThT21.4
<i>Towards Effective Localization in Dynamic Environments</i> , pp. 4517-4523.	
Sun, Dali	Univ. of Freiburg
Geißer, Florian	Univ. of Freiburg
Nebel, Bernhard	Albert-Ludwigs-Univ. Freiburg
14:09-14:10	ThT21.5
<i>Vision-Based Real-Time 3D Mapping for UAV with Laser Sensor</i> , pp. 4524-4529.	
Shi, Jinqiao	Fuzhou Univ
He, Bingwei	Fuzhou Univ
Zhang, Liwei	Univ. of Hamburg
Zhang, Jianwei	Univ. of Hamburg
14:10-14:11	ThT21.6
<i>Encoding the Description of Image Sequences: A Two-Layered Pipeline for Loop Closure Detection</i> , pp. 4530-4536.	
Bampis, Loukas	Democritus Univ. of Thrace
Amanatiadis, Angelos	Democritus Univ. of Thrace
Gasteratos, Antonios	Democritus Univ. of Thrace
14:11-14:12	ThT21.7
<i>Probabilistic Binaural Multiple Sources Localization Based on Time-Delay Compensation Estimator and Clustering Analysis</i> , pp. 4537-4544.	
Liu, Hong	Peking Univ
Yue, Mengdi	Peking Univ

Zhang, Jie	Peking Univ. Shenzhen Graduate School
14:12-14:13	ThT21.8
<i>Multi-Modal Panoramic 3D Outdoor Datasets for Place Categorization</i> , pp. 4545-4550.	
Jung, Hojung	Kyushu Univ
Yuki Oto, Yuki	Kyushu Univ
Mozos, Oscar	Tech. Univ. of Cartagena
Iwashita, Yumi	Kyushu Univ
Kurazume, Ryo	Kyushu Univ
14:13-14:14	ThT21.9
<i>WiFi Localization in 3D</i> , pp. 4551-4557.	
Jirku, Michal	Czech Tech. Univ. in Prague, Faculty of Electrical Engi
Kubelka, Vladimir	Czech Tech. Univ. in Prague
Reinstein, Michal	Czech Tech. Univ. in Prague
14:14-14:15	ThT21.10
<i>Persistent Localization and Life-Long Mapping in Changing Environments Using the Frequency Map Enhancement</i> , pp. 4558-4563.	
Krajník, Tomáš	Univ. of Lincoln
Pulido Fentanes, Jaime	Univ. of Lincoln
Hanheide, Marc	Univ. of Lincoln
Duckett, Tom	Univ. of Lincoln
14:15-14:16	ThT21.11
<i>Map2DFusion: Real-Time Incremental UAV Image Mosaicing Based on Monocular SLAM</i> , pp. 4564-4571.	
Bu, Shuhui	Northwestern Pol. Univ
Zhao, Yong	Northwestern Pol. Univ
Wan, Gang	Information Engineering Univ
Liu, Zhenbao	Northwestern Pol. Univ
14:16-14:17	ThT21.12
<i>Erasing Bad Memories: Agent-Side Summarization for Long-Term Mapping</i> , pp. 4572-4579.	
Dymczyk, Marcin Tomasz	ETH Zurich, Autonomous Systems Lab
Schneider, Thomas	ETH Zürich
Gilitschenski, Igor	ETH Zurich
Sieglwart, Roland	ETH Zurich
Stumm, Elena	ETH Zurich
14:17-14:18	ThT21.13
<i>Robustness to Connectivity Loss for Collaborative Mapping</i> , pp. 4580-4585.	
Quraishi, Anwar Ahmad	École Pol. Fédérale De Lausanne
Cieslewski, Titus	Univ. of Zurich
Lynen, Simon	ETH Zurich
Sieglwart, Roland	ETH Zurich
14:18-14:19	ThT21.14
<i>Optimal Placement of Passive Sensors for Robot Localisation</i> , pp. 4586-4593.	
Zenatti, Fabiano	Univ. of Trento
Fontanelli, Daniele	Univ. of Trento
Palopoli, Luigi	Univ. of Trento
Macii, David	Univ. of Trento
Nazemzadeh, Payam	Univ. of Trento
14:19-14:20	ThT21.15
<i>Path Planning in Graph SLAM Using Expected Uncertainty</i> , pp. 4594-4601.	
Fermín-León, Leonardo	Simón Bolívar Univ
Neira, José	Univ. De Zaragoza
Castellanos, Jose A.	Univ. of Zaragoza
14:20-14:21	ThT21.16
<i>SLAM with Objects Using a Nonparametric Pose Graph</i> , pp. 4602-4609.	
Mu, Beipeng	MIT
Liu, Shih-Yuan	U.C. Berkeley

Paull, Liam	Massachusetts Inst. of Tech
Leonard, John	MIT
How, Jonathan Patrick	Massachusetts Inst. of Tech
14:21-14:22	ThT21.17
<i>Improving Gaussian Processes Based Mapping of Wireless Signals Using Path Loss Models</i> , pp. 4610-4615.	
Miyagusuku, Renato	The Univ. of Tokyo
Yamashita, Atsushi	The Univ. of Tokyo
Asama, Hajime	The Univ. of Tokyo
14:22-14:23	ThT21.18
<i>Visual Localization and Loop Closing Using Decision Trees and Binary Features</i> , pp. 4616-4623.	
Schlegel, Dominik	ETH Zurich
Grisetti, Giorgio	Sapienza Univ. of Rome
14:23-14:24	ThT21.19
<i>Human-Guided Robot 3D Mapping Using Virtual Reality Technology</i> , pp. 4624-4629.	
Du, Jianhao	Oklahoma State Univ
Sheng, Weihua	Oklahoma State Univ
Liu, Meiqin	Zhejiang Univ
14:24-14:25	ThT21.20
<i>Fast Global Optimality Verification in 3D SLAM</i> , pp. 4630-4636.	
Briales, Jesus	Univ. of Málaga
González-Jiménez, Javier	Univ. of Málaga
14:25-14:26	ThT21.21
<i>Calibration of a Dynamic Camera Cluster for Multi-Camera Visual SLAM</i> , pp. 4637-4642.	
Das, Arun	Univ. of Waterloo
Waslander, Steven Lake	Univ. of Waterloo
14:26-14:27	ThT21.22
<i>Curating Long-Term Vector Maps</i> , pp. 4643-4648.	
Nashed, Samer	Univ. of Massachusetts Amherst
Biswas, Joydeep	Univ. of Massachusetts Amherst
14:27-14:28	ThT21.23
<i>Recalibration-Free Indoor Localization with Wi-Fi Fingerprinting of Invariant Received Signal Strength</i> , pp. 4649-4655.	
Lee, Sukhan	Sungkyunkwan Univ
Husen, Mohd Nizam	Univ. Kuala Lumpur
14:28-14:29	ThT21.24
<i>Fusion and Binarization of CNN Features for Robust Topological Localization across Seasons</i> , pp. 4656-4663.	
Arroyo, Roberto	Univ. of Alcalá
Fernández Alcantarilla, Pablo	Irobot Corp
Bergasa, Luis Miguel	Univ. of Alcalá
Romera, Eduardo	Univ. of Alcalá
14:29-14:30	ThT21.25
<i>Efficient Planning with the Bayes Tree for Active SLAM</i> , pp. 4664-4671.	
Chaves, Stephen	Univ. of Michigan
Eustice, Ryan	Univ. of Michigan
ThT22	#112
Motion and Path Planning (Teaser Session)	
Chair: Cavusoglu, M. Cenk	Case Western Res. Univ
Co-Chair: Xiao, Jing	UNC Charlotte
14:05-14:06	ThT22.1
<i>Real-Time Monocular Obstacle Avoidance Using Underwater Dark Channel Prior</i> , pp. 4672-4677.	
Drews-Jr, Paulo	Federal Univ. of Rio Grande (FURG)
Hernandez, Emili	CSIRO
Elfes, Alberto	CSIRO

