

# **52nd International Symposium on Robotics (ISR 2020)**

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Germany  
9 - 10 December 2020

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**Prof. Dr. Alin Albu-Schäffer "Service Robotics: From Space to Industrial Manufacturing and Healthcare"**

Room 1

Chair: Alexander Verl (Stuttgart University, Institute for Control Engineering of Machine Tools, Germany)

**Wednesday, December 9 10:50 - 11:10**

**Coffee Break & Networking**

Room: General

**Poster Session**

Room 3

10:50 [\*Quasi-static loaded circular testing of serial articulated industrial manipulators\*](#)

Monica Gonzalez, Arian Hosseini, Nikolas Alexander Theissen and Andreas Archenti (KTH Royal Institute of Technology, Sweden)...1

**Wednesday, December 9 11:45 - 12:45**

**Lunch Break**

Room: General

**Wednesday, December 9 12:45 - 13:45**

**Industrial Robots**

Room 1

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Jonas Christoph Wittmann, Jonis Kiesbye, Daniel Rixen and Ulrich Walter (Technical University of Munich, Germany)...7

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13:25 [\*Operation and experimental evaluation of a 12-axis robot-based setup used for 3D-printing\*](#)

Zsolt Kállai and Maik Dammann (Hamburg University of Technology, Germany); Thorsten Schüppstuhl (Technische Universität Hamburg-Harburg, Germany)...

**Mobile Robotics**

Room 2

Chair: Birgit Graf (Fraunhofer IPA, Germany)

12:45 [\*Traveling Drinksman\*](#)

Michele Persiani (Umeå University, Sweden); Cagatay Odabasi and Florenz Graf (Fraunhofer IPA, Germany); Mohit Kalra (University of Stuttgart & Fraunhofer IPA, Germany); Thomas Hellström (Umeå University, Sweden); Birgit Graf (Fraunhofer IPA, Germany)...31

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**Carl Doeksen "3M's Automation Journey: Driving Growth & Productivity for our customers"**

Room 1

Chair: Alexander Verl (Stuttgart University, Institute for Control Engineering of Machine Tools, Germany)

### **Wednesday, December 9 14:25 - 14:45**

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Room: General

#### **Poster Session**

Room 3

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Room 1

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Room 1

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- 15:45 *A New Compliant Leg for the Humanoid Robot Forrest*  
Hongxi Zhu and Ulrike Thomas (Chemnitz University of Technology, Germany)...N/A
- 16:05 *A New Low Cost Three-Finger Gripper with Hybrid Control for Soft Touch Behaviour*  
Julian Bonse and Ulrike Thomas (Chemnitz University of Technology, Germany)...N/A
- 16:25 *[Design of Compact Omnidirectional Wheel Modules with Internal Differential Kinematics](#)*  
Theo Jacobs and Erik Schäfer (Fraunhofer IPA, Germany)...64
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Jean-Paul Goppold, Jan Kuschan and Henning Schmidt (Fraunhofer IPK, Germany); Mirko Wolschke and Jana Liebich (Reha-Zentrum Lübben, Germany); Jörg Krüger (Fraunhofer IPK, Germany); Roman Hackbart (Würth Electronics, Germany); Jan Kostelnik (Würth Elektronik GmbH, Germany); Gregor Thiele (Fraunhofer Gesellschaft, Germany)...107
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### **Collaborative Robots**

Room 1

Chair: Alexander Verl (Stuttgart University, Institute for Control Engineering of Machine Tools, Germany)

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Ana Isabel Barros Cunha (University of Minho & Center for Computer Graphics, Portugal); Flora Ferreira (Center of Mathematics, University of Minho, Portugal); Emanuel Sousa (Center for Computer Graphics, University of Minho, Portugal); Luís Louro, Paulo Vicente, Sérgio Monteiro, Wolfram Erlhagen and Estela Bicho (University of Minho, Portugal)...141

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Timo Jens Bachmann (German Aerospace Center (DLR), Germany); Korbinian Nottensteiner (German Aerospace Center (DLR), Institute for Robotics and Mechatronics, Germany); Ismael Rodriguez Brena (Deutsches Zentrum für Luft- und Raumfahrt e. V., Germany); Andreas Stemmer and Maximo Roa (DLR, Germany)...161

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**Prof. Dr. Carme Torras Genís "Assistive Robotics: AI Challenges and Ethics Education based on Science Fiction"**

Room 1

Chair: Alexander Verl (Stuttgart University, Institute for Control Engineering of Machine Tools, Germany)

### **Thursday, December 10 12:20 - 13:20**

## **Lunch Break**

Room: General

### **Thursday, December 10 13:20 - 13:40**

**IERA Award Ceremony**

Room 1

### **Thursday, December 10 13:40 - 14:20**

**Dr. Andrew A. Goldenberg "Bridging Between AI and Robotics for Business and Product Development"**

Room 1

Chair: Alexander Verl (Stuttgart University, Institute for Control Engineering of Machine Tools, Germany)

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Room 1

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Room 4

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Room: General

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Room 1

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