

Session 6: Medical Systems

11:30 - 12:00

Medical Robots Toward Noninvasive Surgery

Dong Soo Kwon, *Korean Advanced Institute of Science and Technology (KAIST)*

12:00 - 12:30

Biomedical Micro/Nano Robotics in Different Approaches

Jong-oh Park, *Chonnam National University*

12:30 - 12:50

Experiences and Perspectives in the Field of Human-Centered and “Soft” Robotics

Alin Albu-Schäffer, *German Aerospace Center (DLR)*
Rüdiger Dillmann, *Karlsruhe Institute of Technology (KIT)*

12:50 | Concluding Remarks

Zeungnam Bien, *KAIST*

Gerd Hirzinger, *German Aerospace Center (DLR)*

13:00 | Lunch Break

Labtours (invitees only)

14:00 - 15:45 | Technische Universität München (TUM)

Lehrstuhl für Steuerungs- und Regelungstechnik (LSR) (Institute of Automatic Control Engineering)

Theresienstraße 90, 80333 München

Institute for Cognitive Systems (ICS) & Human Robot Interaction for Automation Systems (HRI)

Karlstraße 45, 80333 München

15:45 - 16:45 | Bus Transfer

16:45 - 18:00 | German Aerospace Center (DLR)

Robotics and Mechatronics Center (RMC)

Münchner Straße 20, 82234 Wessling

18:30 | Dinner

Gasthaus Ruf

Marienplatz 2a, 82229 Seefeld

The **German National Academy of Sciences Leopoldina** brings together the expertise of some 1,500 distinguished scientists to bear on questions of social and political relevance, publishing unbiased and timely scientific opinions. The Leopoldina represents the German scientific community in international committees and pursues the advancement of science for the benefit of humankind and for a better future.

The **Korean Academy of Science and Technology (KAST)**



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Venue

Technische Universität München (TUM)

Vorhoelzer Forum

Arcisstraße 21, 80333 München, Germany

Human-Centered Assistive Robotics

Joint Academies' Workshop of the
German National Academy of Sciences Leopoldina and
the Korean Academy of Science and Technology (KAST)

27 - 28 October 2014

Technische Universität München (TUM) · Vorhoelzer Forum

The organizers Leopoldina and KAST kindly thank
Technische Universität München (TUM) for hosting the workshop.



Technische Universität München



Programme

Monday, 27 October 2014

8:45 - 9:00 | Registration

9:00 - 9:30 | Welcome Addresses and Introductions

Welcome Addresses

Wolfgang A. Herrmann, *President of Technische Universität München (TUM)*

Sung Hyun Park, *President of the Korean Academy of Science and Technology (KAST)*

Jörg Hacker, *President of Leopoldina*

Introductions

Zeungnam Bien, *Korean Advanced Institute of Science and Technology (KAIST)*

Gerd Hirzinger, *German Aerospace Center (DLR)*

Session 1: Safe Human Robot Interaction

9:30 - 10:00

Development of New Concept Robot Arms for Human-Robot Cooperation

Jae-Bok Song, *Korea University*

10:00 - 10:30

Robots for Humans: A Perspective from Safe and Intuitively Programmable Assistance Robots

Sami Haddadin, *Leibniz Universität Hannover*

10:30 - 11:00

Realising Close Contact Interactions in Human-Centered Assistive Robotics

Gordon Cheng, *Technische Universität München (TUM)*

11:00 | Group Photo

11:10 | Coffee Break

Session 2: Learning Systems

11:30 - 12.00

Autonomous Learning Assistive Robots Through Interaction

Dongheui Lee, *Technische Universität München (TUM)*

12:00 - 12.30

Teaching and Learning in Human-Centered Robotics

Stefan Schaal, *Max Planck Institute for Intelligent Systems, Tübingen*

12:30 - 13.00

Machine Learning in Assistive Robotics

Patrick van der Smagt, *Technische Universität München (TUM)*

13:00 | Lunch Break

Session 3: HomeMates and Elderly Care Robots

14:00 - 14.30

Service Robots to Support Care Personnel and People in Need of Care

Birgit Graf, *Fraunhofer Institute for Manufacturing Engineering and Automation (IPA), Stuttgart*

14:30 - 15.00

Realization of Human-friendly Assistive Robotic Systems for Smart Home Environment

Zeungnam Bien, *KAIST*

15:00 - 15.30

Robotic Agents Performing Human-Scale Everyday Manipulation Tasks - In the Knowledge Lies the Power

Michael Beetz, *University of Bremen*

15:30 - 16.00

HomeMate: an Elderly-Care Robot with Visually Guided Errand and Interaction Services

Sukhan Lee, *Sung Kyun Kwan University (SKKU)*

16:00 | Coffee Break

Session 4: Perception and Planning Aspects

16:30 - 17.00

Perception and Planning for Cognitive Service Robots

Sven Behnke, *University of Bonn*

17:00 - 17.30

Beyond Classical Planning

Bernhard Nebel, *University of Freiburg*

17:30 - 18.00

Towards Interactive Robots in Urban Environments

Dirk Wollherr, *Technische Universität München (TUM)*

18:00 - 18:30 | Impressions Day One

19:00 | Conference Dinner (invitees only)

Zum Augustiner

Neuhauserstraße 27, 80331 München

Tuesday, 28 October 2014

Session 5: Humanoid and Wearable Systems

9:00 - 9.30

Humanoid Robotics: From Household Assistants to Personalized Robot Suits

Tamim Asfour, *Karlsruhe Institute of Technology (KIT)*

9:30 - 10.00

Development and Control of Compliant Humanoid Robots at DLR

Christian Ott, *German Aerospace Center (DLR)*

10:00 - 10.30

Wearable Assistive Robots in Korea

Bumjae Yoo, *Korea Institute of Science and Technology (KIST)*

10:30 - 11.00

Design and Control of Assistive Systems Integrated with Wearable Robot

Doyoung Jeon, *Sogang University*

11:00 | Coffee Break