Nascimento, Erickson Campos, Mario Montenegro	Univ. Federal De Minas Gerais (UFMG) Univ. Federal De Minas Gerais
14:06-14:07	ThT22.2
<i>Active Sensing for Continuous State and Action Spaces Via Task-Action Entropy Minimization</i> , pp. 4678-4684.	
Greigarn, Tipakorn	Case Western Res. Univ
Cavusoglu, M. Cenk	Case Western Res. Univ
14:07-14:08	ThT22.3
<i>Motion Guidance Using Haptic Feedback Based on Vibrotactile Illusions</i> , pp. 4685-4691.	
Salazar Luces, Jose Victorio	Tohoku Univ
Hirata, Yasuhisa	Tohoku Univ
Kosuge, Kazuhiro	Tohoku Univ
14:08-14:09	ThT22.4
<i>Real-Time Adaptive Non-Holonomic Motion Planning in Unforeseen Dynamic Environments</i> , pp. 4692-4699.	
McLeod, Sterling	Univ. of North Carolina at Charlotte
Xiao, Jing	UNC Charlotte
14:09-14:10	ThT22.5
<i>A Semi-Autonomous Framework for Human-Aware and User Intention Driven Wheelchair Mobility Assistance</i> , pp. 4700-4707.	
K. Narayanan, Vishnu	Inria Rennes, INSA Rennes
Spalanzani, Anne	INRIA / Univ. Grenoble Alpes
Babel, Marie	IRISA UMR CNRS 6074 - INRIA - INSA Rennes
14:10-14:11	ThT22.6
<i>Motion Planning for Autonomous Vehicles in Highly Constrained Urban Environments</i> , pp. 4708-4713.	
Fassbender, Dennis	Univ. of the Bundeswehr Munich
Heinrich, Benjamin C.	Univ. of the Bundeswehr Munich
Wuensche, Hans J	UniBw Munich
14:11-14:12	ThT22.7
<i>Morphological Design for Controlled Tensegrity Quadruped Locomotion</i> , pp. 4714-4719.	
Hustig-Schultz, Dawn	Univ. of California, Santa Cruz
SunSpiral, Vytas	SGT Inc. / NASA Ames Res. Center
Teodorescu, Mircea	UCSC
14:12-14:13	ThT22.8
<i>Whole-Body Motion Planning for Humanoid Robots with Heuristic Search</i> , pp. 4720-4727.	
Athar, Ali	National Univ. of Sciences and Tech
Zafar, Abdul Moeed	National Univ. of Science and Tech
Asif, Rizwan	National Univ. of Science and Tech
Khan, Armaghan Ahmad	National Univ. of Science and Tech
Islam, Fahad	National Univ. of Sciences and Tech
Ayaz, Yasar	National Univ. of Sciences and Tech. (NUST)
Hasan, Osman	National Univ. of Science and Tech
14:13-14:14	ThT22.9
<i>Trajectory Representation by Nonlinear Scaling of Dynamic Movement Primitives</i> , pp. 4728-4735.	
Ude, Ales	Jozef Stefan Inst
Vuga, Rok	Jozef Stefan Inst
Nemec, Bojan	Jozef Stefan Inst
Morimoto, Jun	ATR Computational Neuroscience Labs
14:14-14:15	ThT22.10
<i>Desired Orientation RRT (DO-RRT) for Autonomous Vehicle in Narrow Cluttered Spaces</i> , pp. 4736-4741.	
Shin, Seho	Seoul National Univ
Ahn, JoonWoo	Seoul National Univ
Park, Jaeheung	Seoul National Univ
14:15-14:16	ThT22.11
<i>Expressive Navigation and Local Path-Planning of Independent Steering Autonomous Systems</i> , pp. 4742-4749.	
Todoran, George	Vienna Univ. of Tech
Bader, Markus	Vienna Univ. of Tech

14:16-14:17		ThT22.12
<i>Co-Optimizing Task and Motion Planning</i> , pp. 4750-4756.		
Zhang, Chongjie	Massachusetts Inst. of Tech	
Shah, Julie A.	MIT	
14:17-14:18		ThT22.13
<i>A Power Modulating Leg Mechanism for Monopedal Hopping</i> , pp. 4757-4764.		
Haldane, Duncan	Univ. of California, Berkeley	
Plecnik, Mark	Univ. of California, Berkeley	
Yim, Justin K.	Univ. of California, Berkeley	
Fearing, Ronald	Univ. of California at Berkeley	
14:18-14:19		ThT22.14
<i>Online Trajectory Optimization to Improve Object Recognition</i> , pp. 4765-4772.		
Potthast, Christian	Univ. of Southern California	
Sukhatme, Gaurav	Univ. of Southern California	
14:19-14:20		ThT22.15
<i>From Indoor GIS Maps to Path Planning for Autonomous Wheelchairs</i> , pp. 4773-4779.		
Guzzi, Jerome	Idsia, Usi-Supsi	
Di Caro, Gianni A.	Usi - Supsi	
14:20-14:21		ThT22.16
<i>Optimal Control for Geometric Motion Planning of a Robot Diver</i> , pp. 4780-4785.		
Shu, Roberto	Carnegie Mellon Univ	
Siravuru, Avinash	Carnegie Mellon Univ	
Rai, Akshara	ÉCOLE POL. FÉDÉRALE DE LAUSANNE EPFL	
Dear, Tony	Carnegie Mellon Univ	
Sreenath, Koushil	Carnegie Mellon Univ	
Choset, Howie	Carnegie Mellon Univ	
14:21-14:22		ThT22.17
<i>Anytime RRBT for Handling Uncertainty and Dynamic Objects</i> , pp. 4786-4793.		
Yang, Hyunchul	Korea Advanced Inst. of Science and Tech	
Lim, Jongwoo	Hanyang Univ	
Yoon, Sung-eui	KAIST	
14:22-14:23		ThT22.18
<i>On the Theory of User-Guided Planning</i> , pp. 4794-4801.		
Denny, Jory	Texas A&M Univ	
Colbert, Jonathan	Blinn Coll	
Qin, Hongsen	Texas A&M Univ	
Amato, Nancy	Texas A&M Univ	
14:23-14:24		ThT22.19
<i>Runtime SES Planning: Online Motion Planning in Environments with Stochastic Dynamics and Uncertainty</i> , pp. 4802-4809.		
Chiang, Hao-Tien	Univ. of New Mexico	
Rackley, Nathanael	Univ. of New Mexico	
Tapia, Lydia	Univ. of New Mexico	
14:24-14:25		ThT22.20
<i>Persistent Robot Formation Flight Via Online Substitution</i> , pp. 4810-4815.		
Mitchell, Derek	Carnegie Mellon Univ	
Cappo, Ellen	Carnegie Mellon Univ	
Michael, Nathan	Carnegie Mellon Univ	
14:25-14:26		ThT22.21
<i>Classification of Dynamical Vertical Climbing Gaits</i> , pp. 4816-4822.		
Brown, Jason	Florida State Univ	
Miller, Bruce	Florida State Univ	
Clark, Jonathan	Florida State Univ	
14:26-14:27		ThT22.22

Template-Based Human Supervised Robot Task Programming, pp. 4823-4829.

Long, Xianchao
Padir, Taskin

Northeastern Univ
Northeastern Univ

14:27-14:28

ThT22.23

Modeling of Human-Like Reaching Movements in the Manipulation of Parallel Flexible Objects, pp. 4830-4835.

Svinin, Mikhail
Goncharenko, Igor
Lee, Hagchang
Yamamoto, Motoji

Kyushu Univ
3D Incorporated
Kyushu Univ
Kyushu Univ

14:28-14:29

ThT22.24

Formation Change for Robot Groups in Occluded Environments, pp. 4836-4842.

Hoenig, Wolfgang
Kumar, T. K. Satish
Ma, Hang
Koenig, Sven
Ayanian, Nora

Univ. of Southern California
Univ. of Southern California
Univ. of Southern California
Univ. of Southern California
Univ. of Southern California

ThBT1

#101

(Special Session) towards the Realization of the Aerial Robotic Workers (Regular session)

Chair: Nikolakopoulos, George
Co-Chair: Fumagalli, Matteo

Luleå Univ. of Tech
Aalborg Univ

14:35-14:50

ThBT1.1

Mechatronic Design of a Robotic Manipulator for Unmanned Aerial Vehicles, pp. 4843-4848.

Fumagalli, Matteo
Stramigioli, Stefano
Carlioni, Raffaella

Aalborg Univ
Univ. of Twente
Univ. of Twente

14:50-15:05

ThBT1.2

Decoupled Design of Controllers for Aerial Manipulation with Quadrotors, pp. 4849-4855.

Ótão Pereira, Pedro Miguel
Zanella, Riccardo
Dimarogonas, Dimos V.

KTH Royal Inst. of Tech
KTH Royal Inst. of Tech
Royal Inst. of Tech

15:05-15:20

ThBT1.3

Tree Cavity Inspection Using Aerial Robots, pp. 4856-4862.

Steich, Kelly
Kamel, Mina
Beardsley, Paul
Obrist, Martin, K.
Siegwart, Roland
Lachat, Thibault

ETHZ, Disney Res. Zurich
Autonomous Systems Lab, ETH Zurich
Disney Res. Zurich
Swiss Federal Res. Inst. WSL
ETH Zurich
WSL

15:20-15:35

ThBT1.4

Real-Time Mesh-Based Scene Estimation for Aerial Inspection, pp. 4863-4869.

Teixeira, Lucas
Chli, Margarita

ETH Zurich
ETH Zurich

15:35-15:50

ThBT1.5

Design and Modeling of Dexterous Aerial Manipulator, pp. 4870-4876.

