

September 1, 2019

Note: This is not part of the SSRR conference program. With this city tour we aim to show you some hidden parts of Würzburg. The main touristic attraction, the UNESCO world heritage is the Würzburg residence, and **is not part** of the tour. It is suggested to take a tour there, before or after the conference. Furthermore, please bring some money for entry fees (around 10 Euro).

14:00	Guide: Dorit Borrmann	Meeting at "Bahnhofsvorplatz" (Square in front of the central train station) at Kiliansbrunnen (fountain) Walk to address: "Röntgenring 8"
14:15		Visit of the "Röntgenmuseum"
14:30		
14:45		
15:00		
15:15		Walk to address: "Dom" - breakpoint at "Juliuspital" - breakpoint at "Marienkapelle" - breakpoint at "Lusamgärtchen"
15:30		Visit Dom and Domschatz
15:45		
16:00		Walk to address: "Rathaus" and visit "Gedenkstätte für die Opfer des Bombenkriegs"
16:15		
16:30		
16:45		Walk to address: "Alte Mainbrücke"
17:00		Walk to address: "Festung Marienberg"
17:15		
17:30		
17:45		
18:00		Visit "Festung Marienberg"

September 2, 2019

07:30	
07:45	
08:00	Registration
08:15	
08:30	Welcome
08:45	Chair: Taro ABE*, Hisashi Date, Tetsushi Kamegawa, Yosuke Suzuki (Japan) Andreas Nüchter "Odometry of a Three-Dimensional Snake-like Robot and its Application"
09:00	32: Han-Pang Chiu*, Mikhail Sizintsev, Abhinav Rajvanshi, Supun Samarasekera (USA) "Multi-Sensor Fusion for Motion Estimation in Visually-Degraded Environments"
09:15	61: Barzin Moridian, Brian Page, Nina Mahmoudian* (USA) "Sample Efficient Reinforcement Learning for Navigation in Complex Environments"
09:30	35: Chengyao Li*, Steven Lake Waslander (Canada) "Visual Measurement Integrity Monitoring for UAV Localization"
09:45	50: Menaka Naazare*, Bernd Brüggemann, Dirk Schulz (Germany) "Simultaneous Exploration and Information Delivery Using Multiple Heterogeneous Robots under Limited Communication"
10:00	Coffee Break
10:15	
10:30	Chair: 1: Yijun Yuan*, Letong Wang, Sören Schwertfeger (China) N. Mahmoudian "Configuration-Space Flipper Planning for Rescue Robots"
10:45	59: Raimund Edlinger* (Austria) "MARC - Modular Autonomous Adaptable Robot Concept"
11:00	9: Xuesu Xiao*, Jan Dufek, Robin Murphy (USA) "Benchmarking Tether-Based UAV Motion Primitives"
11:15	55: Hayato Hagiwara*, Yoshiaki Yamazaki (Japan) "Autonomous Valve Operation by a Manipulator Using a Monocular Camera and a Single Shot Multibox Detector"
11:30	12: Tomoki Sakaue*, Takahisa Ono, Reo Koketsu, Hiroyuki Nakagawa, Takafumi Teshima, Shinichiro Nakajima (Japan) "Development of Overhead Transmission Lines Inspection Robot Capable of Crossing Steel Towers"
11:45	28: Edward Liam Cooke, Peter Green*, Andrew Weightman (United Kingdom) "The Design of UnderGRND: Underwater Gliders - Remote Sensing for Nuclear Decommissioning"
12:00	
12:15	Lunch
12:30	
12:45	
13:00	
13:15	Invited Talk: INESC TEC Autonomous Systems in Safety, Security and SAR Missions Scenarios (Eduardo Alexandre Pereira da Silva)
13:30	
13:45	
14:00	Chair: 36: Hiroyuki Nishinoma*, Chayapol Beokhaimook, Kazunori Ohno, Ayumi Shinohara, Satoshi Tadokoro (Japan) Chris Reardon "Development of a Lightweight Cyber-Enhanced Rescue Canine Suit with Heat Protection and Anti-Slip Countermeasures"
14:15	22: Anas Abou Allaban*, Velin Dimitrov, Taskin Padir (USA) "A Blended Human-Robot Shared Control Framework to Handle Drift and Latency"
14:30	40: Tori Shimizu*, Sosuke Hayashi, Toshiki Midorikawa, Takumi Fujikawa, Eri Takane, Masahiro Watanabe, et al. (Japan) "Small Swarm Search Robot System with Rigid-Bone Parachute Rapidly Deployable from Aerial Vehicles"
14:45	11: Christopher M. Reardon*, Kevin Lee, John G. Rogers III, Jonathan Fink (USA) "Communicating Via Augmented Reality for Human-Robot Teaming in Field Environments"
15:00	Coffee Break
15:15	
15:30	Chair: Poster Spotlight Talks (each 3 minutes) Stefan May 27: Alberto Viseras*, Juan Marchal, Marius Schaab, Jordi Pages, Laia Estivill (Germany) "Wildfire Monitoring and Hotspots Detection with Aerial Robots: Measurement Campaign and First Results"
15:45	73: Michał Pelka, Karol Majek, Janusz Będkowski (Poland) "Testing the affordable system for digitizing USAR scenes"
	26: Ayaka Watanabe*, Hiroyasu Miura, Masayuki Okugawa (Japan) "Verification of Scenario for Robot-Assisted Fire-Fighting and Rescue Operations"
	68: Javier Alfredo Hilario Poma*, Christian Isaac Penalzoza, Hernandez-Carmona David, Jose Balbuena, et al. (Peru) "Late Breaking Report - Development of a Mobile Robot for Industrial Plants Inspections Using computer Vision"
	71: Michał Pelka, Karol Majek*, Jakub Ratajczak, Janusz Będkowski, Andrzej Maslowski (Poland) "Study of Multi-Sensor Fusion for Localization"
	42: Yu-Chung Tsai, BING-XIAN LU, Kuo-Shih Tseng* (Taiwan) "Spatial Search Via Adaptive Submodularity and Deep Learning"
	48: Matthew Haire*, Xu Xu, Lyuba Alboul, Jacques Penders, Hongwei Zhang (United Kingdom) "Ship Hull Inspection Using a Swarm of Autonomous Underwater Robots: A Search Algorithm"
	38: Odair Fernandes*, Robin Murphy, David Merrick, Justin Adams, Laura Hart, Jarrett Broder (USA) "Quantitative Data Analysis: Small Unmanned Aerial Systems at Hurricane Michael"
	58: Philipp Koch* (Germany) "Signed Distance Based Reconstruction for Exploration and Change Detection in Underground Mining Disaster Prevention"
16:00	Lab Tour – Part 1 (Aerospace Information Technology)
16:15	or
16:30	Lab Tour – Part 2 (Center for Telematics)
16:45	
17:00	Lab Tour – Part 2 (Center for Telematics)
17:15	or
17:30	Lab Tour – Part 1 (Aerospace Information Technology)
17:45	
18:00	
18:15	
18:30	Poster Session / Robot Demonstrations / Welcome Reception (Robotics Hall – Robotics and Telematics)
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21:00	