Kamel, Mina
Alexis, Kostas
Siegwart, Roland

Autonomous Systems Lab, ETH Zurich
Univ. of Nevada, Reno
ETH Zurich

ThBT2

#102

Visual Learning (Regular session)

Chair: Natale, Lorenzo
Co-Chair: Posada, Luis Felipe

Istituto Italiano Di Tecnologia
Univ. EAFIT

14:35-14:50	ThBT2.1
<i>RL-IAC: An Exploration Policy for Online Saliency Learning on an Autonomous Mobile Robot</i> , pp. 4877-4884.	
Craye, Céline	ENSTA Paristech
Filliat, David	ENSTA ParisTech
Goudou, Jean-François	Thales SIX Thesis
14:50-15:05	ThBT2.2
<i>Efficient Deep Models for Monocular Road Segmentation</i> , pp. 4885-4891.	
Oliveira, Gabriel	Univ. of Freiburg
Burgard, Wolfram	Univ. of Freiburg
Brox, Thomas	Univ. of Freiburg
15:05-15:20	ThBT2.3
<i>Parameter Learning for Improving Binary Descriptor Matching</i> , pp. 4892-4897.	
Sankaran, Bharath	Univ. of Southern California
Ramalingam, Srikumar	Mitsubishi Electric Res. Lab
Taguchi, Yuichi	Mitsubishi Electric Res. Labs
15:20-15:35	ThBT2.4
<i>Simultaneous Place Learning and Recognition for Real-Time Appearance-Based Mapping</i> , pp. 4898-4903.	
Kazmi, S. M. Ali Musa	Univ. of Paderborn
Mertsching, Bärbel	Univ. of Paderborn
15:35-15:50	ThBT2.5
<i>Object Identification from Few Examples by Improving the Invariance of a Deep Convolutional Neural Network</i> , pp. 4904-4911.	
Pasquale, Giulia	Istituto Italiano Di Tecnologia
Ciliberto, Carlo	Istituto Italiano Di Tecnologia
Rosasco, Lorenzo	Istituto Italiano Di Tecnologia & Massachusetts Institute Of Techn
Natale, Lorenzo	Istituto Italiano Di Tecnologia
ThBT3	#103
Tactile Sensing (Regular session)	
Chair: Ciarfuglia, Thomas Alessandro	Univ. Degli Studi Di Perugia
Co-Chair: Peters, Jan	Tech. Univ. Darmstadt
14:35-14:50	ThBT3.1
<i>A Multi-Modal Approach to Continuous Material Identification through Tactile Sensing</i> , pp. 4912-4917.	
Gómez Eguíluz, Augusto	Univ. of Ulster
Rano, Inaki	Ulster Univ
Coleman, Sonya	Univ. of Ulster
McGinnity, Martin	Univ. of Ulster
14:50-15:05	ThBT3.2
<i>Event-Based Signaling for Large-Scale Artificial Robotic Skin - Realization and Performance Evaluation</i> , pp. 4918-4924.	
Bergner, Florian	Tech. Univ. of Munich
Dean-Leon, Emmanuel	Tech. Univ. Muenchen
Cheng, Gordon	Tech. Univ. Munich
15:05-15:20	ThBT3.3
<i>Active Tactile Object Exploration with Gaussian Processes</i> , pp. 4925-4930.	
Yi, Zhengkun	Nanyang Tech. Univ
Calandra, Roberto	Tech. Univ. Darmstadt
Veiga, Filipe Fernandes	Tech. Univ. Darmstadt
van Hoof, Herke	TU Darmstadt
Hermans, Tucker	Univ. of Utah
Zhang, Yilei	Nanyang Tech. Univ
Peters, Jan	Tech. Univ. Darmstadt
15:20-15:35	ThBT3.4
<i>A Triangle Histogram for Object Classification by Tactile Sensing</i> , pp. 4931-4938.	
Zhang, Mabel M.	Univ. of Pennsylvania

Kennedy, Monroe	Univ. of Pennsylvania
Hsieh, M. Ani	Drexel Univ
Daniilidis, Kostas	Univ. of Pennsylvania

15:35-15:50 ThBT3.5

Novel Apparatus for Light Touch Threshold Measurement, pp. 4939-4944.

Kim, Junghoon	Hanyang Univ
You, Bum Jae	KIST
Choi, Youngjin	Hanyang Univ

ThBT4 #104
Biologically-Inspired Robots (Regular session)

Chair: Floreano, Dario	Ec. Pol. Federal, Lausanne
Co-Chair: Bae, Joonbum	UNIST

14:35-14:50 ThBT4.1

Steering Control of a Water-Running Robot by Using an Active Tail, pp. 4945-4950.

Kim, Hyungyu	YeungNam Univ
Jeong, Kyungmin	KAERI
Sitti, Metin	Max-Planck Inst. for Intelligent Systems
Seo, TaeWon	Yeungnam Univ

14:50-15:05 ThBT4.2

An Underwater Electrosensory Membrane Bio-Inspired by Weakly Electric Fish, pp. 4951-4956.

Wang, Ke	Curtin Univ
Cui, Lei	Curtin Univ
Do, Khac Duc	Univ. of Western Australia

15:05-15:20 ThBT4.3

Biomimetic Underwater Robots Based on Dielectric Elastomer Actuators, pp. 4957-4962.

Shintake, Jun	École Pol. Fédérale De Lausanne
Shea, Herbert	EPFL
Floreano, Dario	Ec. Pol. Federal, Lausanne

15:20-15:35 ThBT4.4

Free Flight Force Estimation of a 23.5 G Flapping Wing MAV Using an On-Board IMU, pp. 4963-4969.

Karásek, Matěj	Delft Univ. of Tech
Koopmans, Jan Andries	TU Delft
Armanini, Sophie Franziska	Delft Univ. of Tech
Remes, Bart	Delft Univ. of Tech
de Croon, Guido	TU Delft / ESA

15:35-15:50 ThBT4.5

Design of a Robot with Biologically-Inspired Swimming Hairs for Fast and Efficient Mobility in Aquatic Environment, pp. 4970-4975.

Kwak, Bokeon	Ulsan National Inst. of Science and Tech. (UNIST)
Bae, Joonbum	UNIST

ThBT5 #105
UAV-Vision (Regular session)

Chair: Loianno, Giuseppe	Univ. of Pennsylvania
Co-Chair: Nuske, Stephen	CMU Robotics Inst

14:35-14:50 ThBT5.1

Long Distance Visual Ground-Based Signaling for Unmanned Aerial Vehicles, pp. 4976-4983.

Grabe, Volker	Carnegie Mellon Univ
Nuske, Stephen	CMU Robotics Inst

14:50-15:05 ThBT5.2

Self-Calibrating Multi-Camera Visual-Inertial Fusion for Autonomous MAVs, pp. 4984-4991.

Yang, Zhenfei	Hong Kong Univ. of Science and Tech
Liu, Tianbo	Hong Kong Univ. of Science and Tech

Shen, Shaojie	Hong Kong Univ. of Science and Tech
15:05-15:20	ThBT5.3
<i>Multi-Target Detection and Tracking from a Single Camera in Unmanned Aerial Vehicles (UAVs)</i> , pp. 4992-4997.	
Li, Jing	Purdue Univ
Ye, Dong Hye	Purdue Univ
Chung, Timothy H.	DARPA
Kolsch, Mathias	Naval Postgraduate School
Wachs, Juan	Purdue Univ
Bouman, Charles	Purdue Univ
15:20-15:35	ThBT5.4
<i>Towards Fully Autonomous Visual Inspection of Dark Featureless Dam Penstocks Using MAVs</i> , pp. 4998-5005.	
Ozaslan, Tolga	Univ. of Pennsylvania
Mohta, Kartik	Univ. of Pennsylvania
Keller, James	Univ. of Pennsylvania
Mulgaonkar, Yash	Univ. of Pennsylvania
Taylor, Camillo Jose	Univ. of Pennsylvania
Kumar, Vijay	Univ. of Pennsylvania
15:35-15:50	ThBT5.5
<i>Real-Time Restoration of Aerial Inspection Images by Recognizing and Removing Passive Rotating Shell of a UAV</i> , pp. 5006-5012.	
Okada, Yoshito	Tohoku Univ
Ishii, Takuma	Tohoku Univ
Ohno, Kazunori	Tohoku Univ
Tadokoro, Satoshi	Tohoku Univ
ThBT6	#106
Planning and Scheduling (Regular session)	
Chair: Busoniu, Lucian	Tech. Univ. of Cluj-Napoca
Co-Chair: Pall, Elod	Tech. Univ. of Cluj Napoca
14:35-14:50	ThBT6.1
<i>Analysis and a Home Assistance Application of Online AEMS2 Planning</i> , pp. 5013-5019.	
Pall, Elod	Tech. Univ. of Cluj Napoca
Tamas, Levente	BFH
Busoniu, Lucian	INRIA Lille
14:50-15:05	ThBT6.2
<i>Time-Optimal Coordination of Mobile Robots Along Specified Paths</i> , pp. 5020-5026.	
Altche, Florent	MINES ParisTech
Qian, Xiangjun	MINES ParisTech - PSL Res. Univ
de La Fortelle, Arnaud	MINES ParisTech - PSL Res. Univ
15:05-15:20	ThBT6.3
<i>Online Planning for Energy-Efficient and Disturbance-Aware UAV Operations</i> , pp. 5027-5033.	
Bezzo, Nicola	Univ. of Virginia
Mohta, Kartik	Univ. of Pennsylvania
Nowzari, Cameron	Univ. of Pennsylvania
Lee, Insup	Univ. of Pennsylvania
Kumar, Vijay	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania
15:20-15:35	ThBT6.4
<i>Decision Making in a UAV-Based Delivery System with Impatient Customers</i> , pp. 5034-5039.	
Grippa, Pasquale	Univ. of Klagenfurt
15:35-15:50	ThBT6.5
<i>Sequential Quadratic Programming for Task Plan Optimization</i> , pp. 5040-5047.	
Hadfield-Menell, Dylan	UC Berkeley
Lin, Christopher	UC Berkeley
Chitnis, Rohan	Univ. of California, Berkeley