September 3, 2019

08:00	Registration	
08:15		
08:30	Chair: G. Loianno	45: Marina Moreira*, Endre Aladar Papp, Rodrigo Ventura (Portugal) "Interception of Non-Cooperative UAVs"
08:45		25: Julian Rothe*, Michael Strohmeier, Sergio Montenegro (Germany) "A Concept for Catching Drones with a Net Carried by Cooperative UAVs"
09:00		39: Jan Dufek*, Seydou Traore, Charles Swanson, Guy Fipps, Robin Murphy (USA) "Preventing Irrigation Canal Breaches Using Small Unmanned Aerial System with Multispectral Payload"
09:15		49: Menaka Naazare*, Diego Ramos, Wildt Joerg, Dirk Schulz (Germany) "Application of Graph-Based Path Planning for UAVs to Avoid Restricted Areas"
09:30		63: Helge Lauterbach*, Claus Bertram Koch, Robin Hess, Daniel Eck, Klaus Schilling, Andreas Nuechter (Germany) "The Eins3D Project – Instantaneous UAV-Based 3D Mapping for Search and Rescue Applications"
09:45		29: Philipp Wolf*, Robin Hess, Klaus Schilling (Germany) "Path Planning for Multiple UAVs Covering Disjoint Non-Convex Areas"
10:00	Coffee Break	
10:15		
10:30		
10:45	Invited Talk: Aerial Robotics technologies and applications: from long range exploration to local intervention (Anibal Ollero)	
11:00		
11:15		
11:30	Chair: Dorit Borrmann	16: Nils Mandischer*, Sami Charaf Eddine, Mathias Hüsing, Burkhard Corves (Germany) "Bots2ReC: Radar Localization in Low Visibility Indoor Environments"
11:45		8: Thomas Emter*, Janko Petereit (Germany) "Simultaneous Localization and Mapping for Exploration with Stochastic Cloning EKF"
12:00		33: Asem Khattab, Ramy Abdelmonem Mohamed Rashad*, Johan B. C. Engelen, Stefano Stramigioli (Netherlands) "Bayesian-Optimized Impedance Control of an Aerial Robot for Safe Physical Interaction with the Environment"
12:15		66: Takumi Fujikawa*, Yu Yamauchi, Yuichi Ambe, Masashi Konyo, Kenjiro Tadakuma, Satoshi Tadokoro (Japan) "Development of Practical Air-Floating-Type Active Scope Camera and User Evaluations for Urban Search and Rescue"
12:30	Lunch	
12:45		
13:00		
13:15		
13:30	Chair: Jorge Dias	65: Jeffrey Twigg*, Fikadu Dagefu, Nikhil Chopra, Brian Sadler (USA) "Robotic Parasitic Array Optimization in Outdoor Environments"
13:45		74: Dinesh Thakur*, Giuseppe Loianno, Laura Lipschitz, Alex Zhou (USA) "Autonomous Inspection of a Primary Containment Vessel Test Fixture Using a Micro Aerial Vehicle"
14:00	Travel to SFSW	
14:15		
14:30		
14:45		
15:00	Site Visit and Coffee Break	
15:15		
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16:00		
16:15	Invited Talk – Rescue Robots in Amatrice/Italy and at the town archive Cologne/Germany (Hartmut Surmann)	
16:30		
16:45		
17:00		
17:15	Walk to Conference Dinner	
17:30		
17:45		
18:00		
18:15		
18:30	Conference Dinner	
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21:00		