ThBT7	#107
Human-Robot Interaction 2 (Regular session)	
Chair: Vaughan, Richard	Simon Fraser Univ
Co-Chair: De Luca, Alessandro	Sapienza Univ. of Rome
14:35-14:50	ThBT7.1
<i>A Robot Reading Human Gaze: Why Eye Tracking Is Better Than Head Tracking for Human-Robot Collaboration</i> , pp. 5048-5054.	
Palinko, Oskar	Istituto Italiano Di Tecnologia
Rea, Francesco	Istituto Italiano Di Tecnologia
Sandini, Giulio	Italian Inst. of Tech
Sciutti, Alessandra	Istituto Italiano Di Tecnologia
14:50-15:05	ThBT7.2
<i>Social Activity Recognition Based on Probabilistic Merging of Skeleton Features with Proximity Priors from RGB-D Data</i> , pp. 5055-5061.	
Coppola, Claudio	Univ. of Lincoln
Faria, Diego	Univ. of Coimbra
Nunes, Urbano	Inst. De Sistemas E Robotica
Bellotto, Nicola	Univ. of Lincoln
15:05-15:20	ThBT7.3
<i>Localizing External Contact Using Proprioceptive Sensors: The Contact Particle Filter</i> , pp. 5062-5069.	
Manuelli, Lucas	Massachusetts Inst. of Tech
Tedrake, Russ	Massachusetts Inst. of Tech
15:20-15:35	ThBT7.4
<i>Using Nonverbal Signals to Request Help During Human-Robot Collaboration</i> , pp. 5070-5076.	
Cha, Elizabeth	Univ. of Southern California
Mataric, Maja	Univ. of Southern California
15:35-15:50	ThBT7.5
<i>Optimal Robot Selection by Gaze Direction in Multi-Human Multi-Robot Interaction</i> , pp. 5077-5083.	
Zhang, Ling kang	Simon Fraser Univ
Vaughan, Richard	Simon Fraser Univ
ThBT8	#108
Multi-Robot Systems 2 (Regular session)	
Chair: Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)
Co-Chair: Frazzoli, Emilio	Massachusetts Inst. of Tech
14:35-14:50	ThBT8.1
<i>Active Decentralized Scale Estimation for Bearing-Based Localization</i> , pp. 5084-5091.	
Spica, Riccardo	Centre National De La Recherche Scientifique (CNRS)
Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)
14:50-15:05	ThBT8.2
<i>Cooperative Aerial Tele-Manipulation with Haptic Feedback</i> , pp. 5092-5098.	
Mohammadi, Mostafa	Univ. of Siena
Franchi, Antonio	LAAS-CNRS
Barcelli, Davide	Univ. of Siena
Prattichizzo, Domenico	Univ. of Siena
15:05-15:20	ThBT8.3
<i>A Rigidity-Based Decentralized Bearing Formation Controller for Groups of Quadrotor UAVs</i> , pp. 5099-5106.	
Schiano, Fabrizio	Univ. of Rennes 1 - INRIA Rennes Bretagne Atlantique
Franchi, Antonio	LAAS-CNRS
Zelazo, Daniel	Tech. - Israel Inst. of Tech
Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)
15:20-15:35	ThBT8.4

Merging Appearance-Based Spatial Knowledge in Multirobot Systems, pp. 5107-5112.

Karaoguz, Hakan
Bozma, H. Isil

Bogazici Univ
Bogazici Univ

15:35-15:50

ThBT8.5

Provably Safe and Deadlock-Free Execution of Multi-Robot Plans under Delaying Disturbances, pp. 5113-5118.

Čáp, Michal
Gregoire, Jean
Frazzoli, Emilio

CTU in Prague
MIT
Massachusetts Inst. of Tech

ThBT9

#204~205

Micro/Nano Robots (Regular session)

Chair: Tombari, Federico
Co-Chair: Abelmann, Leon

Univ. of Bologna
Univ. of Twente

14:35-14:50

ThBT9.1

Influence of the Magnetic Field on the Two-Dimensional Control of Magnetospirillum Gryphiswaldense Strain MSR-1, pp. 5119-5124.

Hassan, Heba
Pichel, Marc Philippe
Hageman, Tijmen
Abelmann, Leon
Khalil, Islam S.M.

German Univ. in Cairo
Twente Univ
Korean Inst. of Science and Tech
Univ. of Twente
German Univ. in Cairo

14:50-15:05

ThBT9.2

Development of a Microhand Using Direct Laser Writing for Indirect Optical Manipulation, pp. 5125-5130.

Avci, Ebubekir
Yang, Guang-Zhong

Massey Univ
Imperial Coll. London

15:05-15:20

ThBT9.3

Magnetically-Guided In-Situ Microrobot Fabrication, pp. 5131-5136.

Li, Zhe
Youssefi, Omid
Diller, Eric D.

Univ. of Toronto
Univ. of Toronto
Univ. of Toronto

15:20-15:35

ThBT9.4

Closed-Loop Selective Manipulation of Multiple Microparticles by Controlling the Transient Regime of Marangoni Flows, pp. 5137-5142.

Muñoz, Elvin Mark
Quispe, Johan Edilberto
Vela, Emir Augusto

Univ. De Ingenieria Y Tecnologia - UTEC
Univ. De Ingenieria Y Tecnologia - UTEC
Univ. De Ingenieria Y Tecnologia

15:35-15:50

ThBT9.5

Unexpected Beads Alignment in a Microfluidic Channel, pp. 5143-5148.

Tsai, Chia-Hung Dylan
Phan, Manh Hao
Mizoue, Kouji
Kaneko, Makoto

Osaka Univ
Osaka Univ
MIZOUE PROJECT JAPAN Corp
Osaka Univ

ThBT10

#206~208

Bipedal Control (Regular session)

Chair: Hutchinson, Seth
Co-Chair: Zhang, Jianwei

Univ. of Illinois
Univ. of Hamburg

14:35-14:50

ThBT10.1

Bipedal Walking Pattern Generation Based on an Extrapolated Center of Mass, pp. 5149-5154.

Park, Sangsin
Oh, Jun Ho

KAIST
Korea Advanced Inst. of Sci. and Tech

14:50-15:05

ThBT10.2

A Simple 2D Straight-Leg Passive Dynamic Walking Model without Foot-Scuffing Problem, pp. 5155-5161.

Li, Qingdu
Liu, Guodong

Chongqing Univ. of Posts and Telecommunications
Chongqing Univ. of Posts and Telecommunications

Tang, Jun	Chongqing Univ. of Posts and Telecommunications
Zhang, Jianwei	Univ. of Hamburg
15:05-15:20	ThBT10.3
<i>Optimal Double Support Zero Moment Point Trajectories for Bipedal Locomotion</i> , pp. 5162-5168.	
Lanari, Leonardo	Sapienza Univ. Di Roma
Hutchinson, Seth	Univ. of Illinois
15:20-15:35	ThBT10.4
<i>A Planar Stable Walking Model Based on Ankle Actuation and the Virtual Pendulum Concept</i> , pp. 5169-5174.	
Lee, Jongwoo	Korea Inst. of Science and Tech
Oh, Yonghwan	Korea Inst. of Science & Tech. (KIST)
ThT31	#111
Micro Robot/Robot Intelligence (Teaser Session)	
Chair: Antonelli, Marco	Hong Kong Univ. of Science and Tech
Co-Chair: Lelevé, Arnaud	INSA De Lyon (Inst. National Des Sciences Appliquees), Univ. De Lyon
16:10-16:11	ThT31.1
<i>3D Haptic Rendering of Tissues for Epidural Needle Insertion Using an Electro-Pneumatic 7 Degrees of Freedom Device</i> , pp. 5175-5180.	
Alès, Pierre-Jean	Univ. of Verona , Italy
Herzig, Nicolas	Ampere UMR CNRS 5005 - INSA Lyon - Univ. De Lyon
Lelevé, Arnaud	INSA De Lyon (Inst. National Des Sciences Appliquees), Univ
Moreau, Richard	INSA-Lyon
Bauer, Christian	Department of Anesthesia and Intensive Care, Hoptal De La Croix
16:11-16:12	ThT31.2
<i>Exploitation of SEM Charging Effects for Monitoring Robotic Assembly Tasks</i> , pp. 5181-5186.	
Bartenwerfer, Malte	Carl Von Ossietzky Univ. of Oldenburg
Fatikow, Sergej	Univ. of Oldenburg
16:12-16:13	ThT31.3
<i>A Novel Strategy for Smooth Force-Position Switching Control of Micropositioning Piezoelectric Actuators</i> , pp. 5187-5192.	
Fallahinia, Navid	Amirkabir Univ. of Tech
Zareinejad, Mohammad	Amirkabir Univ. of Tech
Talebi, Ali	Amirkabir Univ. of Tech
Baghestan, Keivan	Amirkabir Univ. of Tech
Ghafarirad, Hamed	Amirkabir Univ. of Tech
16:13-16:14	ThT31.4
<i>A Design of Phase-Closed-Loop Nanomachining Control Based Ultrasonic-Vibration-Assisted AFM</i> , pp. 5193-5198.	
Shi, Jialin	Shenyang Inst. of Automation, Chinese Acad. of Sciences
Liu, Lianqing	Shenyang Inst. of Automation
Yu, Peng	Shenyang Inst. of Automation, Chinese Acad. of Sciences
Cong, Yang	Chinese Acad. of Science, China
16:14-16:15	ThT31.5
<i>Unsupervised Learning of Depth During Coordinated Head/Eye Movements</i> , pp. 5199-5204.	
Antonelli, Marco	Hong Kong Univ. of Science and Tech
Rucci, Michele	Boston Univ
Shi, Bertram Emil	Hong Kong Univ. of Science and Tech
16:15-16:16	ThT31.6
<i>AFM Measurement of the Mechanical Properties of Single Adherent Cells Based on Vibration</i> , pp. 5205-5209.	
Zhang, Chuang	Shenyang Inst. of Automation Chinese Acad. of Sciences
Shi, Jialin	Shenyang Inst. of Automation, Chinese Acad. of Sciences
Wang, Wenxue	Shenyang Inst. of Automation, CAS
Xi, Ning	Michigan State Univ
Wang, Yuechao	Shenyang Inst. of Automation
Liu, Lianqing	Shenyang Inst. of Automation
16:16-16:17	ThT31.7