September 4, 2019

08:00	Registration	
08:15		
08:30	Chair: Dr. Hauke Speth	23: Hartmut Surmann*, Rainer Worst, Tim Buschmann, Artur Leinweber, Alexander Schmitz, et al. (Germany) "Integration of UAVs in Urban Search and Rescue Missions"
08:45		57: Marius Schnaubelt*, Stefan Kohlbrecher, Oskar von Stryk (Germany) "Autonomous Assistance for Versatile Grasping with Rescue Robots"
09:00		37: Christian Willms, Constantin Houy, Jana-Rebecca Rehse, Peter Fettke, Ivana Kruijff-Korbayova* (Germany) "Team Communication Processing and Process Analytics for Supporting Robot-Assisted Emergency Response"
09:15		60: Kevin Daun*, Stefan Kohlbrecher, Jürgen Sturm, Oskar von Stryk (Germany) "Large Scale 2D Laser SLAM using Truncated Signed Distance Functions "
09:30		41: Philipp Gorczak*, Caner Bektas, Fabian Kurtz, Thomas Lübcke, Christian Wiefeld (Germany) "Robust Cellular Communications for Unmanned Aerial Vehicles in Maritime Search and Rescue"
09:45		62: Radu Alexandru Rosu*, Jan Quenzel, Sven Behnke (Germany) "Reconstruction of Textured Meshes for Fire and Heat Source Detection"
10:00	Coffee Break	
10:15		
10:30		
10:45	Invited Talk: Exploration and mapping by mixed human-robot teams (Henrik Christensen)	
11:00		
11:15		
11:30	Chair: Geert de Cubber	51: Thomas Wiemann*, Felix Igelbrink, Sebastian Pütz, Malte Kleine Piening, Steffen Schupp, et al. (Germany) "Compressing ROS Sensor and Geometry Messages with Draco "
11:45		15: Janko Petereit*, Jürgen Beyerer, Tamim Asfour, Sascha Gentes, Björn Hein, Uwe D. Hanebeck, et al. (Germany) "ROBDEKON: Robotic Systems for Decontamination in Hazardous Environments"
12:00		24: Aneta Czetina, Michael Hofstaetter, Schraml Stephan*, Michael Hubner, Philipp Sulzer, Dieter Rothbacher, et al. (Austria) "Robot Assisted Analysis of Suspicious Objects in Public Spaces Using CBRN Sensors in Combination with Hres LIDAR"
12:15		6: Haris Balta, Jasmin Velagić*, Geert De Cubber, Bruno Siciliano (Bosnia and Herzegovina) "Semi-Automated 3D Registration for Heterogeneous Unmanned Robots Based on Scale Invariant Method"
12:30	Lunch	
12:45		
13:00		
13:15		
13:30	Chair: S. Schwertfeger	67: Jason M. Gregory*, Sarah Al-Hussaini, Satyandra K. Gupta (USA) "Heuristics-Based Multi-Agent Task Allocation for Resilient Operations"
13:45		10: Xuesu Xiao*, Jan Dufek, Robin Murphy (USA) "Explicit Motion Risk Representation"
14:00		30: Giancarlo Santamato*, Domenico Chiaradia, Massimiliano Solazzi, Antonio Frisoli (Italy) "A Lightweight Robotic Device for the Inspection of Railway Pantograph"
14:15		47: Xiaoling Long*, Sören Schwertfeger (China) "Path Planning Tolerant to Degraded Locomotion Conditions"
14:30		34: Nicholas Harris*, Siming Liu, Sushil Louis, Hung La (USA) "Optimizing Routes for Safe Robot-Automated Bridge Inspection"
14:45		52: Andres Flores*, Danny Scipion, Carlos Saito, Joab Apaza, Marco Milla (Peru) "Unmanned Aircraft System for Andean Volcano Monitoring and Surveillance"
15:00	Coffee Break	
15:15		
15:30	Chair: Jorge Dias	14: Nagahiro Fujiwara, Kohei Shimasaki, Mingjun Jiang, Takeshi Takaki, Idaku Ishii* (Japan) "A Real-Time Drone Surveillance System Using Pixel-Level Short-Time Fourier Transform"
15:45		72: Michael Stradner, Gerald Steinbauer* (Austria) "Lifting Robot Exploration to 3D Environments"
16:00		Best Paper Award Announcement: SSRR 2020