<i>Three-Dimensional Visual Tracking and Pose Estimation in Scanning Electron Microscopes</i> , pp. 5210-5215.	
Cui, Le	Bosch (China) Investment Ltd
Marchand, Eric	Univ. De Rennes 1, IRISA, INRIA Rennes
Haliyo, Dogan Sinan	Univ. Pierre Et Marie Curie - Paris 6 - CNRS
Régnier, Stéphane	Univ. Pierre Et Marie Curie
16:17-16:18	ThT31.8
<i>Model Validation of Discretized Spatial Closed Elastica</i> , pp. 5216-5223.	
Mochiyama, Hiromi	Univ. of Tsukuba
16:18-16:19	ThT31.9
<i>Stiffness Rendering on Soft Tangible Devices Controlled through Inverse FEM Simulation</i> , pp. 5224-5229.	
Largilliere, Frederick	Univ. of Lille
Coevoet, Eulalie	INRIA
Sanz Lopez, Mario	INRIA
Grisoni, Laurent	Univ. of Lille
Duriez, Christian	INRIA
16:19-16:20	ThT31.10
<i>Sensor Substitution for Video-Based Action Recognition</i> , pp. 5230-5237.	
Rupprecht, Christian	Tech. Univ. München
Lea, Colin	Johns Hopkins Univ
Tombari, Federico	Univ. of Bologna
Navab, Nassir	TU Munich
Hager, Gregory	Johns Hopkins Univ
16:20-16:21	ThT31.11
<i>Learning Where to Search Using Visual Attention</i> , pp. 5238-5245.	
Kloss, Alina	Max-Planck-Inst. for Intelligent Systems
Kappler, Daniel	Max-Planck Inst. for Intelligent Systems
Lensch, Hendrik Peter Asmus	Univ. of Tuebingen
Butz, Martin Volker	Univ. of Tuebingen
Schaal, Stefan	MPI Intelligent Systems & Univ. of Southern California
Bohg, Jeannette	Max-Planck Inst. for Intelligent Systems
16:21-16:22	ThT31.12
<i>An Energy Based Approach for Passive Dual-User Haptic Training Systems</i> , pp. 5246-5251.	
Liu, Fei	INSA De Lyon
Lelevé, Arnaud	INSA De Lyon (Inst. National Des Sciences Appliquees), Univ
Eberard, Damien	INSA De Lyon (Inst. National Des Sciences Appliquees)
Redarce, Tanneguy	INSA De Lyon (Inst. National Des Sciences Appliquees)
16:22-16:23	ThT31.13
<i>Sensing the Motion of Bellows through Changes in Mutual Inductance</i> , pp. 5252-5257.	
Felt, Wyatt	Univ. of Michigan
Suen, Michelle	Univ. of Michigan
Remy, C. David	Univ. of Michigan
16:23-16:24	ThT31.14
<i>Communication-Efficient Motion Coordination and Data Fusion in Information Gathering Teams</i> , pp. 5258-5265.	
Kassir, Abdallah	Notre Dame Univ. - Louaize
Fitch, Robert	The Univ. of Sydney
Sukkarieh, Salah	Univ. of Sydney
16:24-16:25	ThT31.15
<i>On-Chip Automation of Sequential Flow Switching with Serially Connectable Fluidic Monostable Multivibrator</i> , pp. 5266-5271.	
Kang, Junsu	Postech
Lee, Donghyeon	Pohang Univ. of Science and Tech
Heo, Young Jin	POSTECH
Chung, Wan Kyun	POSTECH
16:25-16:26	ThT31.16
<i>Keyframe-Based Online Object Learning and Detection</i> , pp. 5272-5278.	

Lee, Sehyung	Hanyang Univ
Lim, Jongwoo	Hanyang Univ
Suh, Il Hong	Hanyang Univ
16:26-16:27	ThT31.17
<i>Development of a Magnetic Nanoparticles Guidance System for Interleaved Actuation and MPI-Based Monitoring</i> , pp. 5279-5284.	
Zhang, Xingming	School of Mechanical Engineering Gyeongsang National Univ
Lê, Tuấn Anh	School of Mechanical Engineering Gyeongsang National Univ
Yoon, Jungwon	Gyeongsang National Univ
16:27-16:28	ThT31.18
<i>Nanorobot Enabled in Situ Sensing Molecular Interactions for Drug Discovery</i> , pp. 5285-5290.	
Yang, Yongliang	Michigan State Univ
Xi, Ning	Michigan State Univ
Sun, Zhiyong	Michigan State Univ
Basson, Marc	Department of Surgery, Michigan State Univ
Zeng, Bixi	Michigan State Univ
Song, Bo	Michigan State Univ
Chen, Liangliang	Michigan State Univ
Zhou, Zhanxin	Michigan State Univ
16:28-16:29	ThT31.19
<i>A Hardware-In-The-Loop Simulator for Safety Training in Robotic Surgery</i> , pp. 5291-5296.	
Li, Xiao	Univ. of Illinois at Urbana-Champaign
Alemzadeh, Homa	Univ. of Illinois at Urbana-Champaign
Chen, Daniel	Univ. of Illinois at Urbana-Champaign
Kalbarczyk, Zbigniew	Univ. of Illinois at Urbana-Champaign
Iyer, Ravishankar	Univ. of Illinois at Urbana-Champaign
Kesavadas, Thenkurussi	Univ. of Illinois at Urbana-Champaign
16:29-16:30	ThT31.20
<i>Voltage/frequency Rate Dependent Modeling for Nano-Robotic Systems Based on Piezoelectric Stick-Slip Actuators</i> , pp. 5297-5303.	
Boudaoud, Mokrane	Univ. Pierre Et Marie Curie
Liang, Shuai	Pierre and Marie Curie Univ. the Inst. for Intelligent
Lu, Tianming	Univ. Pierre Et Marie Curie
Oubellil, Raouia	GIPSA Lab
Régnier, Stéphane	Univ. Pierre Et Marie Curie
16:30-16:31	ThT31.21
<i>Encoding Human Actions with a Frequency Domain Approach</i> , pp. 5304-5311.	
Shah, Dharmil	Tech. Univ. of Munich
Falco, Pietro	Tech. Univ. of Munich
Saveriano, Matteo	Tech. Univ. of Munich
Lee, Dongheui	Tech. Univ. of Munich
16:31-16:32	ThT31.22
<i>Affordance-Based Active Belief: Recognition Using Visual and Manual Actions</i> , pp. 5312-5317.	
Ruiken, Dirk	Univ. of Massachusetts
Wong, Jay Ming	Univ. of Massachusetts Amherst
Liu, Tiffany Q.	Univ. of Massachusetts Amherst
Hebert, Mitchell	Univ. of Massachusetts Amherst
Takahashi, Takeshi	Univ. of Massachusetts, Amherst
Lanighan, Michael	Univ. of Massachusetts Amherst
Gruppen, Rod	Univ. of Massachusetts
16:32-16:33	ThT31.23
<i>Automated Pick-Up of Carbon Nanotubes Inside a Scanning Electron Microscope</i> , pp. 5318-5323.	
Guo, Yana	Beijing Inst. of Tech
Shi, Qing	Beijing Inst. of Tech
Yang, Zhan	Soochow Univ
Wang, Huaping	Beijing Inst. of Tech
Yu, Ning	Beijing Inst. of Tech

Lining, Sun
Huang, Qiang
Fukuda, Toshio

Harbin Inst. of Tech
Beijing Inst. of Tech
Meijo Univ

ThT32		#112
Robot Control and Planning (Teaser Session)		
Chair: Dolan, John M.		Carnegie Mellon Univ
Co-Chair: De Stefano, Marco		DLR - German Aerospace Center
16:10-16:11		ThT32.1
<i>A Reactive Stepping Algorithm Based on Preview Controller with Observer for Biped Robots</i> , pp. 5324-5331.		
Urbann, Oliver		TU Dortmund Univ
Hofmann, Matthias		Robotics Res. Inst. TU Dortmund Univ
16:11-16:12		ThT32.2
<i>Continuous-Time Trajectory Optimization for Online UAV Replanning</i> , pp. 5332-5339.		
Oleynikova, Helen		ETH Zürich
Burri, Michael		ETH Zuerich
Taylor, Zachary Jeremy		Univ. of Sydney, Australian Centre for Field Robotics
Nieto, Juan		ETH Zürich
Siegwart, Roland		ETH Zurich
Galceran, Enric		ETH Zurich
16:12-16:13		ThT32.3
<i>Planning and Control of Biped Robots with Upper Body</i> , pp. 5340-5346.		
Luo, Xiang		Southeast Univ
Xia, Dan		Southeast Univ
Zhu, Chi		Maebashi Inst. of Tech
16:13-16:14		ThT32.4
<i>Distributed Deformable Configuration Control for Multi-Robot Systems</i> , pp. 5347-5354.		
Lee, Seoung Kyou		The Univ. of Texas Health Science Center at Houston
McLurkin, James		Rice Univ
Shin, Dongsuk		The Univ. of Texas Health Medical School at Houston
Jang, Taeho		Univ. of Texas Health Science Center at Houston
Kim, Daniel		The Univ. of Texas Health Medical School at Houston
16:14-16:15		ThT32.5
<i>Learning Cooperative Primitives with Physical Human-Robot Interaction for a Human-Powered Lower Exoskeleton</i> , pp. 5355-5360.		
Huang, Rui		Univ. of Electronic Science and Tech. of China
Cheng, Hong		Univ. of Electronic Science and Tech
Guo, Hongliang		Nanyang Tech. Univ
Lin, Xichuan		Univ. of Electronic Science and Tech. of China
Chen, Qiming		Univ. of Electronic Science and Tech. of China
Sun, Fuchun		Tsinghua Univ
16:15-16:16		ThT32.6
<i>Trajectory Tracking Control of an Omnidirectional Mobile Robot with Friction Compensation</i> , pp. 5361-5366.		
Ren, Chao		Tianjin Univ
Ma, Shugen		Tianjin Univ
16:16-16:17		ThT32.7
<i>Robust Impedance Control with Applications to a Series-Elastic Actuated System</i> , pp. 5367-5372.		
Haninger, Kevin		UC Berkeley
Lu, Junkai		Univ. of California, Berkeley
Tomizuka, Masayoshi		Univ. of California
16:17-16:18		ThT32.8
<i>Robust Dynamic Walking Using Online Foot Step Optimization</i> , pp. 5373-5378.		
Feng, Siyuan		Carnegie Mellon Univ
Xinjilefu, X		Carnegie Mellon Univ
Atkeson, Christopher		CMU

Kim, Joohyung	Disney Res
16:18-16:19	ThT32.9
<i>Dynamic Surface Control-Based Stabilization of an Nth Chained Systems with Application to a Car-Like Robot</i> , pp. 5379-5384.	
Tchenderli-Braham, Smain Azzeddine	Centre for Development of Advanced Tech. (CDTA)
16:19-16:20	ThT32.10
<i>Disturbance Compensation and Step Optimization for Push Recovery</i> , pp. 5385-5390.	
Griffin, Robert J.	Virginia Tech
Leonessa, Alexander	Virginia Tech
Asbeck, Alan	Virginia Tech
16:20-16:21	ThT32.11
<i>Analytical Investigation of the Stabilizing Function of the Musculoskeletal System Using Lyapunov Stability Criteria and Its Robotic Applications</i> , pp. 5391-5398.	
Chang, Handdeut	KAIST
Kim, Sangjoon J.	KAIST
Kim, Jung	KAIST
16:21-16:22	ThT32.12
<i>Mixed-Integer Programming for Automatic Walking Step Duration</i> , pp. 5399-5404.	
Maximo, Marcos Ricardo Omena de Albuquerque	Aeronautics Inst. of Tech
Ribeiro, Carlos Henrique Costa	Tech. Inst. of Aeronautics
Afonso, Rubens	Aeronautics Inst. of Tech
16:22-16:23	ThT32.13
<i>Stabilization of a Compliant Humanoid Robot Using Only Inertial Measurement Units with a Viscoelastic Reaction Mass Pendulum Model</i> , pp. 5405-5410.	
Mifsud, Alexis	LAAS-CNRS
Benallegue, Mehdi	Laas / Cnrs
Lamiroux, Florent	CNRS
16:23-16:24	ThT32.14
<i>Using Language Models to Generate Whole-Body Multi-Contact Motions</i> , pp. 5411-5418.	
Mandery, Christian	Karlsruhe Inst. of Tech. (KIT)
Borras Sol, Julia	Karlsruhe Inst. of Tech
Jöchner, Mirjam	Karlsruhe Inst. of Tech. (KIT)
Asfour, Tamim	Karlsruhe Inst. of Tech. (KIT)
16:24-16:25	ThT32.15
<i>An Optimized Passivity-Based Method for Simulating Satellite Dynamics on a Position Controlled Robot in Presence of Latencies</i> , pp. 5419-5426.	
De Stefano, Marco	DLR - German Aerospace Center
Artigas, Jordi	DLR - German Aerospace Center
Secchi, Cristian	Univ. of Modena & Reggio Emilia
16:25-16:26	ThT32.16
<i>Preliminary Experiments with a Unified Controller for a Powered Knee-Ankle Prosthetic Leg across Walking Speeds</i> , pp. 5427-5433.	
Quintero, David	Univ. of Texas at Dallas
Villarreal, Dario J.	Univ. of Texas at Dallas
Gregg, Robert D.	Univ. of Texas at Dallas
16:26-16:27	ThT32.17
<i>Low Complex Sensor-Based Shared Control for Power Wheelchair Navigation</i> , pp. 5434-5439.	
Devigne, Louise	IRISA UMR CNRS 6074 - INRIA - INSA Rennes - Rehabilitation Cente
K. Narayanan, Vishnu	Inria Rennes, INSA Rennes
Pasteau, François	INSA Rennes / IRISA Lagadic Team / IETR
Babel, Marie	IRISA UMR CNRS 6074 - INRIA - INSA Rennes
16:27-16:28	ThT32.18
<i>Coordination of Monopedal SLIP Models towards Quadrupedal Running</i> , pp. 5440-5445.	
Shahbazi Aghbelagh, Mohammad	Delft Univ. of Tech
Lopes, Gabriel	Delft Univ. of Tech

16:28-16:29	ThT32.19
<i>Identification of Fully Physical Consistent Inertial Parameters Using Optimization on Manifolds</i> , pp. 5446-5451.	
Traversaro, Silvio	Istituto Italiano Di Tecnologia
Brossette, Stanislas	Cnrs-Um2 Lirmm, Cnrs-Aist Jrl Umi3218/crt
Escande, Adrien	Cnrs-Aist Jrl Umi3218/rl
Nori, Francesco	Istituto Italiano Di Tecnologia
16:29-16:30	ThT32.20
<i>Heel and Toe Lifting Walk Controller for Resource Constrained Humanoid Robots</i> , pp. 5452-5458.	
Yi, Seung-Joon	Naver Labs
Lee, Daniel D.	Univ. of Pennsylvania
16:30-16:31	ThT32.21
<i>Smooth Trajectory Generation on SE(3) for a Free Flying Space Robot</i> , pp. 5459-5466.	
Watterson, Michael	Univ. of Pennsylvania
Smith, Trey	NASA Ames Res. Center
Kumar, Vijay	Univ. of Pennsylvania
16:31-16:32	ThT32.22
<i>Humanoid Manipulation Planning Using Backward-Forward Search</i> , pp. 5467-5473.	
Grey, Michael	Georgia Inst. of Tech
Garrett, Caelan	Massachusetts Inst. of Tech
Liu, Karen	Georgia Tech
Ames, Aaron	Georgia Inst. of Tech
Thomaz, Andrea Lockerd	Univ. of Texas at Austin
16:32-16:33	ThT32.23
<i>Automated Motion-Based Tactical Maneuver Discovery, Reasoning and Trajectory Planning for Autonomous Driving</i> , pp. 5474-5480.	
Gu, Tianyu	Carnegie Mellon Univ
Dolan, John M.	Carnegie Mellon Univ
Lee, Jin-Woo	General Motors R&D
16:33-16:34	ThT32.24
<i>Coordinate Change Dynamic Movement Primitives - a Leader-Follower Approach</i> , pp. 5481-5488.	
Zhou, You	Karlsruhe Inst. of Tech. (KIT)
Do, Martin	Karlsruhe Inst. of Tech. (KIT)
Asfour, Tamim	Karlsruhe Inst. of Tech. (KIT)
16:34-16:35	ThT32.25
<i>Dynamically Feasible and Safe Shape Transitions for Teams of Aerial Robots</i> , pp. 5489-5494.	
Desai, Arjav	Robotics Inst. Carnegie Mellon Univ
Cappo, Ellen	Carnegie Mellon Univ
Michael, Nathan	Carnegie Mellon Univ
ThCT1	#101
Soft Robots (Regular session)	
Chair: Lessard, Steven	Univ. of California, Santa Cruz
Co-Chair: Suzumori, Koichi	Tokyo Inst. of Tech
16:40-16:55	ThCT1.1
<i>Discrete Cosserat Approach for Soft Robot Dynamics: A New Piece-Wise Constant Strain Model with Torsion and Shears</i> , pp. 5495-5502.	
Renda, Federico	Khalifa Univ
Cacucciolo, Vito	Scuola Superiore Sant'Anna
Dias, Jorge	Univ. of Coimbra
Seneviratne, Lakmal	L. D. Seneviratne Is with Kings Coll. London, UK, and Robotics
16:55-17:10	ThCT1.2
<i>Proposal of Flexible Robotic Arm with Thin McKibben Actuators Mimicking Octopus Arm Structure</i> , pp. 5503-5508.	
Doi, Toshiyuki	Okayama Univ
Wakimoto, Shuichi	Okayama Univ
Suzumori, Koichi	Tokyo Inst. of Tech

Mori, Kazuya	Okayama Univ
17:10-17:25	ThCT1.3
<i>Kinematic Modeling and Observer Based Control of Soft Robot Using Real-Time Finite Element Method</i> , pp. 5509-5514.	
Zhang, Zhongkai	INRIA, Univ. of Lille, France
Dequidt, Jeremie	Lab. D'informatique Fondamentale De Lille
Kruszewski, Alexandre	Ec. Centrale De Lille
Largilliere, Frederick	Univ. of Lille
Duriez, Christian	INRIA
17:25-17:40	ThCT1.4
<i>A Bio-Inspired Tensegrity Manipulator with Multi-DOF, Structurally Compliant Joints</i> , pp. 5515-5520.	
Lessard, Steven	Univ. of California, Santa Cruz
Castro, Dennis	Univ. of California Santa Cruz
Asper, William	Univ. of California Santa Cruz
Chopra, Shaurya Deep	Univ. of California, Santa Cruz
Baltaxe-Admony, Leya Breanna	Univ. of California Santa Cruz
Teodorescu, Mircea	UCSC
SunSpiral, Vytas	SGT Inc. / NASA Ames Res. Center
Agogino, Adrian	UC Santa Cruz, NASA Ames Res. Center
ThCT2	#102
Visual Servoing 2 (Regular session)	
Chair: Yang, Liangjing	Singapore Univ. of Tech. and Design
Co-Chair: Hashimoto, Koichi	Tohoku Univ
16:40-16:55	ThCT2.1
<i>Adaptive 3D Pose Computation of Suturing Needle Using Constraints from Static Monocular Image Feedback</i> , pp. 5521-5526.	
Zhong, Fangxun	The Chinese Univ. of Hong Kong
Navarro-Alarcon, David	The Chinese Univ. of Hong Kong
Wang, Zerui	The Chinese Univ. of Hong Kong
Liu, Yunhui	Chinese Univ. of Hong Kong
Zhang, Tianxue	THE CHINESE Univ. OF HONGKONG
Yip, Hiu Man	The Chinese Univ. of Hong Kong
Wang, Hesheng	Shanghai Jiao Tong Univ
16:55-17:10	ThCT2.2
<i>Towards Automatic Robot Assisted Microscopy: An Uncalibrated Approach for Robotic Vision Guided Micromanipulation</i> , pp. 5527-5532.	
Yang, Liangjing	Singapore Univ. of Tech. and Design
Youcef-Toumi, Kamal	Massachusetts Inst. of Tech
Tan, U-Xuan	Singapore Univ. of Tech. and Design
17:10-17:25	ThCT2.3
<i>Distance Metrics and Algorithms for Task Space Path Optimization</i> , pp. 5533-5540.	
Holladay, Rachel	Carnegie Mellon Univ
Srinivasa, Siddhartha	Carnegie Mellon Univ
17:25-17:40	ThCT2.4
<i>Optimal Visual Servoing for Differentially Flat Underactuated Systems</i> , pp. 5541-5548.	
Sheckells, Matthew	Johns Hopkins Univ
Garimella, Gowtham	Johns Hopkins Univ
Kobilarov, Marin	Johns Hopkins Univ
17:40-17:55	ThCT2.5
<i>Model-Based Virtual Visual Servoing with Point Cloud Data</i> , pp. 5549-5555.	
Kingkan, Cherdasak	Tohoku Univ
Ito, Shogo	Tohoku Univ
Arai, Shogo	Tohoku Univ
Nammoto, Takashi	Tohoku Univ
Hashimoto, Koichi	Tohoku Univ

ThCT3		#103
Force and Tactile Sensing (Regular session)		
Chair: Hirai, Shinichi		Ritsumeikan Univ
Co-Chair: Choi, Youngjin		Hanyang Univ
16:40-16:55		ThCT3.1
<i>A Soft Three Axis Force Sensor Useful for Robot Grippers</i> , pp. 5556-5563.		
Chaturanga, Damith Suresh		Ritsumeikan Univ
Wang, Zhongkui		Ritsumeikan Univ
Noh, Yohan		King's Coll. London
Nanayakkara, Thrishantha		King's Coll. London
Hirai, Shinichi		Ritsumeikan Univ
16:55-17:10		ThCT3.2
<i>Designing a Virtual Whole Body Tactile Sensor Suit for a Simulated Humanoid Robot Using Inverse Dynamics</i> , pp. 5564-5571.		
Faraji, Salman		EPFL
Ijspeert, Auke		EPFL
17:10-17:25		ThCT3.3
<i>A Soft Microfabricated Capacitive Sensor for High Dynamic Range Strain Sensing</i> , pp. 5572-5578.		
Shin, Hee-Sup		Univ. of Maryland
Charalambides, Alexi		Univ. of Maryland
Penskiy, Ivan		Univ. of Maryland, Coll. Park
Bergbreiter, Sarah		Univ. of Maryland, Coll. Park
17:25-17:40		ThCT3.4
<i>Distinguishing Sliding from Slipping During Object Pushing</i> , pp. 5579-5584.		
Meier, Martin		Bielefeld Univ
Walck, Guillaume		Bielefeld Univ
Haschke, Robert		Bielefeld Univ
Ritter, Helge Joachim		Bielefeld Univ
17:40-17:55		ThCT3.5
<i>Detection of Multi-Biosignal Using a Quartz Crystal Resonator Based Wide Range Load Sensor with Compact Frequency Counter</i> , pp. 5585-5590.		
Murozaki, Yuichi		Nagoya Univ
Sakuma, Shinya		Nagoya Univ
Arai, Fumihito		Nagoya Univ
ThCT4		#104
Mobile Robots (Regular session)		
Chair: Hasegawa, Yasuhisa		Nagoya Univ
Co-Chair: Indelman, Vadim		Tech. - Israel Inst. of Tech
16:40-16:55		ThCT4.1
<i>Multi-Robot Decentralized Belief Space Planning in Unknown Environments Via Efficient Re-Evaluation of Impacted Paths</i> , pp. 5591-5598.		
Regev, Tal		Tech
Indelman, Vadim		Tech. - Israel Inst. of Tech
16:55-17:10		ThCT4.2
<i>The Role of Morphological Computation of the Goat Hoof in Slip Reduction</i> , pp. 5599-5605.		
Abad Guaman, Sara Adela		King's Coll. London
Sornkarn, Nantachai		King's Coll. London
Nanayakkara, Thrishantha		King's Coll. London
17:10-17:25		ThCT4.3
<i>A Robust Adaptive Control of Mecanum Wheel Mobile Robot: Simulation and Experimental Validation</i> , pp. 5606-5611.		
Alakshendra, Veer		Visvesvaraya National Inst. of Tech
Chiddarwar, Shital		Visvesvaraya National Inst. of Tech. Nagpur
17:25-17:40		ThCT4.4
<i>Quasi-Passive Dynamic Autonomous Control to Enhance Horizontal and Turning Gait Speed Control</i> , pp. 5612-5617.		

Kobayashi, Taisuke	Nagoya Univ
Sekiyama, Kosuke	Nagoya Univ
Hasegawa, Yasuhisa	Nagoya Univ
Aoyama, Tadayoshi	Hiroshima Univ
Fukuda, Toshio	Meijo Univ

17:40-17:55 ThCT4.5

Micro Aerial Projector - Stabilizing Projected Images of an Airborne Robotics Projection Platform, pp. 5618-5625.

Isop, Werner Alexander	Tech. Univ. Graz
Pestana Puerta, Jesus	Univ. Pol. De Madrid
Ermacora, Gabriele	Pol. Di Torino
Fraundorfer, Friedrich	Graz Univ. of Tech
Schmalstieg, Dieter	TU-Graz

ThCT5 #105

UAV-Control (Regular session)

Chair: Carloni, Raffaella	Univ. of Twente
Co-Chair: Kim, H. Jin	Seoul National Univ

16:40-16:55 ThCT5.1

Gust Disturbance Alleviation with Incremental Nonlinear Dynamic Inversion, pp. 5626-5631.

Smeur, Ewoud	TU Delft
de Croon, Guido	TU Delft / ESA
Chu, Qi Ping	Delft Univ. of Tech

16:55-17:10 ThCT5.2

Robust Control of UAVs Using the Parameter Space Approach, pp. 5632-5637.

Abdelmoeti, Samer	Univ. of Twente
Carloni, Raffaella	Univ. of Twente

17:10-17:25 ThCT5.3

Wind Field Estimation and Identification Having Shear Wind and Discrete Gusts Features with a Small UAS, pp. 5638-5644.

Rodriguez Salazar, Leopoldo	Univ. De Sevilla
Cobano, Jose A.	Univ. of Seville
Ollero, Anibal	Univ. of Seville

17:25-17:40 ThCT5.4

Autonomous Flight and Vision-Based Target Tracking for a Flapping-Wing MAV, pp. 5645-5650.

Ryu, Seungwan	Seoul National Univ
Kwon, Ukjin	Seoul National Univ
Kim, H. Jin	Seoul National Univ

17:40-17:55 ThCT5.5

Unscented External Force and Torque Estimation for Quadrotors, pp. 5651-5657.

McKinnon, Christopher	Univ. of Toronto
Schoellig, Angela P.	Univ. of Toronto

ThCT6 #106

Wearable Robots (Regular session)

Chair: Lim, Bokman	Samsung Advanced Inst. of Tech
Co-Chair: Jang, Junwon	Samsung Electronics Co., Ltd

16:40-16:55 ThCT6.1

Assistance Strategy for Stair Ascent with a Robotic Hip Exoskeleton, pp. 5658-5663.

Jang, Junwon	Samsung Electronics Co., Ltd
Kim, Kyungrock	Samsung Advanced Inst. of Tech. (SAIT)
Lee, Jusuk	Samsung Electronics Co., Ltd
Lim, Bokman	Samsung Advanced Inst. of Tech
Shim, Youngbo	Samsung Electronics

16:55-17:10 ThCT6.2

Simulating Gait Assistance of a Hip Exoskeleton: Feasibility Studies for Ankle Muscle Weaknesses, pp. 5664-5669.

Lim, Bokman	Samsung Advanced Inst. of Tech
Hyung, SeungYong	Samsung Electronics Co., Ltd
Kim, Kyungrock	Samsung Advanced Inst. of Tech. (SAIT)
Lee, Jusuk	Samsung Electronics Co., Ltd
Jang, Junwon	Samsung Electronics Co., Ltd
Shim, Youngbo	Samsung Electronics

17:10-17:25 ThCT6.3

Position Control Using Adaptive Backlash Compensation for Bowden Cable Transmission in Soft Wearable Exoskeleton, pp. 5670-5676.

Dinh, Binh Khanh	Nanyang Tech. Univ
Cappello, Leonardo	Istituto Italiano Di Tecnologia
Xiloyannis, Michele	Nanyang Tech. Univ
Masia, Lorenzo	Nanyang Tech. Univ

17:25-17:40 ThCT6.4

Intuitive Prosthetic Control Using Upper Limb Inter-Joint Coordinations and IMU-Based Shoulder Angles Measurement: A Pilot Study, pp. 5677-5682.

Merad, Manelle	Inst. Des Systèmes Intelligents Et De Robotique - Univ
De Montalivet, Etienne	Univ. Pierre Et Marie Curie
Roby-Brami, Agnès	Univ. Pierre Et Marie Curie, Paris 6
Jarrassé, Nathanael	UMR7222, Centre National De La Recherche Scientifique (CNRS)

17:40-17:55 ThCT6.5

Acceleration-Based Transparency Control Framework for Wearable Robots, pp. 5683-5688.

Boaventura, Thiago	ETH Zurich
Buchli, Jonas	ETH Zurich

ThCT7 #107

Robot Control and Planning (Regular session)

Chair: Lee, Wee Sun	National Univ. of Singapore
Co-Chair: Wang, Yuquan	Royal Inst. of Tech. (KTH)

16:40-16:55 ThCT7.1

Reactive Task-Oriented Redundancy Resolution Using Constraint-Based Programming, pp. 5689-5694.

Wang, Yuquan	Royal Inst. of Tech. (KTH)
Wang, Lihui	KTH Royal Inst. of Tech

16:55-17:10 ThCT7.2

Contact-Based Language for Robotic Manipulation Planning, pp. 5695-5700.

Shah, Anuj	Delft Univ. of Tech
Lopes, Gabriel	Delft Univ. of Tech
Najafi, Esmaeil	Delft Univ. of Tech. Univ. of Tehran

17:10-17:25 ThCT7.3

Act to See and See to Act: POMDP Planning for Objects Search in Clutter, pp. 5701-5707.

Li, Jue Kun	National Univ. of Singapore
Hsu, David	National Univ. of Singapore
Lee, Wee Sun	National Univ. of Singapore

17:25-17:40 ThCT7.4

Multi-Contact Planning and Control for a Torque-Controlled Humanoid Robot, pp. 5708-5715.

Werner, Alexander	German Aerospace Center (DLR)
Henze, Bernd	German Aerospace Center (DLR)
Rodriguez, Diego A.	German Aerospace Center (DLR)
Gabaret, Jonathan	German Aerospace Center (DLR)
Porges, Oliver	German Aerospace Center (DLR)
Roa, Maximo A.	German Aerospace Center, DLR

17:40-17:55 ThCT7.5

Motion Planning Using Hierarchical Aggregation of Workspace Obstacles, pp. 5716-5721.

Ghosh, Mukulika	Texas A&M Univ
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Thomas, Shawna
 Morales, Marco
 Rodriguez, Samuel
 Amato, Nancy

Texas A&M Univ
 Inst. Tecnológico Autónomo De México
 Texas A&M Univ
 Texas A&M Univ

ThCT8		#108
Multi-Robot Systems 3 (Regular session)		
Chair: O'Kane, Jason		Univ. of South Carolina
Co-Chair: Sycara, Katia		Carnegie Mellon Univ
16:40-16:55		ThCT8.1
<i>Managing Environment Models in Multi-Robot Teams</i> , pp. 5722-5728.		
Koch, Pierrick		LAAS-CNRS
Lacroix, Simon		LAAS/CNRS
16:55-17:10		ThCT8.2
<i>Checkout My Map: Version Control for Fleetwide Visual Localisation</i> , pp. 5729-5736.		
Gadd, Matthew		Univ. of Oxford
Newman, Paul		Oxford Univ
17:10-17:25		ThCT8.3
<i>Forming Repeating Patterns of Mobile Robots: A Provably Correct Decentralized Algorithm</i> , pp. 5737-5744.		
Song, Yang		Univ. of South Carolina
O'Kane, Jason		Univ. of South Carolina
17:25-17:40		ThCT8.4
<i>Robot Self-Assembly As Adaptive Growth Process: Collective Selection of Seed Position and Self-Organizing Tree-Structures</i> , pp. 5745-5750.		
Divband Soorati, Mohammad		Univ. of Paderborn
Hamann, Heiko		Univ. of Paderborn
17:40-17:55		ThCT8.5
<i>Distributed Knowledge Leader Selection for Multi-Robot Environmental Sampling under Bandwidth Constraints</i> , pp. 5751-5757.		
Luo, Wenhao		Carnegie Mellon Univ
Khatib, Shehzaman Salim		Carnegie Mellon Univ
Nagavalli, Sasanka		Carnegie Mellon Univ
Chakraborty, Nilanjan		Stony Brook Univ
Sycara, Katia		Carnegie Mellon Univ
ThCT9		#204~205
Climbing Robots (Regular session)		
Chair: Hashimoto, Kenji		Waseda Univ
Co-Chair: Liu, Dikai		Univ. of Tech. Sydney
16:40-16:55		ThCT9.1
<i>Design of Wall-Climbing Robot Using Electrically Activated Rotational-Flow Adsorption Unit</i> , pp. 5758-5763.		
Zhou, Qiang		Zhejiang Univ
Li, Xin		Zhejiang Univ
16:55-17:10		ThCT9.2
<i>Design of Spring-Suspended Suction Cup Based on the Air Inflow Change with Inside Negative Pressure</i> , pp. 5764-5769.		
Matsuno, Takahiro		Ritsumeikan
Ma, Shugen		Ritsumeikan Univ
17:10-17:25		ThCT9.3
<i>Exploring in 3D with a Climbing Robot: Selecting the Next Best Base Position on Arbitrarily-Oriented Surfaces</i> , pp. 5770-5775.		
Quin, Phillip		Univ. of Tech. Sydney
Paul, Gavin		Univ. of Tech. Sydney
Alempijevic, Alen		Univ. of Tech. Sydney
Liu, Dikai		Univ. of Tech. Sydney
17:25-17:40		ThCT9.4

Guide Rail Design for a Passive Suction Cup Based Wall-Climbing Robot, pp. 5776-5781.

Ge, Dingxin	Ritsumeikan Univ
Ren, Chao	Tianjin Univ
Ma, Shugen	Tianjin Univ
Matsuno, Takahiro	Ritsumeikan

17:40-17:55

ThCT9.5

Trajectory Generation for Ladder Climbing Motion with Separated Path and Time Planning, pp. 5782-5788.

Sun, Xiao	Waseda Univ
Hashimoto, Kenji	Waseda Univ
Hamamoto, Shinya	Waseda Univ
Koizumi, Ayanori	Waseda Univ
Matsuzawa, Takashi	Waseda Univ
Teramachi, Tomotaka	Waseda Univ
Takanishi, Atsuo	Waseda Univ

ThCT10

#206~208

Humanoid Locomotion (Regular session)

Chair: Tsuji, Toshiaki	Saitama Univ
Co-Chair: Ames, Aaron	Georgia Inst. of Tech

16:40-16:55

ThCT10.1

Real-Time Predictive Kinematic Evaluation and Optimization for Biped Robots, pp. 5789-5796.

Hildebrandt, Arne-Christoph	Tech. Univ. München
Demmeler, Manuel	Tech. Univ. München
Wittmann, Robert	Tech. Univ. München
Wahrmann, Daniel	Tech. Univ. München
Sygulla, Felix	Tech. Univ. of Munich
Rixen, Daniel	Tech. Univ. München
Buschmann, Thomas	Google, Inc

16:55-17:10

ThCT10.2

Tricycle Manipulation Strategy for Humanoid Robot Based on Active and Passive Manipulators Control, pp. 5797-5804.

Kimura, Kohei	The Univ. of Tokyo
Nozawa, Shunichi	The Univ. of Tokyo
Kakiuchi, Yohei	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo

17:10-17:25

ThCT10.3

A Novel Performance Measure for Biped Robots against Bounded Persistent Disturbances, pp. 5805-5812.

Lee, Jongwoo	Korea Inst. of Science and Tech
Kim, Jung Hoon	Korea Inst. of Science and Tech
Oh, Yonghwan	Korea Inst. of Science & Tech. (KIST)

17:25-17:40

ThCT10.4

Force Control of a Jumping Musculoskeletal Robot with Pneumatic Artificial Muscles, pp. 5813-5818.

Kaneko, Takeshi	Saitama Univ
Sekiya, Masashi	Saitama Univ
Ogata, Kunihiro	National Inst. of Advanced Industrial Science and Tech
Sakaino, Sho	Saitama Univ
Tsuji, Toshiaki	Saitama Univ

17:40-17:55

ThCT10.5

Efficient HZD Gait Generation for Three-Dimensional Underactuated Humanoid Running, pp. 5819-5825.

Ma, Wenlong	Georgia Inst. of Tech
Hereid, Ayonga	Georgia Inst. of Tech
Hubicki, Christian	Georgia Inst. of Tech
Ames, Aaron	Georgia Inst. of Tech